STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE PUBLIC UTILITIES COMMISSION

In The Matter of the Application of Northern States Power Company, d/b/a Xcel, for Authority to Increase Rates for Electric Service in the State of Minnesota	PUC Docket No. E-002/GR-21-630 OAH Docket No. 22-2500-37994

INITIAL BRIEF OF THE JUST SOLAR COALITION

January 11, 2023

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I. INTRODUCTION

The Just Solar Coalition (JSC) is a diverse coalition of community organizers, environmental justice groups, faith leaders, rural and urban solar developers, workforce developers and others that share a common vision of ensuring a just transition for both workers and energy users into the green energy economy.[1] Together, the JSC's witnesses explain the practical meaning of Energy Justice in the context of electric utility regulation and recommend several specific steps the Commission can take in this docket to advance Energy Justice in Xcel's service territory. Fundamentally, the goal of Energy Justice is "achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system," including low-income and Black, Indigenous, and People of Color (BIPOC) communities.[2] The JSC's specific focus on Energy Justice in this rate case is a first of its kind—both for the JSC as well as for the Commission.[3]

In its Multi-Year Rate Plan (MYRP) filed in this case, Northern States Power Company ("Xcel" or "the Company") is seeking to raise its electric rates by about $677 million or approximately 21.2% over the next three years.[4] This substantial increase is driven, in part, by Xcel's request for an increase in its return on equity (ROE), from 9.06% to 10.20%.[5] It is also driven by investments in Xcel's distribution system, which will roughly double its historical distribution system budget to more than $500 million per year for 2022-2024.[6] Xcel claims these

[1] JSC members intervening in this rate case are: Community Power; Cooperative Energy Futures; Minnesota Interfaith Power & Light; and Vote Solar. Ex. JSC-1 at 3-4 (Porter Direct).
[2] Ex. JSC-3 at 8 (Chan Direct) (citing Initiative for Energy Justice, THE ENERGY JUSTICE WORKBOOK 9, 66-68, https://iejusa.org/section-1-defining-energy-justice (defining "energy justice" and providing alternative definitions)).
[3] Ex. JSC-9 at 2, 15 (Madden Surrebuttal).
[4] Ex. Xcel-22 at 3 (Chamberlain Direct, adopted by Liberkowski).
[5] *Id.*; Ex. JSC-5 at 50 (Rábago Direct).
[6] Ex. Xcel-40 at 10, 29-31, 34-35 (Bloch Direct, adopted by Mensen); Ex. JSC-5 at 50 (Rábago Direct).

significant investments and associated rate increase are necessary "to advance the efficiency and reliability of service and to safely integrate more distributed resources into [its] system."[7]

The JSC intervened in this case because, first, they were alarmed by the magnitude of Xcel's proposed rate increase and concerned about its impact on customers, particularly low-wealth and other marginalized customers,[8] and second, to ensure that Xcel's investments expand access to distributed energy resources (DERs) for all of Xcel's customers, including for those same low-wealth and marginalized customers.[9] Improving clean DER access is critical to enabling a more just, equitable, and resilient electric system, with opportunities for communities to build local wealth and jobs through DER ownership.[10] As JSC witness Kristel Porter explained, this goal is central to what the JSC means by Energy Justice. In Ms. Porter's words: "The JSC is particularly focused on ensuring a just transition for those who have been most marginalized from the benefits and decisions of the existing energy system and have borne the brunt of the costs and externalities, including low-income and BIPOC communities. JSC members embrace a vision of equitable and universal access to the benefits of clean energy, including ownership of clean energy assets and associated wealth-building opportunities."[11] The principles of Energy Justice and their incorporation into this rate case are discussed further below.

In addition to raising substantive concerns about Xcel's proposals, after evaluating them through the lens of Energy Justice, the JSC has brought new, underrepresented perspectives into this rate case proceeding. Specifically, the JSC has provided community-centered voices,

[7] Ex. Xcel-22 at 19 (Chamberlain Direct, adopted by Liberkowski).
[8] Ex. JSC-1 at 4 (Porter Direct).
[9] *Id.* at 3-5.
[10] *Id.* at 3-4.
[11] *Id.*

representing low-income and BIPOC customers, through witness testimony as well as through JSC member-intervenor participation in various rate case forums, including settlement discussions.[12] Doing so required a significant commitment of resources from the JSC member-intervenors and substantial additional fundraising, and entailed a steep learning curve.[13] Beyond offering meaningful recommendations regarding Xcel's proposals, the JSC's participation has spotlighted some of the ongoing procedural justice concerns at the Commission, particularly in resource-intensive proceedings like this rate case.[14]

As described in detail in this brief, Xcel's MYRP does not reasonably promote Energy Justice because the Company fails to account for the persistent, structural injustices in the electricity system, and does not address them in its rate design, investments, and other proposals. The Commission therefore cannot find Xcel's filing to be "just and reasonable" as required by Minnesota law on this record.[15] To address this legal deficiency and move towards an electric system that reflects the principles of Energy Justice, the JSC recommends the Commission do the following:

- Reject Xcel's cost recovery and return on equity (ROE) as proposed, which result in rates that are unaffordable for Minnesota customers, especially low-wealth and BIPOC customers.
- Decrease Xcel's regressive residential customer charge and adopt a lower, differentiated multifamily customer charge—specifically, adopt the Department of Commerce's (DOC) initial proposal of decreasing the customer charge by $3 per

[12] Ex. JSC-1 (Porter Direct); Ex. JSC-9 (Madden Surrebuttal).
[13] Ex. JSC-9 at 1-2 (Madden Surrebuttal).
[14] Ex. JSC-1 at 4-5 (Porter Direct); Ex. JSC-3 at 52-56 (Chan Direct); Ex. JSC-5 at 44-47, 83 (Rábago Direct); Ex. JSC-9 at 1-2, 15 (Madden Surrebuttal).
[15] *See* Minn. Stat. § 216B.03; Minn. Stat. § 216B.16.

month for customers in single-family homes and $4 per month for customers in multifamily homes—and calculate customer charges pursuant to the basic customer method.

- Approve Energy CENTS Coalition's (ECC) low-income, low-usage rate proposal, with the JSC's proposed modification, described in Section V.B.2, to expand relief to more cost-burdened Minnesotans.
- Continue to explore additional ways to address the needs of low-wealth customers, including by requiring Xcel to study how its demand response programs could minimize bill volatility and evaluating a permanent moratorium on disconnections.
- Suspend Xcel's Business Incentive and Sustainability (BIS) Rider until Xcel can demonstrate that its benefits outweigh its costs, and it is not regressive.
- Direct Xcel to take the actions specified in Section VI.A to improve DER hosting capacity on its system, consistent with the Commission's Order in Xcel's Integrated Distribution Plan (IDP) proceeding.
- Direct Xcel to account for and utilize the full range of DER capabilities in its distribution system planning and operations, as specified in Section VI.B.
- Reject Xcel's Grid Reinforcement Program as proposed and adopt the JSC's alternative approach to dealing with EV-related upgrades, described in Section VI.C.
- Reject Xcel's Cable Replacement budget as proposed, until Xcel distinguishes its reactive budget from its proactive budget, and justifies its proactive spending with a reliability-driven cost-benefit analysis.
- Require Xcel to obtain the data and conduct the analyses specified in Section VII to help inform Xcel's and the Commission's decision-making related to Energy Justice.

- Adopt the procedural justice reforms described in Section VIII to enable meaningful and equitable participation and representation in future rate cases and other Commission proceedings.

II. LEGAL STANDARD

A. Xcel Bears the Burden of Proof to Show That Its Proposals Are Equitable, Just, Reasonable, and in the Public Interest.

Xcel has the burden to prove by a preponderance of the evidence that its request to increase rates is just and reasonable.[16] In addition to requiring rates to be "just and reasonable," Minnesota law dictates that rates must be "sufficient, equitable, and consistent in application to a class of consumers," and that "[t]o the maximum reasonable extent, the commission shall set rates to encourage energy conservation and renewable energy use," and to further certain other statutory goals.[17] These goals include "encourag[ing] energy programs that will provide an optimum combination of energy resources, including energy savings," which the Legislature has found is in the public interest.[18]

To satisfy its burden, Xcel must show that the evidence submitted justifies its request "when considered with the Commission's statutory responsibility to enforce the state's public policy that retail consumers of utility services shall be furnished such services at reasonable rates."[19] As the Minnesota Supreme Court has stated, "by merely showing that it has incurred, or may hypothetically incur, expenses, the utility does not necessarily meet its burden of demonstrating that it is just and reasonable that the ratepayers bear the costs of those

[16] Minn. Stat. § 216B.16; *see also* Minn. Stat. § 216B.03 ("Every rate made, demanded, or received by any public utility, or by any two or more public utilities jointly, shall be just and reasonable.").
[17] Minn. Stat. § 216B.03.
[18] Minn. Stat. § 216C.05.
[19] Pet. of Minn. Power & Light Co., 435 N.W.2d 550, 554 (Minn. Ct. App. 1989), *rev. denied* Apr. 19, 1989 (quoting Pet. of N. States Power Co., 416 N.W.2d 719, 722 (Minn. 1987)).

expenses."[20] Even if the Commission does not find the JSC or other intervenors persuasive on a particular issue, Xcel must nonetheless justify its request as just and reasonable based on the evidence provided.[21] If Xcel does not meet this burden for any portion of its request, then the Commission must deny its request. Minnesota law is clear that "[a]ny doubt as to reasonableness should be resolved in favor of the consumer…."[22]

B. The Commission Has Broad Discretion to Consider Environmental, Energy Conservation, and Other Social Policy Factors in Determining What Is Equitable, Just, Reasonable, and in the Public Interest.

The Commission has significant discretion to consider the real-world social impact of Xcel's rates in assessing whether Xcel's requests are equitable, just, reasonable, and in the public interest.[23] In *Reserve Mining Co.*, the Minnesota Supreme Court explained that "to facilitate a determination that is both equitable and responsive to the public interest, the PUC must be afforded considerable latitude in combining its technical expertise with its judgments regarding the appropriate balance of competing interests and policies."[24] Similarly, in an earlier case, *St. Paul Chamber of Commerce*, the Court stated that it is "in the public interest, which the legislature was surely intending to serve in the broadest sense by establishing the Public Service Commission, that the commission be allowed within the bounds of reasonableness to consider both facts within its expertise and facts of common knowledge in arriving at its decisions in the ratemaking area."[25] The Court pointed to "the prevention of environmental pollution and the

[20] *Pet. of N. States Power Co.*, 416 N.W.2d at 722–23.
[21] *Id.* at 723.
[22] Minn. Stat. § 216B.03.
[23] City of Moorhead v. Minn. Pub. Util. Comm'n, 343 N.W.2d 843, 846 (Minn. 1984), *rehearing denied* March 7, 1984 (citing, among other cases, Reserve Mining Co., v. Minn. Pub. Util. Comm'n, 334 N.W.2d 389, 392 (Minn. 1983)); St. Paul Chamber of Commerce v. Minn. Pub. Util. Comm'n, 312 Minn. 250, 260 (Minn. 1977); *see also* Ex. JSC-3 at 11-12 (Chan Direct).
[24] 334 N.W.2d at 392.
[25] 251 N.W.2d at 255 (citing Minn. Stat. § 216B.03).

conservation of our energy resources" as examples of "complementary and competing interests" that the Commission may consider in setting rates.[26] In *Reserve Mining Co.*, the Court affirmed that the Commission may consider "noncost factors" in its ratemaking, including "the impact a rate change would have on different customers" and customers' ability to pay.[27]

Reviewing courts provide the Commission with "wide latitude" to balance competing social policy factors to determine whether a utility's rate structure is just, reasonable, and equitable under Minn. Stat. § 216B.03.[28] "This is so because, while the court is qualified to review agency findings when an agency acts in a quasi-judicial manner in factual matters, it is not so qualified to review legislative judgments when social policies must be weighed in the balance."[29] Given this latitude, the Commission has ample authority to consider Energy Justice principles in its evaluation of Xcel's rate case proposals.

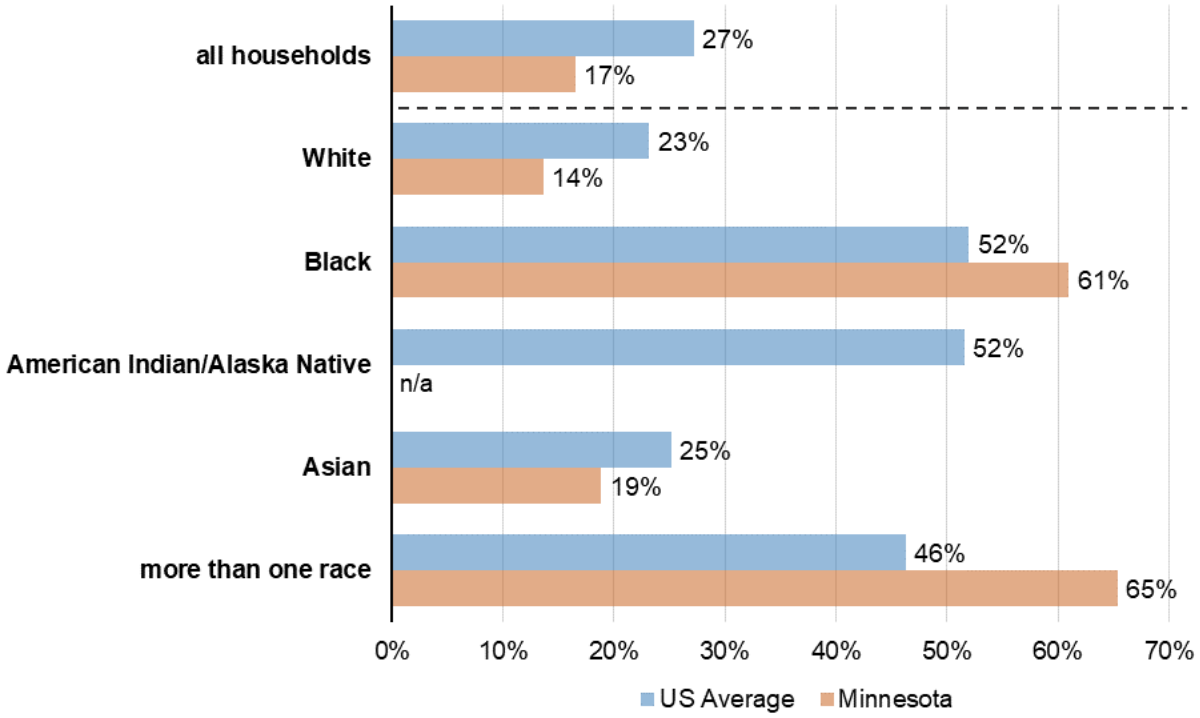
C. Substantial and Unacceptable Injustices Exist in Today's Energy System.

Energy insecurity—that is, the "inability to adequately meet basic household energy needs"—remains a significant issue for many customers in Minnesota, specifically BIPOC customers.[30] And, as JSC witness Dr. Gabriel Chan explained: "The prevalence, inequality, structural causes, and lack of remediation of energy insecurity demonstrates a lack of Energy Justice."[31] As shown in Figure 1, while Minnesota has a lower average rate of energy insecurity as compared to the U.S. average, there is a higher racial disparity, with BIPOC households in

[26] *Id.* at 255.
[27] 334 N.W.2d at 393 (citing *St. Paul Chamber of Commerce*, 251 N.W.2d at 260).
[28] *St. Paul Chamber of Commerce*, 251 N.W.2d at 260.
[29] *Id.*
[30] Ex. JSC-3 at 16-17 (Chan Direct) (quoting Prof. Diana Hernández, *Understanding 'energy insecurity' and why it matters to health*, 167 SOC. SCI. MED., 1-10 (2016)).
[31] *Id.* at 17.

Minnesota faring significantly *worse* than the national average while White households are faring significantly better.[32]

> ***Figure 1.*** *Percent of households in the U.S. and in Minnesota that reported some form of energy insecurity in the U.S. Energy Information Administration's Residential Energy Consumption Survey (2020) for all households and by self-reported race. Data from the EIA Residential Energy Consumption Survey for 2020.*[33]

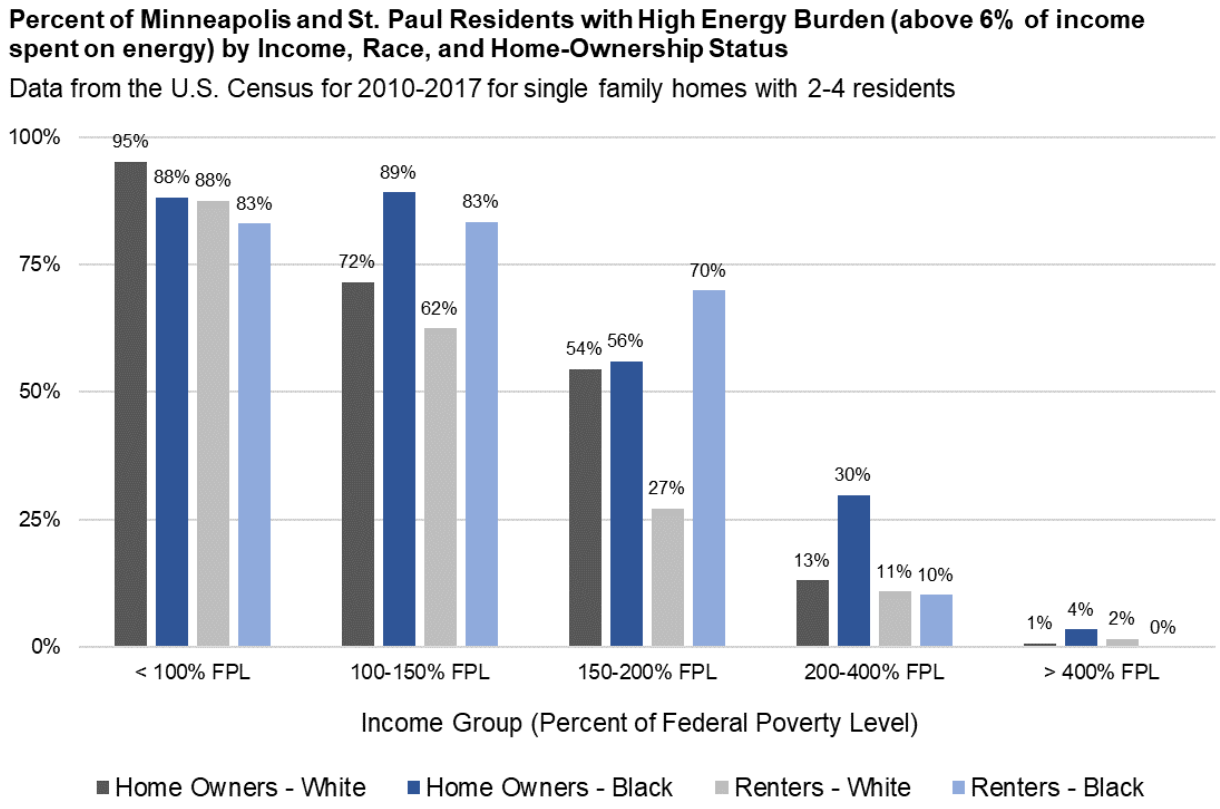


Similarly, there are racial disparities in the "energy burden"—that is, "the average annual housing energy costs divided by the average annual household income"—faced by customers in the Twin Cities, who are predominantly served by Xcel.[34] As shown in Figure 2, although all residential customers below the Federal Poverty Line (< 100% FPL) face a similar energy burden, Black residential customers at 100%-150% of the FPL (both homeowners and renters) experience significantly higher energy burdens than White homeowners and renters at the same

[32] *Id.* at 21-24 (describing the so-called "Minnesota Paradox").
[33] *Id.* at 22-23.
[34] *Id.* at 24-27.

income range, and there are similar disparities for Black renters at 150-200% of the FPL and Black homeowners at 200-400% of the FPL.[35]

Figure 2. *The prevalence of high energy burdens (above 6%) across income groups for single-family homes in Minneapolis and St. Paul by owner/renter status and Black and White sub-populations. Data from the U.S. Census Bureau's American Community Survey for 2010-2017.*[36]



Moreover, low-wealth customers (regardless of race) are more likely to experience high energy burdens—three times higher for low-income single-family households as compared to non-low-income households.[37] These racial disparities in the provision of electric service are neither just nor reasonable, and Xcel and the Commission must strive to eliminate them over time.

[35] Ex. JSC-3 at 26-27 (Chan Direct).
[36] *Id.* at 27.
[37] Ex. JSC-5 at 21-22 (Rábago Direct) (citing A. Diaz, *Energy Poverty: What Is It and How Do We Understand It?*, Citizens Utility Board (Jan. 26, 2021), available at: https://cubminnesota.org/energy-poverty-what-is-it-and-how-do-we-understand-it (citing research from the American Council for an Energy Efficient Economy)).

The testimony of JSC witness Kristel Porter, a community organizer in the Northside and Southside Green Zones in Minneapolis, offers a glimpse of the actual customer experiences behind these data.[38] The majority of customers in Ms. Porter's communities are low-wealth and BIPOC, and they face significant historical and ongoing environmental harms, including high exposure to particulate matter (pm 2.5) and associated respiratory and cardiovascular health impacts.[39] Ms. Porter emphasized customers' continued challenges with high energy burdens and inability to pay their bills.[40] Ms. Porter also described her communities' challenges in accessing various energy assistance, energy efficiency, and DER programs, which could help community members to alleviate their energy burden in both the shorter- and longer-term, and avoid disconnection.[41] In discussing her communities' struggle to access Xcel's energy efficiency and solar programs specifically, Ms. Porter summed up her experience as follows:

> The legal maxim "Justice delayed is justice denied" applies very squarely in both the efficiency work and the solar work. So much of what we experience across all these areas is persistent delay, no answer, or comes with such an inflated time horizon to the point where the original promise, goal, and action is lost and meanwhile many community resources are wasted, household hardships endured, and precious time gone.[42]

The information presented by JSC and other parties in this rate case about inequities in the electric system should inform the Commission's application of the just and reasonable standard to Xcel's proposals. As JSC witness Chan explained: "Application of the just and reasonable standard requires considering the context and all relevant and available data to determine what is just." And as JSC witness Karl R. Rábago stated: "From a statutory

[38] Ex. JSC-1 at 1-3, 11-30 (Porter Direct).
[39] *Id.* at 11-14.
[40] *Id.* at 14-18.
[41] *Id.* at 21-30.
[42] *Id.* at 23.

perspective, Energy Justice is not just a good idea, it is embedded in the fabric of sound utility regulation in Minnesota."[43]

D. The Commission Should Review Xcel's Proposals in This Proceeding Using an Energy Justice Lens.

This rate case offers an important opportunity for the Commission to help remedy the inequities documented by the JSC's witnesses and build toward a future that aligns with the goals of Energy Justice. As Dr. Chan explained:

> This rate case is the forum in which the Commission will make major decisions to approve hundreds of millions of dollars of potential investments that will impact the quality of providing an essential service; where the Commission will make major decisions directly affecting the affordability of electric service; where the Commission will make major decisions about the relative burdens that should be borne by different customers to maintain a critical infrastructure system; and where the Commission will make major decisions affecting the financial health of a private company that has one of the greatest economic impacts in the state. This is not a proceeding that can fail to integrate Energy Justice as a core principle if Energy Justice is to be embedded in the Commission's proceedings and in the Company's plans and programs.[44]

In other words, although realizing the goals of Energy Justice will require work outside of this rate case, the Commission must also hold Xcel accountable for addressing Energy Justice in this case.

As stated above, the fundamental goal of Energy Justice is "achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system," including low-income and BIPOC communities.[45] Such a transition requires equitable access to the benefits of clean

[43] Ex. JSC-5 at 12-13 (Rábago Direct).
[44] Ex. JSC-6 at 7 (Chan Surrebuttal).
[45] Ex. JSC-3 at 8 (Chan Direct) (citing Initiative for Energy Justice, THE ENERGY JUSTICE WORKBOOK 9, 66-68, https://iejusa.org/section-1-defining-energy-justice/ (defining "energy justice" and providing alternative definitions)).

energy, including DER ownership and associated wealth-building opportunities.[46] Energy Justice has four constituent principles or tenets:

1. **Recognition justice**: understanding the history and context of energy decisions that have created inequitable benefits and burdens in the past and in the present. Recognition justice focuses on identifying and advocating for communities that are ignored or misrepresented in energy decisions. In other words, it is concerned with who is recognized by decisions and in decision-making processes.

2. **Procedural justice**: meaningful and equitable participation and representation in energy decision making. Procedural justice focuses on ensuring equitable decision-making processes across the energy system. It is concerned with how decisions are made.

3. **Distributional justice**: ensuring benefits and burdens are equitably distributed. Distributional justice looks at the uneven allocation of costs and benefits on communities affected by the energy system. It asks, what costs and benefits are borne by whom?

4. **Restorative justice**: facilitating healing and harmony by improving conditions within communities and providing for remediation of legacy harms. Restorative justice asks how best to respond to harm caused by the energy system and assists in pinpointing systemic changes that will prevent future harm. It asks, why do things exist the way that they do? In doing so, it seeks long-term solutions that address root causes.[47]

In recent years, Xcel and the Commission have made important commitments to advancing Energy Justice in public utility service.[48] For example, in its 2022 Order in Xcel's Integrated Resource Plan (IRP) proceeding, the Commission acknowledged the equity implications of resource plans and stated that it was "it is reasonable to focus on disadvantaged populations—populations that may have not received appropriate attention in the past."[49] Accordingly, the Commission required Xcel to build on its existing equity-related efforts and

[46] Ex. JSC-1 at 3-4 (Porter Direct).
[47] Ex. JSC-3 at 8-9 (Chan Direct).
[48] Ex. Xcel-22 at 7, 12 (Chamberlain Direct, adopted by Liberkowski); Ex. Xcel-83 at 5-13 (Martin Rebuttal); s*ee also* Ex. JSC-1 at 5-7 (Porter Direct) (recognizing Xcel and Commission equity-related commitments).
[49] Order Approving Plan with Modifications and Establishing Requirements for Future Filings, Docket No. 19-368, at 30 (April 15, 2022); *see also id.* at Order ¶ 25.

"solicit input from members of these historically disadvantaged populations[,]… engage in community outreach and establish a stakeholder group," and to report on its efforts. The Commission also opened a separate docket to house reporting and other updates on Xcel's required equity efforts, including its Equity Stakeholder Advisory Group (ESAG).[50] In its 2022 Order in Xcel's IDP proceeding, the Commission indicated its commitment to incorporating and addressing equity in the distribution planning process.[51] The Commission pointed to the previously mentioned equity docket, as well as equity-related efforts in the performance metrics and safety, reliability, and service quality dockets.[52]

In this rate case, the Commission can continue incorporating equity and Energy Justice into its decision-making in a way that is especially meaningful, since this case involves decisions about significant investments and cost recovery by Xcel, and in turn significant economic impacts on customers. As the Commission continues to learn about and better understand the injustices and inequities inherent in the electricity system, it is reasonable and appropriate for it to incorporate these new understandings into its implementation of its statutory authority. Energy Justice provides a critical lens for the Commission to use to execute its ratemaking obligations under longstanding Minnesota law.

[50] Notice of Docket Opening, Docket No. 22-266 (June 21, 2022) (In the Matter of Efforts to advance workforce diversity, inclusive participation, and equitable access to utility services for Xcel Energy).
[51] Order Accepting 2021 Integrated Distribution System Plan and Certifying the Resilient Minneapolis Project, Docket No. 21-694, at 6 (July 26, 2022).
[52] *Id.* (referencing Docket Nos. 17-401 (performance metrics), 20-406 (safety reliability and service quality); and 22-266 (equity docket)).

III. ENERGY JUSTICE IN THIS RATE CASE

A. Xcel's Multi-Year Rate Plan Does Not Reasonably Promote Energy Justice.

As detailed beginning in Section IV of this brief, Xcel has not met its burden of proof under Minnesota law, when its proposals are reviewed with an Energy Justice lens. As JSC witness Porter summarized in her testimony:

> We recognize and commend both the Commission and Xcel for their stated objectives of advancing energy justice. However, as our experts demonstrate in their testimony, Xcel's distribution investments and rate proposals fail to adequately address equity or energy justice concerns. Moreover, Xcel's three strategic priorities do not include access by customers and communities to clean distributed resources, which could enhance affordability, resilience, and energy justice. Likewise, … Xcel's proposed investments do not meaningfully improve communities' access to clean distributed resources despite massive cost investment passed through to customers.[53]

As JSC witness Rábago stated, "the Company has demonstrated an overwhelming concern for shareholder interests and an unfortunately underwhelming concern for incorporating energy justice values in its methods and proposals. As a result, the proposed rates frustrate rather than encourage or facilitate equitable access to clean energy, and regressively increase the electricity burdens for households in Minnesota least able to afford to pay."[54]

B. Energy Justice Requires Equitable Access to Customer- and Community-Owned Distributed Energy Resources (DERs).

The Commission and Xcel are already moving towards a general vision of a cleaner, more resilient electricity system, powered with more renewable energy resources.[55] However, Xcel's current vision for the future will hinder widespread customer access to DERs. As JSC witness Dr. Lorenzo Kristov explained, facilitation and integration of increasing numbers of

[53] Ex. JSC-1 at 6 (Porter Direct).
[54] Ex. JSC-5 at 9-10 (Rábago Direct); *see also id.* (analyzing Xcel's lack of consideration of Energy Justice by applying each of the four principles of Energy Justice).
[55] Ex. Xcel-22 at 15-20 (Chamberlain Direct, adopted by Liberkowski); Ex. Xcel-83 at 27-30 (Martin Rebuttal).

customer- and community-owned DERs is a critical element of a just and equitable transition to this cleaner, more resilient system—and a piece that is missing from Xcel's current vision.[56] Dr. Kristov described this "high-DER" future as an electricity system where "a diverse, participatory distribution side" will gradually become "a roughly equal partner and complement to the bulk power system."[57] In this vision, communities, including low-wealth and Energy Justice communities, are "full participants in the clean energy transition," "producing and supplying clean energy locally in a manner that is integrated into their local economies to advance energy justice while supporting decarbonization of society at large."[58] Enabling local ownership of DERs is essential to the movement toward Energy Justice, including through local wealth-building and improved community resiliency for marginalized and vulnerable communities.[59]

As Dr. Kristov stated: "The value of having a coherent, practical vision of the high-DER future power system is that the Commission can then consider decisions before it in terms of how and how well the various proposals and options move toward the vision while supporting the Commission's core mission and the state's policy goals."[60] In addition to changes necessary outside of this rate case, Dr. Kristov pointed to particular decisions in this rate case that affect movement towards this "high-DER future," including recommendations related to Xcel's distribution investments and rate design proposals discussed further below.[61] Dr. Kristov highlighted that, without conscious Commission decision-making to enable equitable DER adoption and integration, DERs will still proliferate through adoption by affluent residential

[56] Ex. JSC-2 at 38-40 (Kristov Direct); Ex. JSC-8 at 10-15, 17-18 (Kristov Surrebuttal).
[57] Ex. JSC-2 at 3-6, 8-10, 33-38 (Kristov Direct); *see also* Ex. JSC-8 at 2-3 (Kristov Surrebuttal) (responding to Xcel's mischaracterization of his Direct Testimony).
[58] Ex. JSC-2 at 35 (Kristov Direct).
[59] Ex. JSC-1 at 4 (Porter Direct); Ex. JSC-3 at 8-10 (Chan Direct); Ex. JSC-8 at 17-18 (Kristov Surrebuttal).
[60] Ex. JSC-2 at 6 (Kristov Direct).
[61] *Id.* at 30-42.

customers and businesses, but their benefits will not be fully realized, particularly for low-wealth customers, thereby exacerbating existing inequities. He stated:

> A policy or regulatory response that tries to preserve the grid monopoly by suppressing DER adoption—for example, by imposing high connection fees, slowing the interconnection process, limiting access to data, or denying opportunities for DERs to earn revenues from transacting energy and grid services—will mainly suppress DER access by low- and middle-income customers and communities but will barely deter those who see the value of DERs and have financial resources to invest in them. If there is significant grid defection by affluent customers it will worsen inequities in the distribution of energy burdens and benefits, both by creating a utility cost recovery problem much greater than the cost-shift Xcel attributes to the CSG program, and by leaving behind those communities who have equal if not greater need of the resilience services offered by DERs but have no ability to invest in them.[62]

The Commission has an opportunity in this rate case to advance Energy Justice by recognizing trends in DER growth and the potential value that DERs can provide, not just to the electricity system, but also directly to communities, particularly the least affluent and most vulnerable communities, and those most disadvantaged historically.[63] It can remove obstacles to DER adoption and the advancement of energy justice in rate design and proposed rates, as discussed in Section V, and avoid the creation of opportunity costs through distribution spending that fails to advance access to DERs for low-wealth customers and marginalized communities, as discussed in Section VI. As Dr. Kristov explained: "the principles of Energy Justice… require regulators to consider the full range of potential benefits DERs can provide to Energy Justice communities, and then explore regulatory approaches to facilitate access to those benefits."[64]

[62] Ex. JSC-8 at 7 (Kristov Surebuttal).
[63] *Id.* at 7-8.
[64] *Id.* at 14.

C. While the Equity Stakeholder Advisory Group (ESAG) Is an Important Forum, the Commission Must Also Incorporate Energy Justice into Its Review of This Rate Case.

In responding to the JSC's emphasis on Energy Justice, Xcel pointed to its efforts in the ESAG and the Commission's equity docket (Docket No. 22-266), and generally argued that Energy Justice would be best addressed in those forums instead of this rate case.[65] This is a false choice. The Commission should strive to advance equity and Energy Justice in *all* of its cases—and especially in this rate case. Xcel's proposal to confine the discussion of Energy Justice to the ESAG or a separate policy docket would undermine the Legislature's mandate requiring utilities to meet their statutory burden of proof in every case, and it would further create significant procedural justice concerns for community members.[66] Moreover, it would unreasonably shift Xcel's burden to propose just and reasonable rates in this case to another proceeding, with adverse administrative efficiency and due process consequences. As JSC witness Gabriel Chan stated:

> Addressing equity in the future in a yet-to-be-defined way through the newly created ESAG or through work by the Company in the Energy Equity Docket (M-22-266) and in other dockets is insufficient. Energy Justice should be integrated into the Commission's core understanding of its just and reasonable authority. If the Company, ESAG, and other parties do work to advance Energy Justice, it would still be necessary for the Commission to continuously update its understanding of its just and reasonable authority in accordance with the evolving context of decisions and new data.[67]

The JSC recognizes that incorporating Energy Justice into Commission decision-making "reflects a new paradigm and that the Commission and all stakeholders will need to work diligently to ensure consideration of these critical issues in all Commission proceedings."[68]

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[65] Ex. Xcel-83 at 3-21 (Martin Rebuttal).
[66] *See* Minn Stat. 216B.03. JSC members are participating in the ESAG and support its goals, despite their procedural justice concerns. Ex. JSC-9 at 6-10, 11-12 (Madden Surrebuttal).
[67] Ex. JSC-6 at 7 (Chan Surrebuttal).
[68] Ex. JSC-1 at 6 (Porter Direct).

Nonetheless, as discussed above, the Commission cannot set rates that are equitable, just, reasonable, and in the public interest without applying the principles of Energy Justice consistently in each case that comes before it. This is not only consistent with Minnesota law, but essential to ensure a just transition to a cleaner, more resilient electricity system.

IV. AFFORDABILITY

A. Xcel's Proposed Cost Recovery and Return on Equity Result in Rates That Are Unaffordable, and the Commission Should Not Approve Them as Proposed.

As discussed above, Minnesota customers, particularly BIPOC and low-wealth customers, face significant energy insecurity and energy burdens. In addition, ongoing high inflation continues to impact customers, exacerbating these issues.[69] As JSC witness Porter stated, "the rate increase Xcel is seeking would make electricity bills even less affordable than they already are for my community. People are very anxious about this proposal and about how they will pay their higher bills for this essential service. They are worried about having their power shut off."[70]

As Office of the Attorney General (OAG) witness Twite noted in his testimony, the Commission has recognized persistent inflationary challenges in its Order Setting Interim Rates in this proceeding: "Xcel's Residential customers are currently facing a deluge of challenges: 'inflation—and especially inflation in energy prices—is eroding households' purchasing power,' overdue utility bills have increased significantly, and the COVID-19 pandemic 'has affected many Minnesotans' ability to participate in the labor force.'"[71] In this environment, with

[69] Ex. JSC-5 at 50-52 (Rábago Direct); Ex. CUB-2 at 36-37, 49-50 (Kihm Direct); Ex. CUB-4 at 19-24, 36 (Kihm Surrebuttal).
[70] Ex. JSC-1 at 17 (Porter Direct).
[71] Ex. OAG-6 at 7 (Twite Rebuttal) (quoting Order Setting Interim Rates, Docket No. 21-630, at 7 (Dec. 23, 2021)).

affordability an especially prominent concern for customers, Xcel has proposed to increase its rates by 21% over the next three years, and to increase its ROE from 9.06% to 10.20%. As JSC witness Rábago stated:

> The sheer magnitude of the Company's proposed rate increases raises significant issues of affordability, especially for low-wealth customers. The Company proposes increases that exceed even the very high average inflation rate in 2022 (to date) of 8.32%. That is, while working citizens of Minnesota face the reality of incomes that are failing to keep up with inflation, the Company wants to increase its costs by more than the rate of inflation for each of the proposed three years in the rate plan.[72]

Xcel's ROE proposal is particularly unjust and unreasonable given customers' ongoing financial struggles. Again, as Mr. Rábago put it:

> [I]n a world of increasing inflation, in which nearly 500,000 Minnesota households would qualify for energy assistance, and in which the Company enjoys a monopoly service franchise for the provision of retail electricity, the magnitude of the proposed increase in profits appears unreasonable and has very real and adverse impacts on energy justice—on the basic affordability of electricity for the Company's low-wealth customers. The proposal to increase profits to 10.2%, and perhaps even higher in 2024, means the Company's profits would be set, like its proposed rate increases, at a level higher than even the high inflation experienced in 2022 so far. In 2022, the Company's proposed ROE increase amounts to more than 20% of the Company's proposed revenue increase from residential customers.[73]

Other intervenors have provided detailed ROE analyses, demonstrating that Xcel's proposed ROE increase to 10.20% is not just or reasonable, and that a lower ROE is appropriate.[74] Indeed, Citizens Utility Board (CUB) witness Steve Kihm has recommended *decreasing* Xcel's ROE below its current level, to within the range of 8.80% to 9.00%, and "to

[72] Ex. JSC-5 at 47 (Rábago Direct).
[73] *Id.* at 50.
[74] Ex. DOC-1 at 2-104 (Addonizio Direct) (recommending 9.25% ROE); Ex. DOC-2 at 2-67 (Addonizio Surrebuttal) (further defending DOC's recommendation).; Ex. XLI-4 at 4-41 (LaConte Direct) (recommending 9.17% ROE within ROE range of 8.55% - 10.28%); Ex. XLI-6 at 4-12 (LaConte Surrebuttal) (further defending XLI's recommendation).; Ex. CUB-2 at 5-51 (Kihm Direct) (recommending ROE range of 8.80% - 9.00%); Ex. CUB-4 at 1-38 (Kihm Surrebuttal) (further defending CUB's recommendation); *see also* CG-1 at 17-20 (Chriss Direct) (recommending close examination of Xcel's ROE proposal).

move, gradually, toward a more reasonable return on equity," which should be "substantially lower."[75] As witness Kihm stated: "Setting a return on equity any higher, particularly in today's challenging economic environment that disproportionately affects consumers more than the Company, would be unfair and inconsistent with the requirement that rates be just and reasonable."[76] In light of the major affordability concerns, as well as the analyses provided by other intervenors, the Commission should not approve Xcel's requested ROE increase.

Beyond ROE, assessing Xcel's proposed rate increase requires a careful examination of the underlying spending driving it, much of which is on distribution investments, as well as the manner in which these costs are allocated to customers via rate design. In testimony, the JSC undertook this analysis through an Energy Justice lens. The recommendations that follow seek to address both affordability, especially for low-wealth and other vulnerable customers, as well as improving equity in access to DERs and associated wealth-building opportunities. As JSC witness Rábago concluded, "weatherization and bill assistance will not be enough to address energy injustice and alleviate energy poverty. There is work to be done in rate making, and other areas, as well."[77]

V. RATE DESIGN

A. The Commission Should Decrease Xcel's Regressive Residential Customer Charge and Adopt a Lower, Differentiated Multifamily Customer Charge.

In its initial filing, Xcel proposed to increase its weighted-average monthly per-customer fixed customer charge of $8.72 to $10.25—an increase of $1.53 or 17.5%.[78] In rebuttal

[75] Ex. CUB-2 at 49 (Kihm Direct).
[76] *Id.* at 50.
[77] Ex. JSC-5 at 26 (Rábago Direct).
[78] *Id.* at 53; Ex. Xcel-89 at 20-21 (Paluck Direct, adopted by Peterson).

testimony, Xcel revised its proposal to set a "simplified" consistent customer charge of $9.00 per month for all residential customers.[79] In developing its fixed charge proposal, the Company calculated customer costs under four different methods—the zero-intercept method; the minimum system method; a Company-preferred hybrid method that uses both the zero intercept and minimum system methods; and the basic customer method—resulting in a range of per-month customer costs from $5.10 (basic customer method) to $24.84 (minimum system method).[80]

Upon reviewing Xcel's initial proposal, JSC witness Karl R. Rábago concluded: "The charges are too high because they unjustly and unreasonably charge customers for costs that are not customer costs, and they are bad rate making policy. The Company has calculated a reasonable residential customer charge of $5.10 per customer per month based on the basic customer method that should be approved by the Commission."[81] Moreover, Xcel's proposed customer charge is contrary to Minnesota's energy policy goals, since it discourages adoption of energy efficiency and DERs.[82] After reviewing analysis and recommendations from other intervenors, Mr. Rábago supported the recommendation from DOC witness Andy Bahn in direct testimony to reduce the residential customer charge by $3 per month for customers living in single-family homes, to reduce the residential customer charge by $4 per month for customers living in multi-unit dwellings, and to reduce the customer charge for small general service customers by $3 per month, which is ultimately close in value to Mr. Rábago's proposal.[83] OAG witness Andrew Twite and Clean Energy Organizations (CEO) witness Ron Nelson likewise

[79] Ex. Xcel-90 at 10 (Paluck Rebuttal, adopted by Peterson); Ex. JSC-10 at 8 (Rábago Surrebuttal).
[80] Ex. JSC-5 at 53-54 (Rábago Direct) (referencing Xcel-84 at 42 (Peppin Direct)).
[81] *Id.* at 74.
[82] *Id.* at 57-58.
[83] Ex. JSC-10 at 11 (Rábago Surrebuttal).

supported Mr. Bahn's initial proposal, though both Mr. Bahn and Mr. Twite further refined their proposals in surrebuttal testimony to be reduced versions of Xcel's "simplified" charge.[84] However, as discussed further below, JSC witness Rábago expressed significant concerns about this "simplified" approach.[85]

Regardless of their differences, these intervenors have together demonstrated that Xcel has failed to meet its burden to show its customer charge is just, reasonable, equitable, and in the public interest. Although there are variations in their proposals, intervenors agree that Xcel's customer charge should be decreased and that the Commission should implement an even lower charge for multifamily customers. As explained further below, there is important work to be done in changing *how* the customer charges are calculated in order to avoid future regressive and unjust proposals. Nonetheless, from a current household and business budget perspective, the JSC supports outcomes that lower customer charges to the levels resulting from better customer cost allocation processes. As such, the JSC recommends that the Commission adopt the DOC's initial proposal of lowering the customer charge by $3 per month for customers living in single-family homes and $4 per month for customers living in multifamily homes, and to reduce the customer charge for small general service customers by $3 per month. Despite concerns discussed further below, the JSC also would not oppose a consistent customer charge of $6 per month for single-family customers and $5 per month for multifamily customers, as proposed by Mr. Bahn and Mr. Twite, which would still reflect an improvement over Xcel's proposal.

[84] Ex. DOC-17 at 52-53 (Bahn Direct); Ex. OAG-6 at 10-12 (Twite Rebuttal); Ex. CEO-5 at 12-16 (Nelson Rebuttal). Both OAG witness Twite and DOC witness Bahn revised their positions in their surrebuttal testimony, recommending a reduction in Xcel's "simplified" $9 per month customer charge by $3.00, to set a consistent customer charge of $6.00 for all single-family dwelling residential customers and small general service customers. Both continue to recommend a $1 reduction for multifamily customers, which translates to a consistent customer charge of $5.00 for all multifamily customers. Ex. OAG-10 at 10 (Twite Surrebuttal); Ex. DOC-20 at 24 (Bahn Surrebuttal).

[85] Ex. JSC-10 at 8 (Rábago Surrebuttal).

1. Xcel's proposed residential customer charge is unjustly regressive and discriminatory, and should be lowered and calculated pursuant to the basic customer method.

Xcel's reliance on its hybrid method (combining the zero intercept and minimum system methods) to calculate customer costs and develop its fixed customer charge results in a charge that is unjustly regressive and discriminatory.[86] As JSC witness Rábago explained: "The zero intercept and minimum system methods classify costs related to meeting customer demand for energy which are not actually caused by connection of the customer to the grid, but which are mathematically extrapolated from costs incurred to meet demand, and which hypothetically reflect the costs of infrastructure to serve customers who use no energy at all."[87] In contrast, the basic customer method "identifies costs that vary only with the number of customers—costs that are incurred to connect a customer to the network."[88] Therefore, under Xcel's hybrid method, more costs are covered through a fixed charge rather than through volumetric rates and the resulting fixed charge is higher, even though the total revenue collected would be the same as when the basic customer method is used to calculate the fixed charge.[89] In other words, the method used only affects whether the revenue is collected via volumetric rates or fixed charges, with the basic customer method leading to lower fixed charges.

Regardless of their dollar amount, fixed charges are economically regressive—that is, they have a greater impact on lower-income customers, who also tend to be lower-usage customers who are more greatly impacted by charges that are fixed and non-bypassable as

[86] Ex. JSC-5 at 55-57 (Rábago Direct).
[87] *Id.* at 54.
[88] *Id.*
[89] *Id.* at 54-55.

compared to higher-usage customers.[90] Moreover, lower-usage customers tend to have flatter load curves, or "less peaky demand," such that when peak-driven costs are incorporated into fixed charges, as the Company does with its hybrid method, low-usage, low-wealth customers are required to pay more than their fair share of those costs.[91] As JSC witness Rábago stated, "[a]s a result of the Company's reliance on the minimum system and zero-intercept methods to classify customer costs, low-wealth customers are being charged for many costs driven by the usage levels and patterns of more well-to-do customers. When fixed customer charges do not differentiate between the usage levels and patterns of customers, they unjustly discriminate."[92]

Given these inherently inequitable impacts, the Commission should aim to limit the costs included in fixed charges and thus to avoid high fixed charges. As Mr. Rábago explained, "[w]here a customer charge is used, a good rule of thumb is this: If the cost disappears because the customer leaves the system, the cost is a customer cost. This is generally referred to as the 'basic customer method.'"[93] This basic customer method comports with well-established definition of customer costs articulated by James Bonbright, who described these costs and those necessary to connect a customer to the grid.[94] Xcel's hybrid method, which combines the minimum system and zero intercept methods, does not identify customer costs but rather functionalizes non-demand and non-energy costs as customer costs, and it fixes those costs across customers, rather than having customers pay according to their electricity usage.[95] The

[90] *Id.* at 55-56 (Rábago Direct); *see also* OAG-4 at 30 (Twite Direct) ("Both across the country and in Xcel's service area, low-income households tend to use less electricity than higher-income households. By definition, increased customer charges will increase bills for lower-use customers. Thus, the Company's proposal will disproportionately harm both low-income households and people of color.").
[91] Ex. JSC-5 at 56 (Rábago Direct).
[92] *Id.*
[93] *Id.* at 61.
[94] *Id.* at 62-64.
[95] *Id.* at 64-66.

Regulatory Assistance Project recommended rejection of these methods absent demonstration of the otherwise unrecovered customer-specific costs and utilizing them is out of step with the practice of the majority of other states.[96]

The Commission should follow this same path and require Xcel to rely on the basic customer method to functionalize customer costs and set its fixed customer charge to help ensure the resulting charge is as just and equitable as possible. Notably, DOC witness Bahn and OAG witness Twite also support relying on the basic customer method to calculate customer costs.[97] When the basic customer method is used, the weighted-average customer charge is $5.10 per month. As discussed further below, given alignment among other intervenors on a similarly lowered customer charge, the JSC would support the intervenor consensus position, while still maintaining that the Commission and Xcel should rely on the basic customer method in this rate case and going forward.

2. A separate, lower multifamily customer charge is consistent with the principle of cost-causation, and promotes equity and justice.

As Xcel has recognized through its own study, the marginal cost of service was nearly 60% lower for multifamily homes.[98] Under the customer cost-causation and equity principles discussed above, the customer charge should be lower for these multifamily customers. However, Xcel opted not to propose a separate, lower customer charge for multifamily customers, in part because it claimed it cannot distinguish customer home type with the data it possesses and cannot implement such a rate in its billing system.[99] As JSC witness Rábago stated, "[t]hese are poor and unacceptable excuses for continuing the injustice that the

[96] Ex. JSC-5 at 67-70 (Rábago Direct).
[97] Ex. DOC-17 at 54-55 (Bahn Direct); Ex. OAG-4 at 25-27 (Twite Direct).
[98] Ex. JSC-5 at 56 (Rábago Direct) (citing Xcel-89 at 22 (Paluck Direct, adopted by Peterson)).
[99] Ex. Xcel-89 at 22-23 (Paluck Direct, adopted by Peterson)).

Company's fixed customer charges impose on customers that live in multi-family residences."[100] As Mr. Rábago noted, Xcel could rely on customer self-certification with verification as necessary to determine housing type by customer.[101] Similarly, as both DOC witness Bahn and OAG witness Twite noted, Xcel has indicated that it can identify at least some multifamily dwellings with apartment numbers, which would capture roughly 270,000 customers.[102] In addition, Xcel could coordinate zoning, housing, property tax, and other government data to determine this information.[103] As discussed further below in Section VII.A.2, while it can use these measures in the interim, Xcel should prioritize obtaining more robust multifamily customer data.

In the meantime, as DOC witness Bahn stated, "[w]hile Xcel has not completed a cost analysis to determine any cost differential between single-family and multi-family dwelling customers, Xcel's commissioned marginal cost study results are compelling and informative."[104] Furthermore, as OAG witness Twite emphasized, "implementing a lower multiunit dwelling customer charge would predominately benefit Xcel's low-income customers," who are more likely to live in multifamily housing.[105] A reduced multifamily customer charge is a step in the right direction towards remedying the inequity between multifamily and single-family residential rates, and between higher- and lower-income residential customers.[106]

[100] Ex. JSC-10 at 7 (Rábago Surrebuttal).
[101] *Id.*
[102] Ex. DOC-20 at 22-23 (Bahn Surrebuttal); Ex. OAG-6 at 12-13 (Twite Surebuttal).
[103] Ex. JSC-10 at 7 (Rábago Surrebuttal).
[104] Ex. DOC-17 at 55 (Bahn Direct).
[105] Ex. OAG-4 at 35 (Twite Direct).
[106] Ex. DOC-17 at 55 (Bahn Direct).

3. Lowering the customer charge is consistent with Minnesota policy to promote energy conservation, energy efficiency, and distributed energy resources, and sends appropriate price signals to customers and Xcel.

In addition to the direct equity implications discussed above, a lower residential customer charge also better supports Minnesota's energy policy goals, including specifically the promotion of energy conservation, energy efficiency, and DER installation.[107] As JSC witness Rábago explained:

> High fixed charges work against Minnesota's energy policy goals favoring and encouraging energy efficiency and increased use of renewable energy resources in two insidious and overlapping ways …. First, they increase the amount of the customer's total bill that cannot be reduced through reduction in use or self-generation. This makes customer actions that would increase efficiency, conservation, and customer-sited renewable generation less likely to occur. Second, in the zero-sum-game of rate design, the charges also result in lower volumetric rates. This has the effect of reducing the marginal value energy efficiency, conservation, and customer-sited renewable generation, also making those actions less likely to occur. Simply stated, when use-based charges are deflated by 20%, for example, by shifting the revenue requirement to the fixed charges, every efficiency measure, conservation practice, and rooftop solar investment takes 20% longer to deliver a payback on its initial investment requirement. As a result of these two effects, basic economics dictates that customers are less interested in reducing usage because it will yield less benefit in reducing bills; as a result, they will reduce their uptake of these actions.[108]

On the other hand, when customer charges are lower and Xcel collects more revenue through volumetric rates, customers are incentivized to conserve energy, and adopt energy efficiency and DERs.

In addition to encouraging energy conservation, energy efficiency, and DER adoption, lower fixed charges also send a price signal to the Company to manage and reduce its infrastructure costs. When customers lower their usage through conservation, efficiency, and DERs, the Company feels the impact of reduced consumption through reduced sales and is thus

[107] *See* Minn. Stat. §§ 216B.03, 216C.05 Subd. 2.
[108] Ex. JSC-5 at 57-58 (Rábago Direct) (internal citations omitted).

incentivized to operate and invest in a least-cost manner.[109] In contrast, if the Company can recover those costs through fixed charges, the Company is immunized, at least to an extent, from these consumption changes.[110] As Mr. Rábago stated, "a higher fixed customer charge can encourage economic inefficiency and waste, but stronger revenues by the Company."[111] Although it is not surprising that Xcel would prefer to collect more of its revenues in fixed charges, it is in customers' interest and more consistent with state energy policy to keep fixed charges low.[112]

4. Intervenors have aligned around a decreased customer charge and a separate, lower customer charge for multifamily customers.

As noted above, the DOC, OAG, CEO, and JSC initially aligned around DOC witness Bahn's alternative proposal to reduce the residential customer charge.[113] In surrebuttal testimony, responding to Xcel's proposal for a "simplified" consistent charge for residential customers, DOC witness Bahn and OAG witness Twite modified their positions to support such a consistent residential customer charge, but similarly reduced for single-family and multifamily customers.[114]

JSC witness Rábago expressed concern regarding Xcel's "simplified" approach, stating that "higher users of electricity or those with more expensive services would see a reduction in their monthly charge, while low users with lower cost services would see increases. This proposal increases the injustice [of] the current fixed customer charges and fails to rebut or even

[109] *Id.* at 72-73 (Rábago Direct).
[110] *Id.*
[111] *Id.* at 73.
[112] *Id.* at 55, 73-74.
[113] Ex. JSC-10 at 1-2, 10-12 (Rábago Surrebuttal); Ex. DOC-17 at 52-53 (Bahn Direct); Ex. OAG-6 at 10-12 (Twite Rebuttal); Ex. CEO-5 at 12-16 (Nelson Rebuttal) (all supporting a reduced the residential customer charge by $3 per month for customers living in single-family homes and $4 per month for customers living in multifamily dwellings).
[114] Ex. OAG-10 at 10 (Twite Surrebuttal); Ex. DOC-20 at 24 (Bahn Surrebuttal) (both supporting customer charges of $6 per month for single-family residential customers and $5 per month for multifamily residential customers).

address the underlying fundamental flaws in the Company's methods used to develop customer charges. The proposal worsens the violation of cost-causation principles inherent in the Company's proposed fixed charges and its fixed charge development methods."[115] Therefore, JSC remains supportive of DOC witness Bahn's original proposal to reduce the single-family residential charges by $3 per month and multifamily residential customer charge by $4 per month. However, despite these concerns about Xcel's "simplified" approach, the JSC believes that Mr. Bahn's and Mr. Twite's modified proposal for a consistent charge of $6 per month for single-family residential customers and $5 per month for multifamily residential customers would still reduce the customer charge and therefore be more just and reasonable, and comport better with state energy policy, than Xcel's uniform $9 per month residential customer charge proposal. Therefore, although it is not the JSC's preference, the JSC does not oppose the DOC/OAG modified proposal.

Intervenors have together cast significant doubt on the reasonableness of Xcel's high-fixed-charge proposal and have made a clear case for lower customer charges. Minnesota law requires the Commission to resolve any doubt as to the reasonableness of Xcel's proposal in customers' favor.[116] Two outcomes are essential: (1) the Commission should require Xcel to rely on the basic customer method in every future rate case; and (2) in this rate case, the Commission should end the injustice and inequity associated with Xcel's high customer charges. Therefore, the Commission should choose one of the intervenors' proposals, both which better serve customers' interest and better meet state energy policy goals, whether it is the DOC/OAG modified proposal or Mr. Bahn's original proposal, supported by the JSC and CEO.

[115] Ex. JSC-10 at 8 (Rábago Surrebuttal).
[116] Minn. Stat. § 216B.03.

B. The Commission Should Approve Energy CENTS Coalition's (ECC) Low-Income Rate Proposal, With the Proposed Modification from the Just Solar Coalition to Expand Relief to More Cost-Burdened Minnesotans, and Continue to Explore Additional Ways to Address the Needs of Low-Wealth Customers.

1. ECC's low-income rate proposal would offer immediate relief to low-income customers without overburdening other ratepayers, and several intervenors and Xcel support it.

ECC proposed a low-income, low-usage rate based on a similar rate approved for Minnesota Power.[117] Specifically, ECC witness Catherine Fair proposed a "35% monthly discount on monthly electric usage of 300 kWh to all low-income residential customers that use, on an annual basis, an average of 300 kWh per month or less."[118] As Ms. Fair stated, "the vast majority of low-income households do not receive assistance to help mitigate their energy burden."[119] According to Ms. Fair, ECC's proposal would address this gap by providing discounted rate to an estimated 30% of Xcel's low-usage (≤ 300 kWh/month) customers, or approximately 92,000 of the Company's 305,000 low-usage customers.[120] Ms. Fair recommended that Xcel rely on a similar self-declaration process to Minnesota Power to establish income eligibility for the rate.[121]

Xcel supported ECC's proposal, as did the OAG and JSC.[122] The JSC continues to believe that ECC's proposed low-usage, low-income rate discount would be an important way to begin addressing affordability issues for Xcel customers.[123] Specifically, the JSC supports the self-declaration process recommended by ECC, which helps to address some of the accessibility

[117] Ex. ECC-1 at 10-18 (Fair Direct).
[118] *Id.* at 12.
[119] *Id.*
[120] *Id.* at 12-13.
[121] *Id.* at 14-15.
[122] Ex. Xcel-83 at 38-40 (Martin Rebuttal); Ex. Xcel-90 at 12-13 (Paluck Rebuttal); Ex. JSC-10 at 4, 12-14 (Rábago Surrebuttal); Ex. JSC-6 at 34-35 (Chan Surrebuttal); Ex. OAG-6 at 6-7 (Twite Rebuttal).
[123] Ex. JSC-10 at 12 (Rábago Surrebuttal); Ex. JSC-6 at 34-35 (Chan Surrebuttal).

concerns associated with other low-income programs discussed by JSC witnesses Porter, Chan, and Rábago.[124] However, as discussed further below, the JSC believes that ECC's proposal should be expanded to provide relief to more low-income customers.

In addition, the JSC emphasizes that "it will be important to evaluate implementation of this discount as one of the important assumptions in Ms. Fair's analysis of the costs of the program is the percent of low-usage customers that will either be automatically qualified for the discount or will self-declare as low-income."[125] The actual number of low-usage customers that will qualify for the discount will depend on several additional factors, including: "the percent of customers served by the Company that are income-eligible for LIHEAP, the thoroughness of outreach to customers to inform them about the availability of the discount and opportunities to qualify, the behavior of customers that opt-in to self-declaring their income level, and macroeconomic factors that could change the necessity of bill relief."[126] Therefore, the JSC supports Xcel's proposed tracker mechanism that "considers the difference between the forecasted discount level and actual discounts provided" to help assess the reach of this program over time.[127]

2. <u>The Just Solar Coalition's proposed modification Option 2 (Removal of Low-Usage Qualification) to ECC's proposal would extend this relief to more customers while keeping program costs reasonable for non-participants.</u>

JSC witness Chan expressed concern that ECC's proposal would exclude low-income households that use more than ECC's proposed 300 kWh-per-month threshold:

> My largest concern with the low-income, low-usage electric discount is that it does not apply to income-qualified households that are not low-usage. This means that many customers served by the Company that are experiencing energy

[124] Ex. JSC-1 at 19-28 (Porter Direct); Ex. JSC-3 at 27-29 (Chan Direct); Ex. JSC-5 at 76-79 (Rábago Direct).
[125] Ex. JSC-6 at 34 (Chan Surrebuttal).
[126] *Id.*
[127] *Id.* (citing ECC-1, CAF Schedule 2 (Fair Direct) (attached Xcel Energy Response to ECC IR No. 1)).

insecurity would be excluded, including customers living together with a higher-than-average number of people, customers with electric heating, customers with electric medical devices (who are not already on the medical affordability rate), and customers living in older building structures that are less energy efficient. Further, as currently structured, the proposed discount could create a problematic disincentive for households near the usage-eligibility threshold of 300 kWh per month that could work against the Company's and the state's goals for equitable decarbonization of the Minnesota energy system.

To address these concerns, Dr. Chan proposed three options for incremental modifications to ECC's proposal.

JSC Modification Option 1: Low-Usage Technology Exemption

Under JSC Modification Option 1, income-qualified customers that exceed the usage threshold of 300 kWh per month could apply for an exemption to the usage threshold if their premise has installed certain electric appliances (e.g., electric space heating, electric range, electric medical device, two- or four-wheel electric vehicle, electric water heater). The discount could apply to the first 300 kWh of consumption in a month (or could be considered for consumption above 300 kWh). This option would mitigate the concern I raise above with the usage threshold potentially excluding certain households that have or plan to adopt certain electrification technologies.

JSC Modification Option 2: Removal of Low-Usage Qualification

Under JSC Modification Option 2, all income-qualified households would qualify for a 35% discount on their first 300 kWh of monthly consumption, regardless of total consumption in the month. For customers that consume less than 300 kWh in a month, this modification would have no impact. And for customers that consume more than 300 kWh in a month, they would now receive the 35% discount on just their first 300 kWh (approximately $14 per month). This option would mitigate the impact of the concern I raised above about the original proposal excluding certain structurally higher energy consumers that face energy insecurity (such as households with an above-average number of people). This option would also remove the concerns I raise above with the unintentional, potentially problematic incentive around the 300 kWh per month usage threshold that might lead some households near the usage threshold to curtail load or be less likely to adopt beneficial electrification technologies.

JSC Modification Option 3: Essential Service Provision

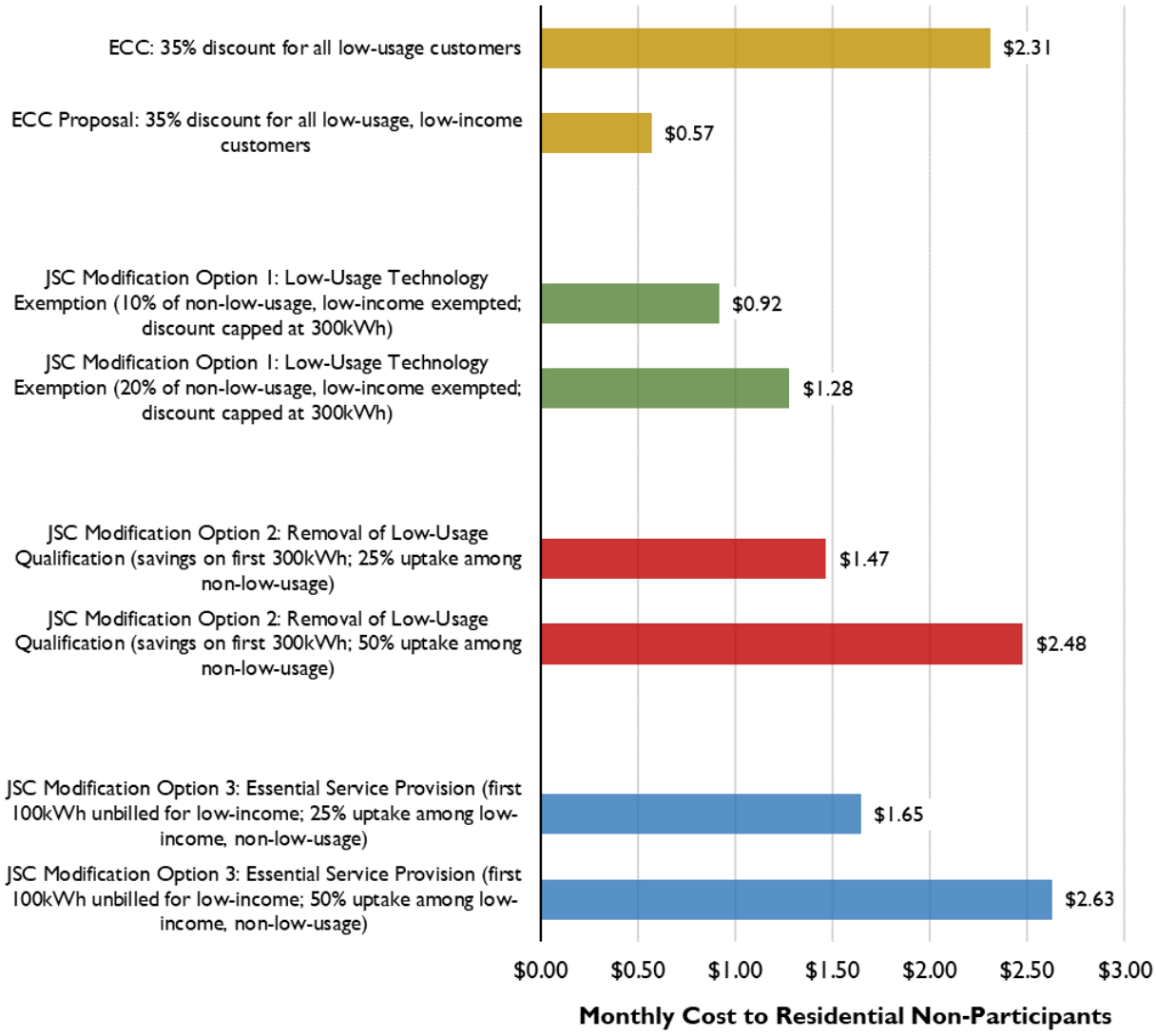
Under JSC Modification Option 3, all income-qualified households would receive guaranteed provision of electric service for the first 100 kWh of consumption in a month at no cost. This would be economically equivalent to receiving the approximate value of at 35% discount on 300 kWh of consumption fully in the first 100 kWh of consumption in a month. In addition to mitigating the concerns I

> raised above with the original proposal in an effectively similar manner to JSC Modification Option 2, this option would also effectively establish a universal basic level of electricity provisioning to households for their most essential energy services. This option would thereby guarantee that all customers that can afford the fixed monthly charge would be protected from disconnection (unless otherwise protected from disconnection, such as by the Cold Weather Rule or participation in an existing affordability program). This option follows similar policy adopted by other electric utilities.[128]

After assessing the impact and viability of each option, Dr. Chan concluded that Option 2 would strike the best balance between reaching more customers with bill relief and ease of administration.[129] Option 2 would reach an additional approximately 230,000 customers, providing them a discount on the first 300 kWh that they consume in a month.[130] As illustrated in Figure 3, Dr. Chan estimated that Option 2 would cost non-participating customers $1.47 - $2.48 per month, depending on the level of uptake for the program.[131]

[128] Ex. JSC-6 at 40-42 (Chan Surrebuttal).
[129] *Id.* at 42-50.
[130] *Id.* at 42.
[131] *Id.* at 46-47 ("I estimate that approximately 25% to 50% of low-income, non-low-usage customers would enroll in the discount program. This estimate is based on the observation by the Minnesota Department of Commerce that 'only 25% of the estimated income-eligible population' participated in the state's Energy Assistance Program (EAP). [citation omitted] I use 50% as a conservative upper bound, representing more than doubling of the EAP participation rate. I estimate that providing a 35% discount to the first 300 kWh of monthly consumption under this modification option would cost non-participating customers $1.47 to $2.48 per month.").

Figure 3. *Analysis of the monthly cost to non-participating residential customers of proposed discount options.*[132]



Although Option 2 would increase program costs as compared to ECC's original proposal, the impact on non-participants remains reasonably low. As Dr. Chan discussed, Option 2 "would provide an opportunity to avoid much of the cost increases being considered in this rate case to the 230,000 income-qualified customers of the Company that would otherwise be excluded from the proposed discount. Many of these customers are experiencing energy insecurity but would

[132] Ex. JSC-6 at 48 (Chan Surrebuttal).

not meet the low-usage threshold set by the current proposal."[133] The Commission should adopt this modification to ECC's proposal to provide the affordability discount to more low-income customers and go further to remedy the inequitable impacts of energy insecurity in Xcel's service territory. This recommendation is especially important given Xcel's proposal to significantly increase rates (and therefore low-income energy burden) in this MYRP.

3. Addressing the needs of low-wealth customers requires additional evaluation and action by Xcel and the Commission.

Adopting ECC's low-income, low-usage rate discount proposal—especially if modified by JSC Option 2—is an important step towards providing near-term, critical assistance to low-wealth customers, many of whom are also BIPOC customers. However, as JSC witness Rábago put it, "I urge the Commission not to assume that approval of the ECC-recommended discount is an alternative to requiring the Company to find ways to enhance and expand energy efficiency programs and other programs that provide the benefits of DERs to low-wealth customers."[134] As both JSC witnesses Rábago and Chan demonstrated, existing energy assistance and low-income energy efficiency programs have fallen short of meeting the needs of low-wealth customers.[135] For example, citing the Department of Commerce, Dr. Chan noted that only 25% of the estimated income-eligible population is enrolled in the Low-Income Home Energy Assistance Program (LIHEAP).[136] Enrollment in LIHEAP is necessary to access other Xcel energy assistance programs, including PowerOn and the MN Senior Discount Program.[137]

[133] *Id.* at 49.
[134] Ex. JSC-10 at 13 (Rábago Surrebuttal).
[135] Ex. JSC-5 at 76-79 (Rábago Direct); Ex. JSC-3 at 27-29 (Chan Direct).
[136] Ex. JSC-3 at 27-28 (Chan Direct).
[137] *Id.* at 28.

JSC witness Kristel Porter also discussed in detail the challenges communities have faced in accessing low-income energy assistance and efficiency programs, including in particular the requirement that a customer receive assistance through LIHEAP to participate.[138] Ms. Porter put this into perspective using herself as an example. To qualify for LIHEAP in her situation, as a single parent with two dependents, she would have to have an annual income of less than $21,330, however when she adds up just her basic living expenses, they amount to about $36,000, well above the LIHEAP ceiling.[139] As Ms. Porter said, it seems that "the burden falls on customers' shoulders to demonstrate their inability to pay through a complicated process, and as a result, the utility and its shareholders escape the duty of providing for their customers. It is hard to stomach seeing a public utility not meeting lower-income customers' needs then asking to make more money than ever before."[140]

The JSC encourages Xcel and the Commission to continue to explore rates, programs, and other means of reaching these customers, and providing them both near-term relief as well as longer-term opportunities to access energy efficiency and DERs to build wealth and economic stability. Specifically, the JSC recommends the Commission adopt the following recommendations from Dr. Chan:

- **Require Xcel to study how its demand response programs could minimize bill volatility**. As Dr. Chan explained, volatile fuel costs, such as those experienced in the wake of Winter Storm Uri and in 2022, are passed on directly to customers and can have a significant impact on customers' electricity bills, particularly the most vulnerable

[138] Ex. JSC-1 at 19-25 (Porter Direct); *see also* Ex. JSC-3 at 27-28 (Chan Direct) (discussing challenges related to LIHEAP enrollment).
[139] Ex. JSC-1 at 24-25 (Porter Direct).
[140] *Id.* at 20.

customers.[141] While increased DER adoption can help to mitigate these impacts over time, "[i]n the near-term the Commission could reduce customer bill volatility by requiring or incentivizing utilities to deploy and utilize their demand-side management technologies in a way that maximizes savings and minimizes bill volatility for low-wealth households (in addition to improving system reliability)."[142] To date, Xcel has not used its residential demand response programs, AC Rewards and Saver's Switch, to reduce bill volatility in this manner.[143] Although these programs could "in theory save residential customers money by allowing the Company to avoid building additional generation, whether or not they participate in one of the programs or not," these savings would appear to be only theoretical as the Company has reported 0 MW of realized residential peak demand savings over the past 4 years.[144] "Further, the Company does not suggest that its existing demand response programs could be used to reduce the volatility in residential customer bills associated with volatile fuel markets" because the Company only views demand response as a capacity resource.[145] The Company's demand response programs are a promising but underutilized resource to address customer bill volatility, and the Commission should require Xcel to explore using them to their full potential to benefit its customers, especially its low-wealth customers.

- **Evaluate a permanent moratorium on disconnections**. As Dr. Chan stated, "[a]ccording to the EIA, more than one-third of all energy insecure households in the

[141] Ex. JSC-3 at 36-37 (Chan Direct); *see also* Ex. JSC-6 at 26 (Chan Surrebuttal) (noting record fuel volatility in 2022, and citing U.S. Energy Information Administration, *U.S. natural gas price saw record volatility in the first quarter of 2022* (Aug. 24, 2022), https://www.eia.gov/todayinenergy/detail.php?id=53579).
[142] Ex. JSC-3 at 36 (Chan Direct).
[143] Ex. JSC-6 at 25-26 (Chan Surrebuttal).
[144] *Id.* at 26.
[145] *Id.*

United States received a notice of disconnection in the past year. Utility disconnection protections have been prioritized by energy justice advocates seeking to minimize energy insecurity. … Viewed through the lens of Energy Justice, disconnections of Xcel customers are an urgent area of concern."[146] Furthermore, Dr. Chan demonstrated a "robust statistical association between a Census block group's POC [person of color] share of the population and electric utility disconnection."[147] As Dr. Chan explained, and as shown in Figures 4 and 5 below, "POC households and households experiencing poverty are consistently more likely to experience utility disconnection in the Company's service area. Further, these two effects are compounding, not confounding, meaning that POC households experiencing poverty are even more likely than non-POC households experiencing poverty to be disconnected in the Company's service area. This association highlights the systemic and compounding impacts of multiple racialized systems that have led Minnesota to have some of the nation's highest levels of racial disparities."[148] JSC witness Porter provided her communities' experience with disconnections and the significant, negative impact they have on people's lives, particularly those least able to cope with such a disruption, such as people struggling financially or medically sensitive people.[149]

[146] Ex. JSC-3 at 29-30 (Chan Direct).
[147] Ex. JSC-6 at 16 (Chan Surrebuttal); *see also* Ex. JSC-3 at 30-31 (Chan Direct) (making a similar point with additional analysis).
[148] Ex. JSC-6 at 17-18 (Chan Surrebuttal).
[149] Ex. JSC-1 at 18-19 (Porter Direct).

***Figure 4**. Rate of disconnection in 2019 by an area's percent people of color overall and below different income levels.*[150]

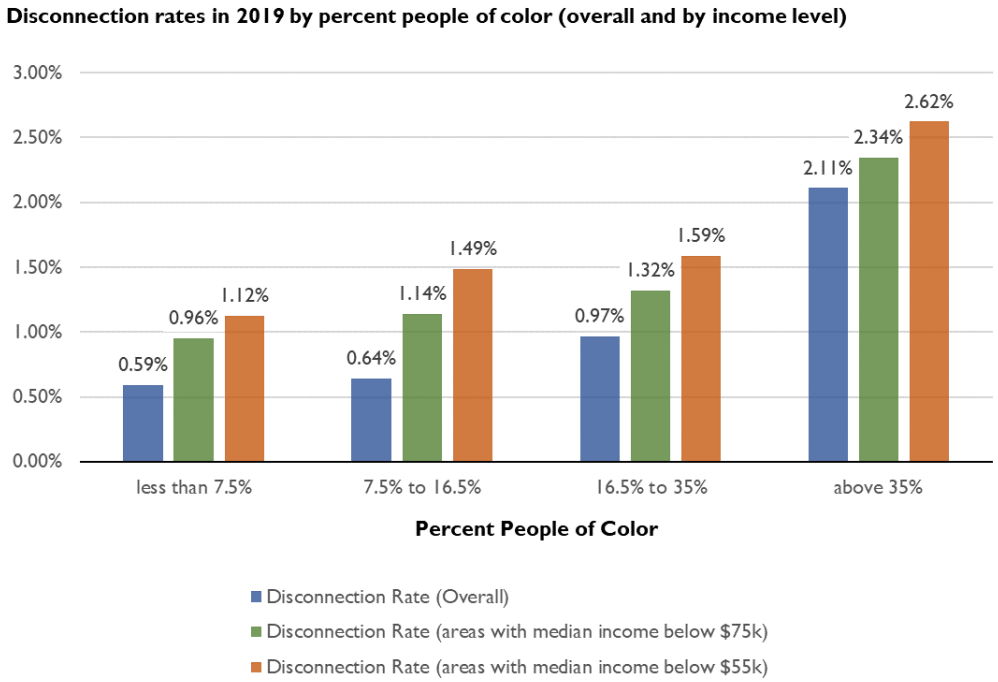
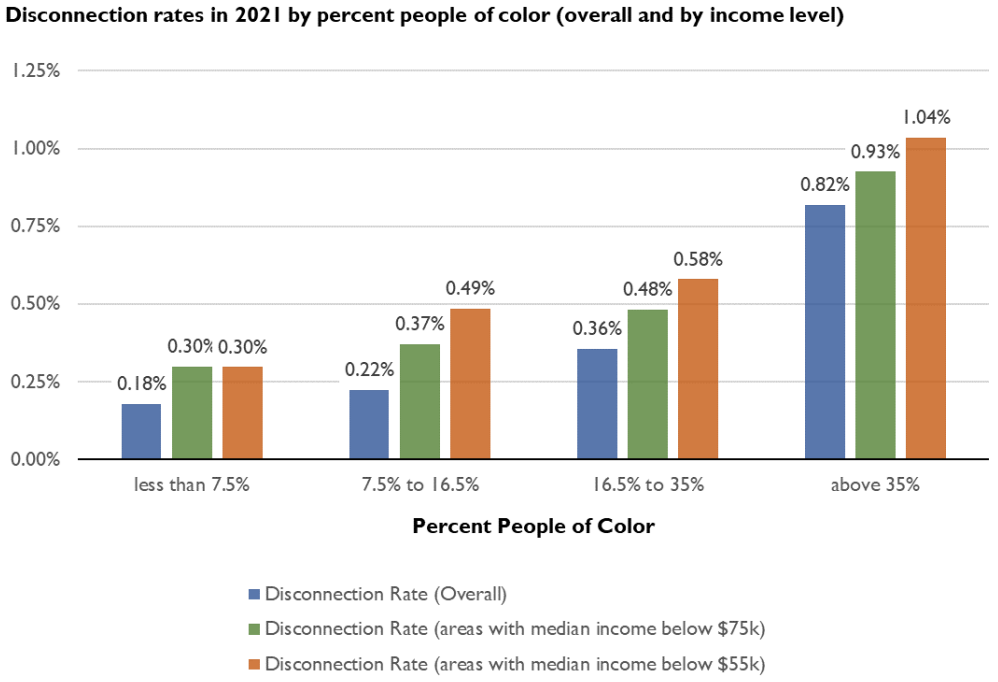


***Figure 5.** Rate of disconnection in 2021 by an area's percent people of color overall and below different income levels.*[151]



[150] Ex. JSC-6 at 13 (Chan Surrebuttal).
[151] *Id.* at 14.

Given these inequitable impacts of disconnections, as well as the ongoing challenges associated with low-income energy assistance and efficiency programs discussed above, the JSC urges the Commission to take a close look at Xcel's disconnection policy and practices, and consider a permanent moratorium on disconnections. As Dr. Chan noted, Xcel witness Martin acknowledged that, even if there is a correlation and not a demonstrable causal relationship, "this is not to suggest the energy system cannot play a role in addressing inequities and reducing disconnections for non-white households."[152] A systematic review of disconnection practices could help identify the most promising opportunities to advance Energy Justice and address the impacts of systemic inequality in a way that benefits all customers served by Xcel.

In addition, the Commission should adopt the recommendations described in Section VI related to Xcel's distribution investments and planning to promote access to DERs for all customers, including particularly low-wealth and BIPOC customers, which can both lower energy usage and bills, and provide these customers with wealth-building opportunities. As discussed in Section VII, the Commission should require Xcel to obtain and analyze the data necessary to inform and support various measures targeting low-wealth and BIPOC customers.

C. The Commission Should Suspend Xcel's Business Incentive and Sustainability (BIS) Rider Until Xcel Can Demonstrate that Its Benefits Outweigh Its Costs, and It Is Not Regressive.

Xcel has proposed to continue and expand its BIS Rider, which provides rate subsidies to certain Minnesota businesses.[153] The BIS Rider provides qualifying large customers with multi-

[152] *Id.* at 18 (quoting Xcel-83 at 25 (Martin Rebuttal)).
[153] Ex. JSC-5 at 38 (Rábago Direct) (citing Company Proposed Minnesota Electric Rate Book – MPUC No. 2, at Sec. 5, 4th Revised Sheet Nos. 139-41).

year demand charge discounts and off-peak energy charge discounts.[154] As JSC witness Rábago explained, "[t]he BIS Rider is designed to recover from BIS Rider customers the incremental revenues that exceed the incremental costs of serving the customer. The lost revenues or subsidy cost is budgeted at about $550-600 thousand per year for the years 2022 through 2024, or about $70 thousand per BIS Rider customer per year, and is borne by all the other customers in the Commercial Demand Billed rate class. The future infrastructure costs associated with the load-building effect of the rate will be allocated per the Company's cost of service methodology, and could result in increased costs for all customers."[155] The BIS Rider raises significant Distributional Justice concerns, since "current Commercial Demand and all future customers in general will have to bear the costs of the subsidies and incremental infrastructure costs … associated with the BIS Rider."[156] Xcel has made no effort to capture and distribute the benefits to non-BIS Rider customers.[157] As Mr. Rábago put it, the BIS Rider is "an old-fashioned business giveaway that forces non-participant customers to enrich both the rider customer and utility shareholders."[158]

The JSC recommends that the Commission require Xcel to suspend enrollments in its BIS Rider and conduct a long-term, comprehensive benefit-cost analysis. To continue offering the BIS Rider, Xcel should demonstrate that its net present benefits outweigh its net present costs and it does not have a regressive impact, and implement any measures necessary to ensure this is the case.[159] Mr. Rábago offered several suggestions regarding improvements to the BIS Rider

[154] Ex. JSC-5 at 38 (Rábago Direct) (indicating that to qualify a customer must have a demand of 5,000 kilowatts or greater and a load factor of 70 percent or greater, and citing Company Proposed Minnesota Electric Rate Book – MPUC No. 2, at Sec. 5, 4th Revised Sheet Nos. 139-41).
[155] *Id.* at 39 (internal citations omitted).
[156] *Id.*
[157] *Id.* at 39-40.
[158] *Id.* at 40.
[159] *Id.* at 41.

that could help ensure that benefits outweigh costs, including: efficiency requirements for participants; renewable energy requirements for participants, including requiring locally sourced renewable energy and/or serving as an anchor buyer in a community solar garden; job creation requirements; fair pay for employee requirements; and other customer- and community-focused requirements.[160]

VI. DISTRIBUTION INVESTMENTS AND PLANNING

Xcel's proposed $677 million rate hike is driven, in large part, by the Company's plans to roughly double its distribution system budget to more than $500 million per year for 2022-2024, as shown in Table 1.[161] As such, it is particularly important for the Commission to carefully scrutinize Xcel's rationale for these large increases with an Energy Justice lens.

Table 1. *2018-2014 Distribution Capital Expenditures (Dollars in Millions).*[162]

State of MN Electric Jurisdiction Expenditures (excludes AFUDC)	2018 Actual	2019 Actual	2020 Actual	2021 Forecast	2022 Budget	2023 Budget	2024 Budget
Asset Health & Reliability	$99.7	$95.3	$126.7	$145.7	$191.0	$205.1	$212.3
Advanced Grid Intelligence & Security (AGIS)	$0.4	$6.6	$2.7	$14.9	$92.8	$138.3	$116.6
Electric Vehicle Program (EVP)	$0.0	$0.6	$0.1	$7.7	$94.1	$63.1	$59.1
New Business	$62.2	$55.8	$59.1	$66.2	$60.7	$61.9	$61.9
Capacity	$13.6	$21.6	$47.4	$32.6	$38.9	$40.8	$50.9
Mandates	$28.9	$39.3	$33.6	$28.3	$32.4	$32.2	$36.6
Tools and Equipment	$2.7	$4.9	$4.8	$10.7	$14.7	$15.4	$14.2
Solar	($11.4)	($0.8)	$0.2	($1.4)	$0.0	$0.0	$0.0
Total	**$196.2**	**$223.4**	**$274.5**	**$304.6**	**$524.6**	**$556.9**	**$551.5**

As a threshold matter, Xcel's distribution investment proposals in this rate case do not appear to track the "three pillars" of distribution planning that the Commission approved as part of Xcel's most recent IDP: (1) addressing aging assets; (2) enabling the clean energy transition;

[160] Ex. JSC-5 at 40-41 (Rábago Direct).
[161] *Id.* at 50; Ex. Xcel-40 at 10, 29-31, 34-35 (Bloch Direct, adopted by Mensen).
[162] Ex. Xcel-40 at 34 (Bloch Direct, adopted by Mensen).

and (3) modernizing the grid.[163] As JSC witness Cody Davis explained, "the Company's investments do not appear to make any significant strides to improve the ability of their distribution system to integrate new renewable energy sources or to better utilize existing renewable resources."[164] Instead, Xcel's distribution investment proposals in this rate case focus primarily on addressing aging assets and grid modernization.[165]

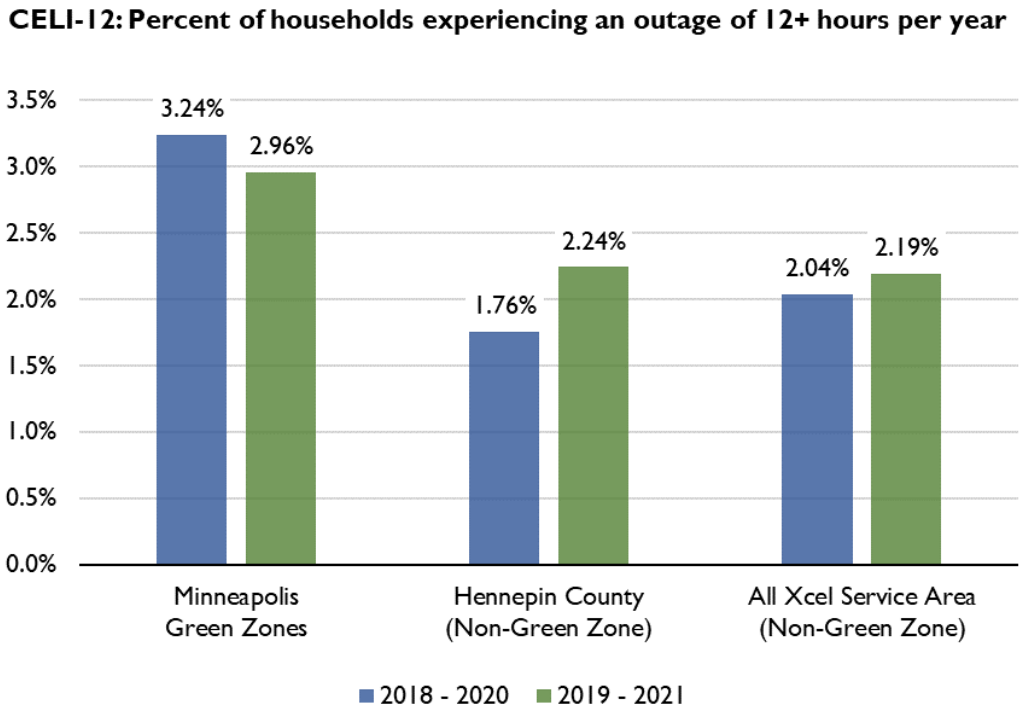
As discussed above, integrating renewable resources, particularly DERs, is a key component of promoting Energy Justice because improved DER access can improve affordability for customers and help to build local wealth over time. Ensuring lower-income and BIPOC customers can access and benefit from DERs is a critical step towards remedying the historic and ongoing inequities in the energy system. However, Xcel's proposed distribution investments do not incorporate analysis of such equity or Energy Justice impacts.[166]

Xcel's distribution system proposals also fail to satisfactorily address disparities in electric system reliability in lower-income and BIPOC communities, which are often more vulnerable to electric service disruptions than more affluent neighborhoods. As JSC witness Porter explained, when outages happened in her community, "many people lost their food and the utility did not provide any financial relief for that loss."[167] She provided examples of how severe the impact of outages can be on customers with medical needs, who are also financially struggling, such as those with diabetes whose insulin needs to be refrigerated, children who require nebulizers, or elderly residents that require C-PAP machines.[168] As shown in Figure 6,

[163] *Id.* at 2; Ex. JSC-4 at 5 (Davis Direct) (citing Xcel 2021 IDP, Docket No. 21-694).
[164] Ex. JSC-4 at 5-6 (Davis Direct).
[165] *Id.* at 5.
[166] *See, e.g., id.* at 11, 42 (Davis Direct) (recommending that the Company evaluate the degree to which hosting capacity correlates with the prevalence of low-income customers and energy justice communities after concluding that the company has not performed any comparative analysis on hosting capacity values based on customer income levels).
[167] Ex. JSC-1 at 18 (Porter Direct).
[168] *Id.* at 18-19.

customers in communities where Ms. Porter focuses her efforts—the Northside and Southside Green Zones of Minneapolis—have a substantially higher incidence of long-duration (over 12 hours) outages than other Xcel customers in Hennepin County and in Xcel's overall service area. This data is drawn from online maps provided by Xcel: "Xcel Energy Minnesota Grid Reliability - 2020" and the "Xcel Energy 2021 MN Electric Service Quality Interactive Map."[169] Although it provides these online maps and data, Xcel does not appear to use this information to design rates or programs or prioritize distribution system investments to address these disparities.[170]

Figure 6. *Rate of extended outages over 12 hours (CELI-12) in the Minneapolis Green Zones compared to other areas in Hennepin County and Xcel's Service Area overall for 2018-2020 and for 2019-2021. The differences between the Green Zones and other areas in Hennepin County are statistically significant in 2018-2020 and in the combined 2018-2020 and 2019-2021 datasets.*[171]



[169] Ex. JSC-6 at 21 (Chan Surrebuttal).
[170] Ex. JSC-4 at 10-11 (Davis Direct); Ex. JSC-5 at 26-27 (Rábago Direct).
[171] Ex. JSC-6 at 21 (Chan Surrebuttal).

In the following subsections, the JSC provides recommendations regarding Xcel's proposed distribution investments to ensure they address these equity concerns and comport with the principles of Energy Justice. Specifically, the JSC recommends ways Xcel could improve hosting capacity on its system, to improve equity in access to DERs, and ways for Xcel to leverage DER capabilities to promote cost savings and improve affordability. The JSC also recommends that the Commission reject Xcel's proposed Grid Reinforcement Program and Cable Replacement Program so that Xcel can address the benefit-cost, affordability, and equity issues that JSC has identified. In addition, in Section VII, the JSC recommends that the Commission require Xcel to conduct additional analyses to better understand the locational differences in reliability and hosting capacity in its system, specifically in lower-wealth and BIPOC communities, to inform its future distribution investments and planning, and other programs.

A. The Commission Should Direct Xcel to Take Actions to Improve Hosting Capacity on Its System, Consistent with the Commission's Order in Xcel's Integrated Distribution Plan (IDP) Proceeding.

Increasing hosting capacity is a key component of enabling and integrating DERs.[172] As Xcel defines it, hosting capacity is "the amount of generation that can be accommodated without requiring mitigations such as specialized inverter settings or infrastructure upgrades."[173] Hosting capacity values vary by location on the system, and differences in local infrastructure sizing, age, and age-related design practices can create disparities in hosting capacity for different customer groups.[174] As JSC witness Cody Davis put it, "[w]hile not necessarily intentional, it is important

[172] Ex. JSC-4 at 9-11 (Davis Direct).
[173] *Id.* at 9 (citing definition from Xcel's publicly available hosting capacity map at https://www.xcelenergy.com/hosting_capacity_map).
[174] *Id.* at 10.

to acknowledge the existence of such disparities in order to be aware of the impacts and take appropriate steps to rectify them."[175] However, Xcel has not analyzed the differences in hosting capacity by income or other customer attributes, such as race. As discussed further in Section VII, the Commission should direct Xcel to obtain this data in order to better understand these disparities.

Regardless, the Commission made clear in its most recent IDP Order that Xcel should "proactively plan and make investments to improve the hosting capacity of its distribution system consistent with forecasts for distributed energy resources."[176] Despite this clear and unambiguous Order, JSC witness Davis concluded that, while certain Xcel investments and programs may already do this inadvertently, and Xcel made generalized statements indicating that certain investments would improve hosting capacity, Xcel has failed to expressly target *any* of its proposed distribution system investments to increase hosting capacity or otherwise support adoption of DERs.[177]

Xcel's discovery responses confirm that the Company did not systematically evaluate or prioritize its distribution system investments based on the extent to which those investments would increase hosting capacity or enhance customer access to DERs. When asked whether it made investments to address reverse power flow and unintentional islanding, the two common limiting factors to hosting capacity, the Company confirmed that "there are no capital

[175] *Id.*
[176] *Id.* at 9 (citing Order Accepting 2021 Integrated Distribution System Plan, Docket No. 21-694 (July 26, 2022) (Order Point 4)).
[177] Ex. JSC-4 at 12-15 (Davis Direct). Notably, although Xcel implied that its Community Solar Gardens (CSG) Recloser Program was one way it would support DER interconnections, in reality this impacts only those CSG customers/projects already connected to the system, and any new CSG customers/projects would bear cost responsibility for their own reclosers, not Xcel. Thus, since it would only involve installing new reclosers on existing CSGs, not enabling new CSGs or DERs, the CSG Recloser Program does not improve hosting capacity on Xcel's system or otherwise improve the ability of new DERs to interconnect. *Id.* at 17-19.

investments in this rate case that are specifically intended to address these two common limiting factors."[178] The Company also confirmed that "the methodologies for identifying the breakers, regulators, and other assets to be replaced under the Asset Replacement and Reliability programs do not include evaluation of the hosting capacity benefits or any weighting or prioritization factors based on those hosting capacity benefits," leading Mr. Davis to conclude that, "[a]s a result, any benefits to hosting capacity because of these projects are incidental."[179] Overall, the Company's approach to hosting capacity is not aligned with the Commission's IDP Order requiring the Company to "proactively plan and make investments to improve the hosting capacity of its distribution system."[180]

JSC witness Cody Davis recommends that the Commission take the following three actions to better align Xcel's proposal with the Commission's IDP Order on hosting capacity:

1. Require Xcel to modify its prioritization for circuit breaker, recloser, and regulator replacement projects to include a prioritization element for hosting capacity increases.
2. Direct Xcel to examine the basis for its Voltage Supervisory Reclosing requirement to determine whether it could be modified to enhance hosting capacity while maintaining safety and reliability.
3. Direct Xcel to assess the potential hosting capacity benefits which could be achieved by encouraging electric vehicle (EV) charging during high solar generation periods, especially on distribution feeders that already have limited hosting capacity.

Each one of these recommendations is addressed in more detail below.

[178] Ex. JSC-4 at 14 (Davis Direct) (quoting Xcel's response to CEO IR No. 1(b), attached to JSC-4 as Ex. 16)).
[179] *Id.*
[180] *Id.* at 9.

In addition, and more broadly, the JSC recommends that the Commission explicitly reinforce its IDP directive to help ensure that Xcel implements it more fully in future rate cases. As Mr. Davis stated:

> The Commission has expressed its clear intent for the Company to take a more proactive approach to hosting capacity to make investments to remove limiting factors and improve the ability of its distribution system to handle two-way power flows, especially in those areas with historical inequities and energy justice concerns. This should include a consistent and defensible methodology to determine which areas are constrained, what investments and subsequent costs are necessary to eliminate the constraint, and the degree of benefit achieved by those investments, including equity-related benefits.[181]

Xcel has failed to meet that directive in this rate case by not expressly targeting hosting capacity investments and defending them with relevant data and analysis. By recognizing that failure and reiterating its mandate, the Commission can help to ensure that Xcel better achieves this goal in the future.

1. <u>The Commission should require Xcel to modify its prioritization for circuit breaker, recloser, and regulator replacement projects to include a prioritization element for hosting capacity increases.</u>

Xcel's largest distribution capital budget category is its Asset Health and Reliability program, as shown in Table 1 above, reflecting approximately 36-38% of the total capital expenditures each year.[182] Through this program, Xcel examines its various distribution facilities to assess whether or not they require replacement.[183] The facilities that Xcel examines through this program include components that can help increase the hosting capacity of Xcel's distribution system, including the circuit breaker, recloser, and regulator components of substations.[184] Despite the fact that these components impact the hosting capacity of Xcel's system, Xcel apparently ignores the potential for hosting capacity improvements when assessing

[181] *Id.* at 16.
[182] Ex. Xcel-40 at 34 (Bloch Direct, adopted by Mensen).
[183] *Id.* at 37-38.
[184] *Id.* at 70.

whether or not to replace these components. As Mr. Davis explained, "[w]hile factors like age, asset health, and reliability considerations are clearly important, it is also important to recognize that these assets play a critical role in increasing hosting capacity under the Company's calculation methodology."[185]

Mr. Davis recommends that the Commission direct Xcel to include the impact of asset replacements on hosting capacity as one of the factors Xcel uses to prioritize circuit breaker, recloser, and regulator replacement projects. The JSC is not recommending that hosting capacity supersede or replace age, asset health, or reliability as considerations, but rather that hosting capacity should be another factor in Xcel's analysis when it evaluates these investments. As Mr. Davis stated: "Rather than framing the goal as 'which assets will have the greatest impact on customer experience if they fail,' I recommend considering the similar but more directly applicable question of which assets will have the greatest impact on customer experience when they are replaced, since that is the actual outcome of the program. From that perspective, it is reasonable to consider hosting capacity as an element of the prioritization because it can improve the customer experience as it relates to new interconnection capabilities. In addition, it would be an opportunity for the Company to consider equity and Energy Justice in further prioritizing customer experience."[186]

2. The Commission should direct Xcel to examine the basis for its Voltage Supervisory Reclosing requirement to determine whether it could be modified to enhance hosting capacity while maintaining safety and reliability.

As JSC witness Davis explained, Xcel has several tools to increase hosting capacity on its system: (1) by investing in infrastructure upgrades to address limiting factors; (2) by modifying

[185] Ex. JSC-4 at 15 (Davis Direct).
[186] Ex. JSC-7 at 29 (Davis Surrebuttal).

their underlying study assumptions and constraints; and (3) by revisiting existing equipment settings, especially for substation on-load tap changers, voltage regulators, and capacitor banks.[187] In this second category related to underlying assumptions and constraints, the Xcel's Voltage Supervisory Reclosing requirement could have a particular impact on hosting capacity.[188] JSC recommends that the Commission direct Xcel to examine the basis for this requirement to determine whether it could be modified to enhance hosting capacity while maintaining safety and reliability.[189] Specifically, Xcel should consider whether relying on anti-islanding performance requirements that come with UL 1741 SA / SB certified hardware could allow it to improve hosting capacity while avoiding significant investments in new protection modifications and equipment.[190]

3. The Commission should direct Xcel to assess the potential hosting capacity benefits which could be achieved by encouraging electric vehicle (EV) charging during high solar generation periods, especially on distribution feeders that already have limited hosting capacity.

In its testimony, the Company describes several existing or planned EV pilots or programs, many of which attempt to shift EV charging energy use to time windows outside of system peaks, which typically occur during the daytime.[191] As JSC witness Davis explained, on one hand, this approach could help to minimize the overall impact of EVs on distribution system capacity and related spending on large distribution capacity investments; on the other hand, it creates an inherent misalignment between EV charging and solar DER generation.[192] If instead Xcel were to direct EV charging to time windows when solar DER generation is greatest, it

[187] Ex. JSC-4 at 11-12 (Davis Direct).
[188] *Id.* at 17 (Davis Direct).
[189] *Id.*
[190] *Id.*
[191] Ex. Xcel-40 at 169-180 (Bloch Direct, adopted by Mensen); *see also* Ex. JSC-4 at 29 (Davis Direct) (discussing Xcel testimony).
[192] Ex. JSC-4 at 29-30 (Davis Direct).

could increase solar hosting capacity without requiring additional distribution infrastructure investments. As Mr. Davis explained: "Adding additional load during solar generation hours would increase the 'daytime minimum load,' which is the load value used to evaluate hosting capacity for light load conditions by many utilities, including the Company. Increasing the magnitude of the daytime minimum load increases the amount of generation that can be added before reverse flow conditions occur and before the Company's anti-islanding criteria is reached. It also reduces the potential for high voltage issues because of the additional load to offset the generation."[193] While this is generally true, Mr. Davis recognized that this analysis is more complex and dependent on exact system conditions.[194]

Therefore, JSC recommends that the Commission require Xcel to study and assess the potential costs and benefits that may result from encouraging EV charging during high solar generation periods, especially in distribution areas that already have high penetrations of solar."[195] Specifically, the JSC recommends adopting Mr. Davis' recommendation as follows:

> This study should include both distribution peak capacity and minimum load impacts, as well as bulk system impacts and costs. As solar penetration continues to increase on both the distribution and bulk energy systems, this may impact bulk supply costs during those hours as well. I would recommend the Company coordinate with MISO to explore how these factors may change over the next few years. The Company should also explore to what extent the resulting EV charging rates may be dynamic and differentiated by location, the existing penetration of solar resources, season, or other variables in order to avoid exacerbating distribution capacity challenges during the distribution system peak days.[196]

As Mr. Davis stated, "[w]hile this will certainly be complex, it is important to evaluate whether better aligning EV and solar influences can lower the overall cost for the Company's customers

[193] *Id.* at 30-31.
[194] *Id.* at 31.
[195] *Id.* at 31-32.
[196] *Id.* at 32.

and improve the ability of the distribution system to accommodate both EVs and renewable energy more effectively."[197]

B. The Commission Should Direct Xcel to Account for and Utilize the Full Range of DER Capabilities in Its Distribution System Planning and Operations.

Generally speaking, DERs, particularly solar generation, can provide capacity during peak loading conditions on distribution feeders, which typically occur during daylight hours.[198] Similarly, DERs' smart inverters can provide voltage regulation, if appropriate settings are enabled.[199] If Xcel were to account for these DER capabilities in its distribution planning process, it could potentially defer capacity- or voltage-driven upgrades, thereby reducing the overall cost to Xcel's customers; conversely, failure to account for DER capabilities can result in unnecessary or premature capital investments.[200] In other words, when Xcel properly accounts for DER capabilities in its distribution system planning and operations, it could save customers money through avoided or deferred investment costs, thereby improving affordability, which is especially important to lower-income and other vulnerable customers.

JSC recommends that the Commission require Xcel to begin accounting for DER capabilities in its planning in the two following ways:

1. Explore the impacts of DER on its planned capacity investments and, based on that analysis, consider changing its approach to load forecasting.
2. Leverage the capabilities of smart inverters by enabling volt/var and volt/watt functions, and evaluating their ability to defer voltage-driven capital investments.

Both of these recommendations are discussed in more detail below.

[197] Ex. JSC-4 at 32 (Davis Direct).
[198] *Id.* at 20.
[199] *Id.* at 25.
[200] *Id.* at 20-21, 25-26.

1. The Commission should require Xcel to explore the impacts of DER on its planned capacity investments and, based on that analysis, consider changing its approach to load forecasting.

Currently, within its distribution planning load forecasting and capacity planning processes, the Company "intentionally excludes any peak load reduction effects caused by DER power injections during the peak time window for both the present year and future forecast years."[201] Since the Company's current process involves removing DER power injections, it would be possible for it to re-incorporate them, and examine whether or not any capacity investments could be deferred.[202] Moreover, as JSC witness Davis explained, incorporating DER-derived capacity is consistent with Xcel's overall system planning, which involves evaluation of "normal" and "contingency" operating conditions.[203] "Acknowledging and incorporating DER-derived capacity would be consistent with this philosophy because at least some portion of that capacity can be expected to be available during *normal* operations when the system is *intact*. The Company's current treatment of DER-derived capacity would be more consistent with contingency operating conditions, with the loss of all distribution-connected generation as one possible contingency condition that could be planned for."[204]

Given the value that DER-derived capacity may provide to Xcel and its customers, the JSC recommends that the Commission require Xcel to explore modification of its current practice to better predict the potential benefits of DER-derived capacity. Specifically, the JSC recommends that the Commission "require the Company to study the impact of its decision to plan to the 'native' load of their system, which does not include any DER-derived capacity,

[201] Ex. JSC-4 at 19-20 (Davis Direct).
[202] *Id.* at 21.
[203] *Id.* at 21-22.
[204] *Id.* at 22.

when compared to planning based on the 'net' load, which does include DER-derived capacity, and subsequently report on the impacts and consider modification of their current practice."[205]

As JSC witness Davis acknowledged, "[t]here are analytical and planning challenges to transitioning from 'native load' to 'net load' as a distribution planning philosophy."[206] Likewise, Mr. Davis recognized that Xcel is making progress in this direction, for example by adopting granular DER forecasts and scenario planning using the LoadSEER tool, and that many capacity projects in this rate case had been analyzed in prior years' Non-Wires Alternative analyses.[207] In addition, Mr. Davis recognized that, as required by the Commission in its 2021 IDP Order, the Company is assessing its current treatment of DER-derived capacity in anticipation of stakeholder discussions related to prioritizing "net load" in its forecasting and system planning, intended to inform its 2023 IDP.[208] Even so, Mr. Davis affirmed that it would be valuable for the Commission to require JSC's recommended analysis in this proceeding:

> Performing some cursory engineering analysis of the proposed investments would provide valuable information with regard to the magnitude of the opportunity presented by DER-derived capacity as well as the degree of urgency with which the Company should pursue adoption. The Commission should require the Company to perform the analysis before writing off potential opportunities to defer large capital investments. If there are no such opportunities identified or if the risks associated with utilizing DER-derived capacity for a specific project are too high for the Company to support, those are both valid conclusions, but neither can be made without having completed the study.[209]

In addition, Mr. Davis emphasized the value of such analysis to the ongoing discussions within the IDP proceeding, particularly the forthcoming stakeholder engagement meetings, by providing concrete estimates and examples as starting points for discussion.[210]

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[205] *Id.* at 22-23.
[206] Ex. JSC-7 at 22 (Davis Surrebuttal).
[207] *Id.* at 22-23.
[208] *Id.* at 24 (referring to Ex. Xcel-43 at 51-53 (Mensen Rebuttal)).
[209] *Id.* at 23-24.
[210] Ex. JSC-4 at 24-25 (Davis Direct).

2. The Commission should require Xcel to leverage the capabilities of smart inverters by enabling volt/var and volt/watt functions, and evaluating their ability to defer voltage-driven capital investments.

"Smart inverters" associated with DERs are certified as compliant with the UL 1741 SA or SB standards, with SB indicating full compliance with IEEE 1547-2018 requirements. They can monitor local grid conditions and respond using pre-set control functions and settings. Specifically, the volt/var and volt/watt functions can be of particular use during low- or high-voltage events, to provide voltage support to the distribution system. In this way, they can provide a reasonable and cost-effective alternative to voltage-driven capital investments.[211] JSC witness Davis described these functions as follows:

> Using the **volt/var** control mode, the inverter monitors the voltage at its grid-side terminals and can modify its reactive power output to respond to high and low voltage conditions. The volt/var function has been one of the most widely adopted control functions because it typically does not require the inverter to provide any reactive power when the voltage is within a "normal" range (with the specific values often set at the state or individual utility level). The other primary benefit of volt/var control is that it allows the inverter's reactive power capabilities to assist in voltage regulation during conditions where voltage is above or below allowable limits. Because of these capabilities, volt/var control offers benefits to both the DER and the distribution system
>
> The **volt/watt** function also monitors local voltage at the inverter terminals but responds by controlling real power output instead of reactive power. This function is primarily intended to reduce the amount of generation that a DER will feed into the distribution system during times where the voltage is very high (at least above the normal limit, and generally with some additional margin before any generation is curtailed).[212]

Despite their potential benefits, the Company does not currently enable either the volt/var or volt/watt functions of smart inverters, and rather relies on a fixed power factor.[213] Doing so has negative impacts for both the interconnected DER and the distribution system. For the

[211] *Id.* at 26.
[212] *Id.* at 23-24 (emphasis added).
[213] *Id.* at 24.

interconnected DER, a portion of its overall capacity to inject power is typically consumed by the reactive power, resulting in a decrease in real power output.[214] For the distribution system, because DER inverters are constantly absorbing reactive power when they are generating, even if that absorption is not necessary for voltage management at the time, they create additional demand for reactive power on the distribution feeders, which the distribution or transmission system must supply.[215]

The JSC recognizes that the Company intends to enable these smart inverter functions in Q2 of 2023.[216] Given that the Commission is expected to issue an order in this rate case in June 2023, the JSC recommends that the Commission confirm that the Company has successfully enabled these smart inverter functions as intended. The JSC further recommends that the Commission require the Company to allow for volt/var and volt/watt to be utilized by DER customers whose equipment is UL 1741 compliant, including those customers who may have interconnected before the Company's adoption of Smart Inverter functions, when it does not result in adverse system impacts.[217] In addition, the JSC recommends that the Commission direct the Company to evaluate the potential to utilize volt/var curves on existing DER in areas with planned voltage-driven capital investments to determine whether they may provide a lower cost alternative. Both such modifications could be addressed through modifications of existing

[214] *Id.* at 24.
[215] *Id.* at 24-25.
[216] Xcel-43 at 55 (Mensen Rebuttal) ("On November 1, 2022, Xcel Energy filed its smart inverter roadmap that outlines three phases for the Company's transition to using the smart inverter capabilities in Minnesota. In Phase 1, which we expect will be complete in the Q2 of 2023, we plan to implement the autonomous functions that are programed within the inverter and do not require communication. The primary functions that we will use include Volt-VAR, Volt-Watt, frequency ride through, and voltage ride-through.") (internal citation omitted)); *see also* Ex. JSC-4 at 25 (Davis Direct) (referencing similar statements in Xcel's 2021 IDP, Docket No. 21-694).
[217] Ex. JSC-4 at 7, 26 (Davis Direct).

interconnection agreements.[218] JSC encourages the Commission to require Xcel to conduct this evaluation within this rate case timeframe. As Mr. Davis explained:

> First, volt/var and volt/watt functions have been used by the Company's peer utilities for years and have been the subject of extensive study and implementation analysis. Ameren Illinois, as an example, implemented a volt/var curve as part of its smart inverter rebate in November 2018. Commercial planning tools, including Synergi (which is used by the Company), have the ability to model volt/var curves today and provide results on how they are expected to impact the Company's distribution system. Second, planning studies are inherently forward-looking. With a planned roll-out of Q2 2023 and the MYRP covering 2022-2024, it is reasonable to expect autonomous grid support functions to be considered as one avenue of improving voltage which may be more cost-effective than deploying new equipment or improving customer power quality or DER operating efficiency. [219]

C. The Commission Should Reject Xcel's Grid Reinforcement Program as Proposed and Adopt the JSC's Alternative Approach to Dealing With EV-Related Upgrades.

As described by Xcel, the Grid Reinforcement Program involves making upgrades to its distribution system "to enable the system to handle increased load associated with increased EV adoption as well as electrification of other sectors of the economy. In 2022-2024, this program will involve making upgrades to service transformers, poles, primary conductors, and secondary conductors."[220] The total planned capital additions in this program total $12.08 million over a three-year period.[221] As JSC witness Davis explained, these investments do not necessarily provide any reliability improvement when they are made. Rather, "[a]ny potential reliability increase or overload prevention is speculative and assumes that the load growth will materialize relatively quickly and will operate during the timeframe where the transformer or other equipment experiences its peak load."[222]

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[218] *Id.* at 26.
[219] Ex. JSC-7 at 25-26 (Davis Surrebuttal) (internal citations omitted).
[220] Ex. Xcel-40 at 87 (Bloch Direct, adopted by Mensen).
[221] Ex. JSC-4 at 33 (Davis Direct) (referencing Ex. Xcel-40 at 83 (Bloch Direct, adopted by Mensen)).
[222] *Id.*

The Grid Reinforcement Program is a new program and a departure from how the Company has historically addressed load-driven upgrades, which would normally occur within Xcel's Routine Capacity Reinforcement or New Business budget categories.[223] Routine Capacity Reinforcement projects are "smaller, reactive Capacity projects that arise each year to address the need for additional capacity on certain portions of our system" and they "include replacing undersized transformers or conductors."[224] Xcel's proposed budget for these projects over three years is $9.73 million.[225] Notably, Xcel has not identified any decrease for its Routine Capacity Reinforcement budget as a result of the Grid Reinforcement Program.[226] New Business projects are "related to extending electric service to new customers or to support increased loads from existing customers."[227] As JSC witness Davis put it, these are "just in time" investments triggered by a specific customer need, but proactively addressing a problem before it occurs.[228] In some cases, the customer must bear some cost responsibility.[229] However, regarding EV load specifically, according to the Company, "residential customers on EV rates who need an upgrade to their service transformer will not be charged for the transformer upgrade costs directly related to their EV load."[230]

The JSC recognizes that there may be some benefits to the proactive planning associated with the proposed Grid Reinforcement Program, particularly as it could avoid transformer-related problems associated with EV growth and other load growth.[231] However, Xcel already

[223] *Id.* at 33-34.
[224] Ex. Xcel-40 at 89 (Bloch Direct, adopted by Mensen).
[225] Ex. JSC-4 at 34 (Davis Direct) (referencing Ex. Xcel-40 at 83 (Bloch Direct, adopted by Mensen)).
[226] Ex. JSC-7 at 20-21 (Davis Surrebuttal).
[227] Ex. Xcel-40 at 79 (Bloch Direct, adopted by Mensen).
[228] Ex. JSC-4 at 33-34 (Davis Direct).
[229] *Id.* at 35-36.
[230] *Id.* at 36 (referencing Xcel's response to JSC IR No. 6, attached to JSC-4 as Ex. 16).
[231] *Id.*

has several means of avoiding such problems without spending $12.08 million on a new program. Specifically, both the New Business and Routine Capacity Reinforcement Programs are designed to identify transformer upgrade needs, and customer enrollment in EV programs should also inform the Company regarding where upgrades may be necessary.[232] Moreover, as JSC witness Davis explained, "the efficiency benefits of proactive, scheduled replacements are only realized where transformers would otherwise have been replaced after they had failed, rather than as part of the new business or EV program participation processes which also allow for scheduled replacements during normal working hours."[233] Ultimately, because the Grid Reinforcement Program relies on forecasted load growth, rather than actual load additions or identified transformer or other system issues, the resulting investments are necessarily speculative.[234] As Mr. Davis stated, "[t]he additional cost to replace units which would not otherwise need to be replaced could reduce or exceed any potential savings as a result of efficiency increases."[235]

Xcel has not demonstrated that the Grid Reinforcement Program produces sufficient benefits for its $12.08 million price tag. As JSC witness Davis explained:

> The roughly $12 Million investment in this program is larger than the $9.7 Million proposed investment in Routine Capacity Reinforcements, which addresses overload conditions that have actually occurred. The investment in this pro-active program is inherently speculative and has not been demonstrated to be necessary or to benefit customers at a level commensurate with other reliability or capacity-driven projects. In addition, the Company does not account for any expected reduction in Routine Capacity Reinforcements because of its planned spending in Grid Reinforcement. It is reasonable to assume that the replacement of $12 million of assets loaded to at least 90% will result in an appreciable reduction in spending on the resolution of future overloads, but this has not been considered or identified within the Company's testimony.

[232] Ex. JSC-7 at 18-19 (Davis Surrebuttal).
[233] *Id.* at 19.
[234] *Id.* at 19-20.
[235] *Id.* at 19.

Given the affordability concerns the JSC and other parties have raised, and the lack of demonstrated spending reductions or other benefits associated with the Grid Reinforcement Program, the Commission should reject it.

The JSC notes that OAG witness Twite agreed with Mr. Davis' analysis and likewise recommended rejecting the program as proposed.[236] Mr. Twite added that "distribution system upgrades relating to residential EV load may be able to be avoided entirely. EVs are perhaps the most flexible of all electric loads; vehicles are typically parked for extended periods of time each day, and all EVs include charging timers that can automatically control when charging occurs. This provides an opportunity: if EV charging can be moved away from times of peak demand, the distribution system may be able to accommodate the new EV load without upgrades."[237] As discussed above related to improving hosting capacity, the JSC agrees with Mr. Twite's assessment regarding the potential system benefits of EV charging and recommends further study of this issue.

In addition, The JSC recommends the Commission require Xcel to implement an alternative approach to dealing with EV-related upgrades, relying on the New Business process with some proactive measures to improve the likelihood of customers notifying the Company of their planned EV load.[238] Specifically, the JSC recommends the Commission adopt Mr. Davis' following two recommendations:

> First, I would recommend the Company conduct a study to estimate the total cost of serving typical residential customer configurations which may result in a need for a transformer or service upgrade, followed by an estimate of three and a half times the expected annual revenue (using the methodology discussed within the General Extension 9 Section 5.2 of the Rate Book). This will determine if the anticipated revenue is sufficient to offset the upgrade costs for the transformer/service, regardless of the customer's participation in one of the

[236] Ex. OAG-6 at 17 (Twite Rebuttal).
[237] *Id.*
[238] Ex. JSC-4 at 37-38 (Davis Direct).

> Company's EV programs. If the revenue offset is sufficient, I would recommend the Company conduct customer outreach using these results to reduce fears of cost incursion and make customers aware of the need for the Company to understand where EV charging will occur to ensure continued reliability.
>
> Second, even if the results of such a study conclude that the customer in such scenarios would be responsible for a portion of the cost, I would recommend the Company waive the customer's contribution, bear that cost instead and recover it through rates, preferably as an EV-specific budget item. Because some customers (specifically those who have existing electric services and panel sizes large enough to accommodate the load) do not have to notify the utility, they would not directly bear any related costs for any resulting transformer upgrades. This creates inherent inequality. This is especially relevant because newer and remodeled homes (which are typically more expensive) often have larger service and panel sizes, which makes the inequality inherently regressive and doubly burdens customers with older and smaller service and panel sizes.[239]

By adopting the JSC's suggested approach, the Commission can ensure that Xcel efficiently implements the system upgrades necessary to accommodate EV loads, thereby facilitating adoption of this DER technology, without inequitably and unjustly burdening all customers with speculative costs.

D. The Commission Should Reject Xcel's Proposed Cable Replacement Budget Until Xcel Distinguishes Its Reactive Budget from Its Proactive Budget, and Justifies Its Proactive Spending with a Reliability-Driven Cost-Benefit Analysis.

According to Xcel, its Cable Replacement Program "replaces cable that is either damaged beyond repair or that has failed more than once in a two year period."[240] The largest portion of its program budget is for "reactive cable replacement," that is, "replacing cable after it has already failed," and is based on historical failure/fault rates.[241] In addition, Xcel's budget includes "additional funds to make proactive cable replacements for both mainline and URD [underground residential distribution] cable more achievable in years when failure rates are

[239] *Id.*
[240] Ex. Xcel-40 at 47 (Bloch Direct, adopted by Mensen).
[241] *Id.* at 48.

lower than projected."[242] As Xcel explained, "if reactive failures are lower than forecasted, the Company utilizes the remaining budget to perform proactive replacements of cable that has a history of poor reliability."[243]

As JSC witness Davis noted, Xcel's proposal reflects a change in its approach and funding level for such proactive cable replacements.[244] Increased funding for its proactive budget is one of four primary drivers for the increase in the Company's total cable replacement budget, although it does not specify a dollar amount.[245] However, Xcel is requesting a significant increase in its cable replacement budget within this rate case window, as shown in Table 2 below.

Table 2. *2018-2024 Capital Additions—Cable Replacements (Dollars in Millions).*[246]

State of MN Electric Jurisdiction Capital Additions (includes AFUDC)	2018 Actual	2019 Actual	2020 Actual	2021 Forecast	2022 Budget	2023 Budget	2024 Budget
Cable Replacement	$22.3	$18.5	$27.8	$24.2	$32.7	$34.3	$35.4

Regarding its approach, the Company stated that, "to the extent the budget allows, we intend to replace half loops on failure URD cables" and that "we will be replacing not just the failed span, but also the entire half loop or other spans of cable of the same vintage."[247] As JSC witness Davis noted, this change reflects a "significant increase in the number and length of sections that would meet the criteria to be replaced following a failure."[248]

Xcel has not justified this change in process for proactive replacement or the requested funding increase.[249] Although it generally indicated that customers should benefit, Xcel has not

[242] *Id.* at 47.
[243] *Id.* at 53.
[244] Ex. JSC-4 at 39 (Davis Direct).
[245] *Id.* at 39-40 (citing Ex. Xcel-40 at 49, 53 (Bloch Direct, adopted by Mensen)).
[246] Ex. Xcel-40 at 49 (Bloch Direct, adopted by Mensen).
[247] *Id.* at 53-54.
[248] Ex. JSC-4 at 39 (Davis Direct).
[249] *Id.* at 40.

conducted a benefit-cost analysis for these proactive replacements.[250] Although JSC recognizes that reactive cable replacements are necessary in the moment, the proactive replacements are discretionary and should be assessed more closely for their reasonableness.[251] By combining the budget for both proactive and reactive replacements, Xcel obscures the different analysis required for each activity.[252] As JSC witness Davis stated, "[w]hile I acknowledge that it is difficult to forecast cable failures and the related spending with high accuracy, the Company currently has no incentive to try."[253] Instead, "the Company has proposed to spend an unknown portion of its $102.4 Million Cable Replacement Program budget on proactive replacements which provide an unknown quantity of reliability benefits."[254]

To ensure that Xcel's discretionary proactive cable replacements are just, reasonable, and in the public interest, the Commission should "reject any increase in the total cable replacement budget driven by proactive replacements until the Company has conducted a reliability-driven cost/benefit analysis of its proactive cable investments to demonstrate that such investments are reasonable and cost-effective. The Commission should require the Company to be explicit about the criteria it is using in its analysis and demonstrate why such criteria result in just and reasonable investments, including the incorporation of equity and Energy Justice considerations into those criteria, or why it has not done so."[255] In addition, while the JSC understands Xcel's desire for flexibility and agrees that reactive replacements should be prioritized, the Commission should require Xcel to track its planned and actual spending on each sub-category (reactive and proactive).

[250] *Id.*
[251] Ex. JSC-7 at 14-15 (Davis Surrebuttal).
[252] *Id.* at 14.
[253] *Id.*
[254] *Id.* at 16.
[255] *Id.* at 16-17.

The JSC notes that its recommendation here is consistent with CEO witness Curt Volkmann's recommendation that Xcel be required to develop a benefit-cost analysis for its planned Asset Health and Reliability investments, and that the level of investment be capped at the expected level of benefit—a recommendation that the JSC generally supports, at least as applied to discretionary investments.[256] The Asset Health and Reliability budget, of which the Cable Replacement Program is a piece, makes up the largest portion of the Company's proposed capital additions in this rate case.[257] The Company is also requesting a significant budget increase in this rate case, as compared to prior years.[258] Thus, it is a significant contributor to Xcel's requested rate increase and the Commission should scrutinize it carefully, especially in light of the affordability and Energy Justice concerns discussed above. Moreover, as JSC witness Davis pointed out:

> Cost-benefit analysis is a relatively flexible concept which can include a wide variety of benefits, including benefits with regards to equity. For example, asset replacements which improve reliability for historically disadvantaged communities or which improve service reliability for those customers who have experienced higher numbers and durations of interruptions can be scored higher or subjected to lower cost/benefit acceptance thresholds and, subsequently, be more readily justified and prioritized, if the underlying cost benefit analysis is designed to incorporate such concepts. Designing such a framework and incorporating it within the Company's investment processes can also provide avenues for less technical stakeholders to have a voice in how investment dollars are justified and prioritized. The Commission should require the Company to justify its discretionary investments using this approach.[259]

[256] Ex. JSC-7 at 7-8 (Davis Surrebuttal) (referencing CEO-3 at 4-7 (Volkmann Direct)).
[257] *Id.* at 8.
[258] *Id.* at 7-8.
[259] *Id.* at 9-10.

VII. DATA NEEDS

A. The Commission Should Require Xcel to Gather Data Necessary for the Company to Understand and Remedy Energy Justice Concerns.

As noted at various points above, Xcel lacks data essential to informing its decision-making related to Energy Justice, particularly around the impacts of its rates, system operation, and investment decisions on lower-income and BIPOC customers. In light of these data gaps, it is not terribly surprising that community members do not feel the Company understands their interests and needs. As JSC witness Kristel Porter stated:

> There is a major disconnect between Xcel - the public utility providing an essential service - and actual customers struggling to afford their bills. For Xcel to understand our interests and needs, we need more open conversations with the Commission present and for the utility to be willing to meet people where they are. … These conversations with the community will inevitably reveal realities that the utility is not ready to contend with but that communities urgently need changed. The Commission's bearing witness, learning deeply, and prompting action is where we believe the most impactful and transformative change will happen.[260]

The JSC has identified below four specific areas where additional data will help Xcel and the Commission move towards a more just, clean energy future. To better understand customer needs and ensure just, reasonable, and equitable rates that are in the public interest, the JSC urges the Commission to require Xcel to gather this data. To enable Commission oversight and stakeholder engagement, Xcel should share it publicly with the Commission and stakeholders, as appropriate.

1. <u>The Commission should direct Xcel to obtain and make publicly accessible, as appropriate, data related to the needs of its low-wealth customers and those facing high energy burdens.</u>

In assessing Xcel's efforts to design rates and programs to meet the needs of its low-wealth customers and those facing high energy burdens, JSC witness Rábago concluded that the

[260] Ex. JSC-1 at 29-30 (Porter Direct).

Company has limited data regarding the household energy burden and the number of low-wealth customers it serves, and lacks critical pieces of data such as household income by customer, home type by customer, and number of people in the household by customer.[261] Mr. Rábago found that the Company did not evaluate the impact of its proposed residential rate increases on electric service affordability for all customers, nor for low- and moderate-income customers specifically. As Mr. Rábago stated, essentially "the Company treats all residential customers as a homogenous whole. The Company defines as 'low-income' those customers that have received energy assistance in the prior year."[262]

The JSC recommends that the Commission adopt Mr. Rábago's recommendation

> to strongly and clearly direct the Company to get to know its customers better, especially low-wealth and marginalized customers. In the modern era of internet cookies, advanced statistical techniques, on-line surveys, and social media, the local electric utility cannot be allowed to operate knowing so little about their customers and the needs of those customers. The Commission should direct that rate design and implementation issues be added to the scope of issues addressed in ongoing parallel proceedings such as the Equity Stakeholder Advisory Group. The Commission should further require the Company to account for its efforts to address Recognition Justice as an element of any and all future rate design proposals. In particular, proposals for new or modified programs and rates should be accompanied by an engagement plan that is tailored to the issues and the impacted customers and communities in order to maximize cost-effectiveness and engagement. In sum, the Company should be directed to learn how to meaningfully differentiate among its customers without unduly discriminating against any group or individual in meeting its fundamental obligation to charge only rates that are "not [] unreasonably preferential, unreasonably prejudicial, or discriminatory, [and that are] sufficient, equitable, and consistent in application."[263]

[261] Ex. JSC-5 at 26-27 (Rábago Direct).
[262] *Id.* at 33.
[263] *Id.* at 35 (citing Minn. Stat. § 216B.03).

2. The Commission should require Xcel to obtain and make publicly accessible, as appropriate, data related to the energy usage and behaviors of its multifamily customers.

In justifying its proposal not to implement a separate customer charge for multifamily residential customers, Xcel stated that it does not have the necessary data. As Mr. Rábago responded, lack of data is a "poor and unacceptable excuse."[264] As discussed above in Section V.A, the JSC and other intervenors believe that Xcel has sufficient data to implement such a differentiated charge, at least for the multifamily customers it can identify with the data that it has. In order to improve this component of its rate design, the Commission should require Xcel to obtain the necessary data to identify all of its multifamily customers, and to make such data publicly accessible, as appropriate. In addition, while it may not be sufficient to fully understand the housing status of its residential customers, in the near term the JSC supports the outreach plan described by DOC witness Andy Bahn:

> For multi-family dwellings that Xcel is unable to identify, I recommend the Commission require Xcel to submit an outreach plan to the Commission within 30 days of the Order. The outreach plan should develop a means for reaching out to all residential customers explaining the multi-family dwelling customer charge and how qualifying residential customers without an apartment number may apply for the multifamily customer charge rate.

If the Commission orders Xcel to undertake such an outreach plan, the JSC recommends that the Commission further require Xcel to collect the data it obtains about its customers and share it with the Commission and stakeholders, as appropriate, to inform development of rates and programs going forward.

[264] Ex. JSC-10 at 7 (Rábago Surrebuttal).

3. The Commission should require the Company to evaluate the degree to which hosting capacity, as it is currently calculated by the Company, correlates with the prevalence of low-income customers and Energy Justice communities on existing distribution feeders, and make this analysis publicly accessible.

As discussed above, due to variations in electric distribution infrastructure and other factors, hosting capacity varies by location and, as a result, there is inequality in service to customers.[265] However, the Company has not analyzed the correlation of hosting capacity with income or race, or otherwise explored the relationship between hosting capacity and Energy Justice.[266] As JSC witness Davis stated: "Identifying any existing disparities is a key first step in ensuring a just and equitable approach to renewable energy adoption.[267] In responding to Mr. Davis, Xcel pointed JSC to its online hosting capacity map.[268] However, this map does not contain sufficient and accessible information to enable such a study.[269] As Mr. Davis stated: "The hosting capacity map does not provide any option to export the underlying data to .CSV format and the fields provided within the hosting capacity data table do not include geospatial information (Ex: GPS coordinates) for each hosting capacity calculation result block, which makes it impossible to accurately and efficiently tie the two maps together and analyze the hosting capacity within the census blocks."[270] The JSC requested the necessary data through discovery, but the Company refused to provide the underlying geospatial information for hosting capacity, citing grid security and customer security and confidentiality.[271]

Therefore, the JSC recommends that the Commission require Xcel to conduct this analysis. As Mr. Davis explained:

[265] Ex. JSC-4 at 10-11 (Davis Direct).
[266] *Id.*
[267] *Id.* at 11.
[268] Ex. JSC-7 at 27 (Davis Surrebuttal).
[269] *Id.*
[270] *Id.*
[271] *Id.*

> [T]he Company has not made the underlying data accessible to JSC in a format conducive to conducting this analysis effectively, but has such data readily available for its own analysis. In addition, the data contained within the two maps identified by Mr. Mensen is somewhat limited with regard to what can be considered from an equity perspective. I recommend that the Company be required to perform this analysis because they have access to the underlying data and are more able to incorporate a variety of equity considerations.
>
> Within his Rebuttal Testimony, Mr. Martin identifies that the Company hopes to "co-create new programs, approaches, and partnerships...for energy-burdened customers, equitable access to energy efficiency and renewable energy" among other goals through the Equity Stakeholder Advisory Group (ESAG). The first step in developing such programs and approaches is for the Company to take a detailed look at the current state. I believe that the Commission should encourage the Company to better understand existing equity challenges within all facets of its distribution system, including hosting capacity. Diverting such responsibilities to intervenors does not position the Company to make just and reasonable investments to resolve such equity challenges where they are identified.[272]

The JSC further recommends that the Commission require Xcel to incorporate relevant stakeholder input and Commission directives from other proceedings, including the performance metrics, reliability and service quality, and IDP proceedings (Docket Nos. 17-401, 20-406, and 21-694, respectively) when conducting this analysis. To the extent possible within the bounds of security and confidentiality rules the Commission should require Xcel to share its analysis with the commission and stakeholders.

4. <u>The Commission should require Xcel to conduct analyses to better understand the locational differences in reliability and service quality in its system, specifically in lower-wealth and BIPOC communities, to inform its future distribution investments and planning, make this analysis publicly accessible.</u>

As discussed in Section VI and illustrated in Figure 6, Minneapolis's Northside and Southside Green Zones have a higher incidence of long-duration outages (over 12 hours) than other areas of Hennepin County and the state served by Xcel, based on data from Xcel's online service quality and reliability maps. Based on JSC's review of Xcel's testimony and proposals,

[272] *Id.* at 28 (quoting Ex. Xcel-83 at 10 (Martin Rebuttal)).

the Company does not appear to have used these maps to conduct similar analyses for other, similar communities in its service territory, or to inform investments, programs, or other planning to address these disparate, inequitable impacts.[273] As with hosting capacity, the JSC recommends that the Commission require Xcel to conduct analyses to better understand the locational differences in reliability and service quality in its system, specifically in lower-wealth and BIPOC communities, to inform its future distribution investments and planning. As JSC witness Davis emphasized, the Company must understand the equity challenges within its system to effectively address them.[274] In addition, the Commission has already indicated its intention to begin working on locational reliability, reliability-equity, and customer service quality-equity performance metrics, and this analysis would also support that effort.[275]

Again, as with hosting capacity, the JSC suggests the Commission require Xcel both: (1) to incorporate relevant stakeholder input and Commission directives from other proceedings, including those listed above, when conducting this analysis; and (2) to share its analysis with the Commission and stakeholders, to the extent it can within the bounds of confidentiality and security rules.

VIII. PROCEDURAL JUSTICE

A. Further Procedural Justice Reforms Are Necessary to Enable Meaningful and Equitable Participation and Representation in Future Rate Cases and Other Commission Proceedings.

As JSC witness Chan stated, and as the Commission is well aware, "[r]ate cases are highly technical proceedings with thousands of pages of technical analysis, but they are one of

[273] Ex. JSC-5 at 26-27 (Rábago Direct).
[274] Ex. JSC-7 at 28 (Davis Surrebuttal).
[275] *See* Notice of Comment Period, Docket Nos. 17-401 & 20-406 (Dec. 2, 2022) (describing Commission intent to develop such locational and equity performance metrics, and requesting comments to inform that process).

the most direct ways in which the Commission's decisions impact consumers, particularly energy insecure consumers. The technical complexity of this rate case raises even further the difficulty of participating in Public Utilities Commission proceedings."[276] Indeed the JSC has experienced this steep learning curve firsthand in this proceeding, as a first-time rate case intervenor, and participation in this rate case has been a heavy lift for JSC member-intervenors, requiring substantial time and financial resources.[277]

In order to promote meaningful and equitable participation and representation in its rate cases and other proceedings, the JSC urges the Commission to continue to implement procedural justice reforms. As Dr. Chan noted, the Office of the Legislative Auditor for the State of Minnesota provided several suggestions in its 2020 report, "Public Utilities Commission's Public Participation Processes."[278] These include:

- PUC should provide more and better resources to help the public understand PUC's unique role and the role of the public in PUC's proceedings.
- PUC should provide better guidance to its staff and partner agencies to ensure consistency and fairness across public participation processes.
- PUC leadership should provide more oversight of the agency's public participation processes and better prepare for cases with significant public interest.

The JSC recommends that the Commission adopt these recommendations as expeditiously as possible. "If it is not administratively possible for the Commission to adopt the recommendations of this report given current resources, to maintain public confidence, the Commission should

[276] Ex. JSC-3 at 52 (Chan Direct).
[277] Ex. JSC-9 at 1-2 (Madden Surrebuttal).
[278] Ex. JSC-3 at 54-57 (Chan Direct); *see also* JSC-5 at 46-47, 83 (Rábago Direct) (making similar suggestions for Commission action).

communicate to the public and elected officials that it requires additional resources to provide sufficient oversight and transparency on issues of significant public importance."[279]

Finally, as both JSC witnesses Rábago and Chan emphasized, reimbursement for participation in regulatory proceedings through intervenor compensation is a critical component step towards promoting procedural justice.[280] As Dr. Chan stated, "[w]hile Minnesota statute creates the opportunity for nonprofit or individual intervenors to request reimbursement for their expenses associated with participation in utility rate cases, receiving compensation under this provision is demonstrably rare. … While changes to the intervenor compensation statute are outside of the scope of this proceeding, this proceeding reveals the importance of addressing procedural justice broadly, including through actions the Commission could take now under existing law."[281] The JSC urges the Commission to take steps now to the extent possible to promote procedural justice in future rate cases and other proceedings.

IX. CONCLUSION

Xcel has not met its burden of proof to show that the rate and investment proposals described above are equitable, just, reasonable and in the public interest, as understood through the lens of Energy Justice. The JSC encourages the Commission to return to the customer and community perspective when considering Xcel's proposals, and especially to consider their impact on Xcel's most vulnerable and historically disadvantaged communities. As JSC witness Kristel Porter stated in closing in her testimony:

> People in my community and throughout Xcel's territory are struggling to afford electricity, which is a basic human need in today's world. It is hard to understand why it's reasonable or just for the utility to earn a higher return on its investments when already making record and nearly guaranteed profits on the backs of

[279] Ex. JSC-3 at 56 (Chan Direct).
[280] *Id.* at 52-53, 55-56; Ex. JSC-5 at 46-47 (Rábago Direct).
[281] Ex. JSC-3 at 55 (Chan Direct).

> community members. It's especially hard to stomach this story that they are investing in us and what we've asked for on clean energy when we feel like we are being sidelined or in some cases actively blocked and excluded by the utility.
>
> When you start looking at Xcel's investments and actions, you can see that these are facts and not just a feeling - these investments drive up costs while perpetuating wealth divides, lack of access to key programs, [and] cost-burden, and they disable opportunities for wealth and resilience building through local clean energy. Our needs and interests have not been heard for decades and they are not reflected here. From our perspective, Xcel's proposal is not practical for the renewable future we are headed for, nor does it seem just or reasonable.[282]

The recommendations that the JSC has provided here represent a critical step towards a broader vision for Energy Justice, consistent with the Commission's decisions related to equity in other proceedings like the IRP and IDP. In adopting the JSC's recommendations, the Commission would take an important step toward fulfilling its authority and obligation to set rates that are equitable, just, reasonable, and in the public interest. Further, the Commission would send a clear signal that it values a just transition to a cleaner energy future for all Minnesotans. In doing so, the Commission would affirm that Energy Justice cannot be sidelined away from the key investment and ratepayer decisions that have the greatest impact on customers, the Company, and all Minnesotans, and lay the foundation for ongoing robust engagement on Energy Justice in other proceedings.

[282] Ex. JSC-1 at 31 (Porter Direct).

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Respectfully submitted,

/s/ Erica McConnell

Erica McConnell
Bradley D. Klein
Environmental Law & Policy Center
35 E Wacker Drive, Suite 1600
Chicago, IL 60601
emcconnell@elpc.org
bklein@elpc.org
312-673-6500

Attorneys for the Just Solar Coalition