

April 12, 2024

VIA ELECTRONIC FILING

Will Seuffert, Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Re: In the Matter of Xcel Energy's 2023 Integrated Distribution Plan

Dear Mr. Seuffert,

Clean Energy Economy Minnesota (CEEM) respectfully submits these reply comments for PUC Docket Number E-002/M-23-452. Our mission at CEEM is to provide educational leadership, collaboration, and policy analysis that accelerates clean energy market growth and smart energy policies. We work to support and expand clean energy jobs and the economic opportunities provided by clean, reliable, and affordable energy on behalf of all Minnesotans.

Please feel free to contact us with any questions that you may have. We hope that the comments below provide you with useful insights.

Regards,



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State of Minnesota
Before the
Minnesota Public Utilities Commission

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

Chair
Vice-Chair
Commissioner
Commissioner
Commissioner

In the Matter of Xcel Energy's 2023
Integrated Distribution Plan

REPLY COMMENTS OF
CLEAN ENERGY ECONOMY
MINNESOTA

PUC Docket Number: E-002/M-23-452

INTRODUCTION

Clean Energy Economy Minnesota

Clean Energy Economy Minnesota ("CEEM") is an industry led, nonpartisan, non-profit organization representing the business voice for energy efficiency and clean renewable energy in Minnesota. Given its mission and purpose, CEEM supports public policies that empower consumers and provide efficient pathways to expand business opportunities for clean energy resources to benefit consumers.

CEEM has a strong interest in ensuring public policies, such as Minnesota's decarbonization laws, are fully implemented in a manner such that Minnesota regains its leadership role in efforts to foster and advance the use of a diverse mix of clean renewable energy to serve Minnesotans.

CEEM respectfully submits these Reply Comments in response to the Minnesota Public Utilities Commission's (the "Commission") November 17, 2023, Notice of Comment Period, and per the January 19, 2024, Notice of Extended Comment period.

Relevant History and Facts

Xcel's "Distribution Capital Expenditures Budget" reflects an increase of \$570 million over the next five years, and includes a \$190 million placeholder for "proactive system

upgrades to increase DER hosting capacity.”¹

Xcel maintains its view the IDP is an informational filing and cites a DOC statement from April 2022.²

Xcel “proposed to construct system upgrades in six constrained areas 22 and estimated that this will add over 85 MW of available capacity and allow over 2,000 new, small DER projects to be interconnected. The Company proposed traditional upgrade solutions that can be implemented in a timely manner and with high certainty of success, such as adding a second feeder or replacing existing substation transformers. The Company also discussed other innovative solutions in the proposed Program Plan – including energy storage, power control systems, advanced inverter functions, and a distributed energy resource management system (DERMS) – but found them impractical to study and evaluate within the short period required for this funding opportunity, or to practically implement to have an impact on small DERs.”³

Xcel states it has “followed the same approach for providing information on grid modernization projects in the 2023 IDP as we used in our 2019 and 2021 IDPs.”⁴

With respect to grid modernization projects and Xcel’s provision of information to support its analysis, Xcel concludes the IDP filing requirements “is not absolute.”⁵ Xcel goes on to state: “We believe the conditional language of “should” instead of “shall” and “best information it has at the time” gives the Company flexibility about whether it is useful to provide a CBA for a certain grid modernization investment.”⁶

Xcel maintains “The IDP process is designed to provide the Commission and stakeholders with the information necessary to understand the Company’s short-term and long-term distribution system plans. It is not intended to assess the prudence, reasonableness, or cost recovery of our planned investments. The Company believes the

¹ Northern States Power Company, dba Xcel Energy, *Integrated Distribution Plan 2024 - 2033*, p. 20 (November 1, 2023).

² Xcel Energy, *Reply Comments*, Minnesota Public Utilities Commission, Docket No. E002/M-23-452, p.2 (March 22, 2024) [hereinafter “Xcel Comments”].

³ *Id.* at 13.

⁴ *Id.* at 15.

⁵ *Id.*

⁶ *Id.*

practice we have followed since the 2018 IDP filing is appropriate....”⁷

TOPICS AND RECOMMENDATIONS

2023 Xcel Energy Integrated Distribution System Plan (IDP)

14. Should the Commission accept or reject Xcel Energy’s Integrated Distribution Plan (IDP)?

- The Commission should not accept Xcel Energy’s IDP until Xcel adopts modifications and recommendations.

Xcel’s Reply Comments fail to address a number of outstanding issues and suggest this IDP is based on a pattern and practice for how Xcel handled past IDPs. In the present, however, this IDP must be more than a pro forma process. This IDP must reflect the new reality given Minnesota’s clean renewable energy laws and the requirement to accelerate and expand the use of, for instance, diverse scale DERs such as solar photovoltaic, wind, and thermal and battery storage.

We appreciate Xcel’s recognition of some system capacity constraints for DERs, but we continue to have questions about many of Xcel’s assumptions, calculations, and conclusions in this IDP with respect to the role of diverse, clean renewable energy in Minnesota.

We urge the Commission to reject Xcel’s conflation of transparency with a prudence determination, and withhold acceptance of this IDP until certain modifications and recommendations have been adopted.

16. Feedback, comments, and recommendations on the following areas of Xcel’s IDP:

b. Grid modernization plans, including but not limited to a Distributed Energy Resource Management System (DERMS), Virtual Power Plants (VPP), Integrated Volt-Var Optimization (IVVO), and Distributed Intelligence (DI)

- We urge the Commission to direct Xcel to refile the IDP with all required information on grid-modernization along with a cost-benefit analysis for near-term projects.

⁷ *Id.* at 16.

Xcel failed to provide a detailed evaluation of the grid modernization investments in its IDP and Reply Comments. Rather than address the issues in a transparent manner, Xcel reverts to how it handled IDPs prior to the enactment of Minnesota's new clean renewable energy laws.⁸ Given the systemic barriers to increased use of diverse scale DERs, the required information can provide some clarity by which to more fully understand and lower systemic barriers to a more diverse set of DERs.

- With respect to Distributed Energy Resource Management System (DERMS) and Flexible Interconnection, we request the Commission require Xcel to: (1) demonstrate Xcel's ability to integrate a diverse mix of DERs with the tools available to it today and in the near term, (2) follow a staged approach to Flexible Interconnection, DERMS, and Dynamic Hosting Capacity, (3) clarify conditions in which Xcel will use Flexible Interconnections involving DER, and (4) conduct substantive engagement with DER owners/operators to produce actionable outcomes.

Given the potential for smaller scale DERs to assist in greater timely decarbonization efforts consistent with Minnesota law⁹, fulfillment of these recommended requirements may yield additional approaches by which to use existing and evolving tools to expand access for DERs.

For a point of clarification, Xcel erroneously suggests some special portal is required for certain DERs.¹⁰ To put a finer point on this matter:

MN DIP does not require applications to be filed online through a specific portal, but rather simply requires Xcel to allow them to be filed that way if the applicant chooses to do so rather than submitting the application via US Mail or email. MN DIP 1.2.1 specifically states:

“Each Area EPS Operator shall allow Pre-Application Report requests and Interconnection Applications to

⁸ Xcel Comments at 14, 15.

⁹ Minn. Stat. § 216B.1691, Subd. 2g (stating the required amounts of electricity that must be generated from carbon-free energy technologies); *See, also, Id.* at Sub.2f (requiring specific amounts of electricity to be generated by solar energy).

¹⁰ Xcel Comments at 12.

be submitted electronically; such as, through the Area EPS Operator's website or via email."

MN DIP 1.5.1 states: "The Interconnection Customer shall submit an Interconnection Application to the Area EPS Operator, together with the processing fee or deposit specified in the Interconnection Application." and

MN DIP 1.5.2 states: "The Interconnection Application shall be date- and time-stamped upon initial and, if necessary, resubmission receipt."¹¹

c. Forecasted distribution budget

- CEEM respectfully requests the Commission require Xcel to (1) address impacts from rate design changes on its IDP forecasts and the effect of those changes on its investment planning, (2) incorporate load flexibility programs in its forecasts along with greater particularity, (3) explain whether energy storage was considered by Xcel as a means by which to address present or future solar DER capacity constrained feeders, and (4) quantify the number, scale and types of DER projects it expects to support with the hosting capacity placeholder.

The IDP is about process as well as alignment with IDP objectives. The recommended requirements here align with both the IDP process as well as the IDP objectives including consistency with state energy policy,¹² which calls for an increased use of a diverse set of DERs¹³.

e. Planned Net Load (PNL) methodology and 15% Dependability Factor

- To properly address this issue, Xcel should be required to provide additional

¹¹ Minnesota Public Utilities Commission, *Distributed Energy Resources Interconnection Process*, 4, 7, 8, (April 19, 2019).

¹² Minnesota Public Utilities Commission, *Integrated Distribution Planning*, <https://mn.gov/puc/activities/economic-analysis/planning/idp/> (April 10, 2024) [hereinafter "Planning"].

¹³ See, Minn. Stat. § 216C.378, Subd. 2,(4) (calling for, among other goals, the maximum advancement of "innovative solutions that can minimize the cost of distribution and network upgrades required for interconnection, including but not limited to energy storage, control technologies, smart inverters, distributed energy resources management systems, and other innovative technologies and programs.").

information for analysis and briefing and address these questions: What industry practices provide the basis for the 15% Dependability Factor? What standards are used to provide the basis for the 15% Dependability Factor?

17. What guidance should the Commission give on budgets and cost allocation for distribution system upgrades to accommodate distributed energy resources (DER), including but not limited to:

a. Solar sited with customer load

- To properly address this issue, require Xcel to provide additional information for analysis and briefing.

b. Solar sited in front of the meter

- To properly address this issue, require Xcel to provide additional information for analysis and briefing.

c. Energy storage devices

- To properly address this issue, require Xcel to provide additional information for analysis and briefing.

f. Proactive grid upgrades in anticipation of future DER growth

- CEEM respectfully requests the Commission require Xcel to: (1) report on actual upgrades to its Grid Reinforcement Program so the Commission and stakeholders can evaluate its deployment and (2) explain the scale and scope of DERs it expects to serve with the \$190 million placeholder.

To meet the clean energy requirements in Minnesota, a diverse mix of large scale, roof-top, and community solar gardens, as well as wind power and storage, must have access to the grid, including microgrids. A diverse mix of dispersed DERs holds the potential to lower capital intensive infrastructure and improve the electrical system resiliency and reliability.¹⁴

The IDP process is intended to be substantive and actionable given the Commission's statement of process and objectives: "Integrated Distribution Planning, (also known as IDP or a distribution system plan), is the process where a utility, the Commission, and stakeholders examine a utility's current and planned projects and spending for its distribution

¹⁴ Vivek Bhandari, Rao Konidena, William Poppert, *Modern Electricity Systems: Engineering, Operations, and Policy to address Human and Environmental Needs*, 28, 29, 346 (John Wiley & Sons 2022).

system. The distribution system connects homes and businesses to the energy supplied by the utility. More recently, the distribution system lets those same homes and businesses send energy back to the utility through things like solar panels or battery storage systems. A well-planned distribution system also allows homes and businesses to use electric vehicle (EV) charging, smart water heaters, and thermostats to conserve energy and decrease stress on the entire system.”¹⁵

The preceding statement of process must be read in conjunction with the IDP objectives:

“Maintain and enhance the safety, security, reliability, and resilience of the electricity grid, at fair and reasonable costs, *consistent with the state’s energy policies* [emphasis added]

Enable greater customer engagement, empowerment, and options for energy services

Move toward the creation of efficient, cost-effective, accessible grid platforms for new products, new services, and opportunities for adoption of new distributed technologies

Ensure optimized utilization of electricity grid assets and resources to minimize total system costs

Provide the Commission with the information necessary to understand utilities’ short-term and long-term distribution system plans, the costs and benefits of specific investments, and a comprehensive analysis of ratepayer cost and value”¹⁶

Based on the totality of the interplay between Minnesota law and the role grid upgrades can play in either contracting or expanding a diverse mix of DERs, it is imperative that stakeholders have access to the requested detailed information set forth in these comments.

18. What decisions should the Commission make in the IDP to provide Xcel guidance

¹⁵ Planning.

¹⁶ *Id.*

in aligning distribution spending with forthcoming rate cases?

- CEEM respectfully requests the Commission require Xcel to explain: (1) What factors hindered Xcel from studying energy storage? (2) What factors hindered Xcel from studying power control systems? (3) What factors hindered Xcel from studying advanced inverter functions? (4) What factors hindered Xcel from studying DERMS? (5) What factors made it impractical to implement the use of energy storage or power control systems or advanced inverter functions, or DERMS?

With respect to technology, and “small DER projects”, Xcel states it “discussed other innovative solutions in the proposed Program Plan – including energy storage, power control systems, advanced inverter functions, and a distributed energy resource management system (DERMS) – but found them impractical to study and evaluate within the short period required for this funding opportunity, or to practically implement to have an impact on small DERs”¹⁷ Given the use of these technologies in other electrical systems, and given the potential of these technologies to moderate system upgrade costs and maximize the use of a diverse set of DERs, additional information should be obtained from Xcel to better inform any discussion regarding distribution spending and rate cases.

19. Should the Commission require cost-benefit analysis for discretionary distribution system investments?

- CEEM respectfully requests the Commission to (1) require Xcel to explain “discretionary” spending as well as its methodology for determining cost-benefit and (2) clarify Xcel should apply the cost-benefit analysis to program investments.

22. What should the Commission consider or address related to enhancing the resilience of the distribution system within Xcel's IDP?

- To enhance the resilience of the distribution system with Xcel’s IDP, the Commission should challenge Xcel’s assumptions about DERs. A diverse mix of DERs and supporting technology can actually bolster the resilience of the distribution system. The proper alignment of, for instance, large and small scale solar projects, Community Solar Gardens, battery storage, wind, and supporting energy management systems, can improve system resilience, but the proper alignment must be given an opportunity to more fully come into effect to

¹⁷ Xcel Comments at 13.

actualize the benefits.

24. Other areas of Xcel's IDP or TEP not listed above, along with any other issues or concerns related to this matter.

- Xcel's reference to the Technical Planning Standard (TPS) is unclear. In its reply comments, Xcel invokes the TPS in reference to the reservation of "capacity for small DERs" and goes on to explain the TPS "is an engineering judgement which does not require Commission approval for implementation...."¹⁸ While we understand Xcel's need to exercise sound engineering judgement with respect to the operation of its electrical systems, invoking the TPS should not be used to shield Xcel from closer scrutiny regarding DERs and system planning.

To provide greater clarity in this matter, the Commission should require Xcel to explain: (1) if Xcel expects additional load growth, why does it need to reserve capacity? (2) What are the assumptions and calculations used by Xcel to arrive at the hosting capacity number? (3) What off-the-shelf and innovative technology is Xcel actually using in its planning and calculations so as to maximize the use of DERs and minimize spending for new equipment?

- When evaluating matters involving cogeneration and small power production, the scope and purpose of the law states the law "shall at all times be construed in accordance with its intent to give the maximum possible encouragement to cogeneration and small power production consistent with protection of the ratepayers and the public."¹⁹

CONCLUSION

The IDP process is more than an academic exercise. Minnesota's new energy policy matches the urgency with which the electrical generation and transmission system must rapidly evolve to incorporate significantly greater amounts of clean renewable energy from diverse DERs, including solar, wind and storage. We respectfully call upon the Commission to adopt our suggested recommendations and modifications prior to accepting Xcel's IDP, and to ensure the IDP process is reflective of the new energy realities confronting Xcel, stakeholders, and Minnesotans. Minnesota's clean renewable energy industry stands ready to help Xcel do its part to meet the decarbonization challenges confronting Minnesotans.

¹⁸ Xcel Comments at 12.

¹⁹ Minn. Stat. § 216B.164, Subd. 1 (2023).