



375 Alabama Street
Suite 325
San Francisco, CA 94110

Mathias Bell
Senior Director, Market Development
Mathias.bell@weavegrid.com

January 24, 2024

—Via Electronic Filing—

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

Re: Reply Comments
2023 Transportation Electrification Plan & Integrated Distribution Plan
Docket No. E002/M-23-452

Dear Mr. Seuffert,

Weave Grid, Inc. (“WeaveGrid”) submits these comments in response to the Minnesota Public Utilities Commission’s (“the Commission”) November 17, 2023 Notice of Comment Period on Xcel Energy’s (“the Company”) Transportation Electrification Plan and Integrated Distribution Plan submitted in the above-referenced docket, focused on the Company’s Transportation Electrification Plan.

I. Introduction

WeaveGrid is a software company that helps utilities support increased EV adoption through greater understanding of customer charging behaviors, managed charging programs, and distribution-level optimization. WeaveGrid’s technology leverages utility and charging data, including embedded vehicle telematics and charging equipment, to transform unpredictable and disaggregated EV charging loads into a cohesive network of controllable grid resources. We also support utilities in engaging their EV customers with personalized messages, insights, and notifications via the web, email, and text. WeaveGrid is a market leader in providing these solutions, including supporting Xcel Energy’s Optimize Your Charge program in Minnesota, Colorado, and New Mexico and the Charging Perks pilot in Colorado.

II. Reply Comments

WeaveGrid has reviewed the comments in this docket and echoes the general support of many parties for transportation electrification and the utilities’ role in maximizing the

overall benefits of electric vehicles while minimizing overall costs. The Company's Transportation Electrification Plan ("TEP") recognizes and meets the directives of the Minnesota legislature, which recently passed §216B.1615, requiring utilities to file TEPs. The TEP is also aligned with the Commission's Orders, including the 2019 Order Making Findings and the Commission's recent Order on EV Programs.¹

The Company has taken a holistic approach to support the Minnesota EV market, highlighting the barriers, laying out solutions, conducting a cost-benefit analysis, and identifying areas where Xcel Energy is already working and plans to do more. We believe the portfolio approach the Company has presented here is vital in supporting transportation electrification.

WeaveGrid agrees with the Company's position that there is a need to extend and expand its offerings and bring forward new pilots and programs that support transportation electrification. However, it is sometimes easy for utilities and other program implementers to focus on developing new products and services without refining and improving existing ones. We appreciate that Xcel Energy acknowledges the need to continuously improve its existing programs, including its managed charging offerings.

In addition to our general support for the Commission's approval of the TEP, WeaveGrid recommends that:

- the Commission support the recommendations of multiple parties, including the Minnesota Office of the Attorney General ("OAG"), the Clean Energy Groups,² and EV.ENERGY CORP ("ev.energy"), and encourage the Company to bring forward an active managed charging program along the lines of Xcel Energy's Charging Perks pilot in Colorado.
- the Commission approve the Company's proposal to place EV infrastructure rebates in a regulatory asset and earn a return and find that the Company's weighted average cost of capital ("WACC") is the appropriate rate of return.

A. Managed Charging Offerings

WeaveGrid views the role of utilities as essential in supporting the EV market and accelerating EV adoption. Utilities can provide products and services that help customers, including:

- Increasing customer awareness of EV options and familiarity with EV charging needs;
- Improving access to charging infrastructure and helping reduce the costs for customers; and
- Managing the integration of electric vehicles onto the grid, working to ensure that charging is affordable and incentivizing charging to occur in ways that help reduce the costs to serve.

¹ Order Making Findings and Requiring Filings (February 1, 2019), Docket No. E999/M-17-879; Order Accepting Withdrawal of Clean Transportation Portfolio Subject to Conditions (August 23, 2023), Docket No. E-002/M-22-432.

² Consisting of Fresh Energy, Minnesota Center for Environmental Advocacy, Sierra Club, Union of Concerned Scientists, Plug-In America, and Environmental Law and Policy Center.

Both the Minnesota Legislature³ and the Commission⁴⁵ recognize the importance of considering improving the operation of the electric grid and managed charging. Utilities' approaches to managed charging can differ, based on system and customer needs, and can be categorized into:

- **Passive Managed Charging**, where customers are responding to utility rates or incentives to charge during certain time periods. Passive managed charging offerings include rate design, such as the Company's whole home and EV-specific time-of-use rates and other behavioral incentives to encourage charging at low-cost times, along the lines of the Company's Optimize Your Charge pilot.
- **Active Managed Charging**, which leverages technology to automate charging to reduce power or shift it to lower-cost times based on pricing signals and grid conditions. As referenced by multiple parties in this proceeding, Xcel Energy is supporting an active managed program in Colorado called Charging Perks.⁶ Customers typically retain control of their charging in many of these programs, including having the ability to indicate when they prefer to have their vehicle charged by the utility and also override managed charging when necessary.

The Company's work on passive managed charging is often cited as industry-leading, and we believe this TEP will significantly advance these efforts. For example, SEPA has highlighted these efforts in multiple reports,⁷ and Public Utilities Fortnightly recognized the Company for its innovation on these initiatives.⁸ The Company has encouraged

³2023 Minn. Laws, Ch. 60, Art. 12, §12, Subd. 1. Established Minn. Stat. § 216B.1615., subd. 3: "When reviewing a transportation electrification plan, the commission must consider whether the programs, investments, and expenditures as a whole are reasonable and in the public interest, and are reasonably expected to: (1) improve the operation of the electric grid"

⁴ From Order Making Findings and Requiring Filings (February 1, 2019), Docket No. E999/M-17- 879 on electric vehicle grid integration: "Smart or managed charging takes rate design a step further by enabling the utility to actively manage the charging load. Chargers can be equipped with two-way communication capabilities between the utility and the EV, which allows the utility to remotely control the rate of EV charging in order to meet a local or regional system need. For example, the utility could ramp up EV charging during times of high wind generation, and the utility could curtail charging during peak demand in areas with high EV penetration to defer the need for distribution infrastructure upgrades."

⁵ From Order Accepting Withdrawal of Clean Transportation Portfolio Subject to Conditions (August 23, 2023), Docket No. E-002/M-22-432: "In its TEP filed no later than November 1, 2023, Xcel shall focus on at least the following areas of EV program development: (A) Managed charging programs, including modifications to existing programs that could increase enrollment.... (D) Vehicle-to-grid pilot projects (which could be the Vehicle-to-Grid School Bus Pilot) that focus on the technical aspects of vehicle-to-grid deployment"

⁶ Some examples of these types of programs include Exelon's Smart Charge Management program in Maryland (<https://join.bge.ev-pulse.com/smart-charge-management-program>) and DTE's SmartCharge program in Michigan (<https://www.dteenergy.com/content/dam/dteenergy/deg/website/residential/Service-Request/pev/plug-in-electric-vehicles-pev/SmartChargeBrochure.pdf>).

⁷ SEPA. 2021. The State of Managed Charging in 2021. Washington, DC. <https://sepapower.org/resource/the-state-of-managed-charging-in-2021/>; SEPA. 2019. A Comprehensive Guide to Electric Vehicle Managed Charging. Washington, DC. <https://sepapower.org/resource/a-comprehensive-guide-to-electric-vehicle-managed-charging/>.

⁸ Public Utilities Fortnightly. Fortnightly Smartest Utility Projects 2020. Arlington, VA. <https://www.fortnightly.com/fortnightly/2020/09/fortnightly-smartest-utility-projects-2020?authkey=c4f19cbdf725571b3fb1946526c4909d0d4cbbbb81566eddb7080063cd74c245>.

thousands of customers to enroll without any additional incentives.⁹ In other dockets, it has been pointed out that Dakota Electric has had a higher percentage of drivers than the Company enroll in its managed charging efforts, but the Cooperative has had a similar rebate to the Home Wiring rebate offering alongside its managed charging offerings.¹⁰ With the addition of the Home Wiring rebate, we expect that the Company should be able to enroll significantly more participants in managed charging programs.

In this docket, several stakeholders highlighted the need for the Company to bring forward an active managed charging offering, including the OAG, the Clean Energy Groups, and ev.energy. WeaveGrid is supportive of the Company bringing forward an active managed charging offering, and we appreciate the Company response to the OAG's comments: *"The OAG provided examples of the Company's active managed charging programs in other jurisdictions, specifically the Charging Perks offering in Colorado. The Company is evaluating the introduction of a similar program to its Minnesota service territory in a future filing."*¹¹

WeaveGrid believes that active managed charging programs should be technology-agnostic while focusing on optimizing charging to help reduce distribution costs over time. Xcel Energy's Charging Perks offering in Colorado serves as a good model to use for Minnesota, as the program is technology-agnostic and well-positioned to provide distribution benefits and has been recognized by many stakeholders for the merits of the program design,¹² including being a finalist for SEPA's Utility Transformation Program of the Year.¹³

WeaveGrid supports a technology-agnostic program design that allows for both electric vehicle supply equipment ("EVSE," and often referred to as "chargers") and embedded vehicle telematics as technology pathways for participating in managed charging programs, as this will likely support the most participants over time. The Company is offering options in Minnesota today where customers can participate either with their chargers or their vehicle telematics, and we appreciate Xcel Energy's work to support customers participating through multiple technology pathways. Over time, we believe the Company can offer customers the option to participate in its EV rate offerings with their vehicle telematics along with their chargers. Other utilities are using both vehicle telematics and chargers to support their submetering programs, including Baltimore Gas & Electric ("BGE"), where the Maryland Commission recently extended BGE's EV TOU program,

⁹ Xcel Energy (September 22, 2023). Compliance—Annual Report—Supplement, Attachment A, Docket No. E002/M-15-111.

¹⁰ Minnesota Public Utilities Commission (October 23, 2019). Staff Briefing Papers for October 31, 2019 Meeting, Docket No. E99/CI-17-879, at 4.

¹¹ Xcel Energy (January 10, 2024). Reply Comments 2023 Transportation Electrification Plan and Integrated Distribution Plan, Docket No. E002/M-23-452, at 15.

¹² NRDC (Sep 30, 2019). Xcel Energy to Bring Advanced Smart Charging to Colorado. <https://www.nrdc.org/bio/pamela-macdougall/xcel-energy-bring-advanced-smart-charging-colorado>.

¹³ SEPA (August 23, 2022). SEPA Announces 2022 Utility Transformation Award Finalists. <https://sepapower.org/knowledge/sepa-announces-2022-utility-transformation-award-finalists/>.

finding that it successfully demonstrated success in continually enrolling new customers and helped support Maryland’s transportation electrification goals.¹⁴

Furthermore, we believe that rates support many of the goals of helping make EV charging more affordable for customers. However, rates are not necessarily sufficient for optimizing for distribution system needs, particularly downstream at the transformer and secondary service level. Rates can create new “timer peaks,” where charging increases significantly at the beginning of off-peak time periods, and it is important that active managed charging programs be designed to help avoid not just generation and transmission costs but also non-coincident distribution costs.¹⁵

Proactive planning and active managed charging with a distribution optimization focus can help address the impacts of potential “timer peaks” and reduce the costs to serve for EV charging on the distribution system, where the Company forecasts load to triple over the next 30 years.¹⁶ One recent study estimated that the costs required to support nonoptimized EV load on the distribution system could be more than four times higher than generation and transmission combined, and optimization can help reduce distribution costs significantly.¹⁷ Given that lead times for procuring transformers are currently at 170 weeks and power transformers currently have lead times of 3 years for the Company,¹⁸ while other utilities are pointing out that the lead times building distribution infrastructure can be one to four years and building substation and transmission infrastructure can be four to eight years,¹⁹ there is a need to make proactive planning decisions and design programs now that can help address significant impacts on grid operations as EV adoption continues to accelerate.²⁰

There are a variety of managed charging approaches that utilize distribution-focused technology tools to help support distribution planning and reduce distribution upgrade costs as EV adoption accelerates. One is BGE’s Smart Charge Management Program, which optimizes EV charging based on “the customer’s electric rate; PJM price signals; weather patterns in the region; and energy demand by substation and feeder.”²¹ Another example is

¹⁴ Maryland Public Service Commission. Case No. 9478, In the Matter of the Petition of the Electric Vehicle Working Group for Implementation of a Statewide Electric Vehicle Portfolio, Order Regarding BGE’s Electric Vehicle Program Phase II Proposal at 4 (December 29, 2023).

¹⁵ SEPA. 2021. The State of Managed Charging in 2021. Washington, DC. <https://sepapower.org/resource/the-state-of-managed-charging-in-2021/>.

¹⁶ Xcel Energy (November 1, 2023). 2023 Integrated Distribution Plan, Docket No. E002/M-23-452, at 14

¹⁷ Sahoo, A., K. Mistry, and T. Baker. Boston Consulting Group (BCG). The Costs of Revving up the Grid for Electric Vehicles, December 2019, <https://www.bcg.com/publications/2019/costs-revving-up-the-grid-for-electric-vehicles>.

¹⁸ Xcel Energy (Nov 1, 2023). 2023 Integrated Distribution Plan Appendix G at 6.

¹⁹ National Grid and Hitachi Energy, “The Road to Transportation Decarbonization: Ready the Grid for Electric Fleets,” at 32 (September 2023) (“A typical electric distribution project could take 1-4 years to design, construct, and place in service. If there needs to be substation or transmission-level work, that timeline could be up to 8 years...Even if broad impacts do not materialize until the early 2030s, we must start planning the needed infrastructure now. In some areas, we may already be behind schedule”).

²⁰ Kevala. 2023. CPUC Electrification Impacts Study Part 1: Bottom-Up Load Forecasting and System-Level Electrification Impacts Cost Estimates. San Francisco, CA. <https://www.kevala.com/resources/electrification-impacts-study-part-1>. (Kevala’s study found that unmanaged EV charging, in conjunction with the electrification of other loads, could lead to over \$50 billion in distribution upgrades in California by 2035).

²¹ Case No. 9478, Electric Vehicle Program Phase II Proposal of Baltimore Gas and Electric Company at 3 (May 24, 2023).

a Portland General Electric Company (“PGE”) residential smart charging program, where PGE is optimizing charging based on system constraints at various distribution asset levels.²² This approach helps enable PGE to capture both bulk system benefits and protect local grid assets while supporting increased EV adoption.

WeaveGrid is supportive of the Company evaluating active managed charging offerings and bringing forward, as other parties have recommended, an active managed charging offering in Minnesota along the lines of Xcel Energy’s Colorado managed charging programs.

B. Cost Recovery Treatment of EV Infrastructure Rebates

In Reply Comments, the Company responded to concerns from the Department of Commerce and OAG on its proposed cost recovery treatment of rebates for EV infrastructure citing §216B.1615, subd. 4, that cost recovery may include “an appropriate rate of return” for utility-incurred expenses “including rebates for the installation of electric vehicle infrastructure” and that other parties have called for such rebate proposals over time.²³

WeaveGrid supports the Company’s proposal to place EV infrastructure expenditures in a regulatory asset and earn a return. We believe that this treatment can be necessary for EV programs because it levels the playing field between rebates and utilities owning and operating EV infrastructure, in terms of earning a return. Also, we concur with the Company that this treatment can help reduce the near-term rate impact of programs, which is a particularly important consideration for enabling these programs to scale. There is precedent for this type of treatment in other states for EV infrastructure rebates, including:

- Michigan,²⁴
- Colorado,²⁵
- Maryland,²⁶

²² M. Mills, M. Obi, K. Cody, K. Garton, A. M. Wisser and S. Nabahani, “*Utility Planning for Distribution-Optimized Electric Vehicle Charging: A Case Study in the United States Pacific Northwest*,” in IEEE Power and Energy Magazine, vol. 21, no. 6, pp. 48-55, Nov.-Dec. 2023, doi: 10.1109/MPE.2023.3308243.

²³ Xcel Energy (January 10, 2024). Reply Comments 2023 Transportation Electrification Plan & Integrated Distribution Plan, Docket No. E002/M-23-452, at 2-3.

²⁴ Michigan Public Service Commission (May 2, 2019). Order In the Matter of the Application of DTE Electric Company for Auth. to Increase its Rate Schedules and Rules Governing the Distribution and Supply of Electric Energy, and for Miscellaneous Accounting Authority, Case No. U-20162, at 115

²⁵ Colorado Public Utilities Commission (January 11, 2021). Decision No. C21-0017, Before the Public Utilities Commission of the State of Colorado, Proceeding No. 20A-0204E, In the Matter of the Application of Public Service Company of Colorado for Approval of its 2021-2023 Transportation Electrification Plan. Commission Decision Granting Application with Modifications, at 26-27.

²⁶ Maryland Public Service Commission (January 14, 2019). Order No. 88997 In the Matter of the Petition of the Electric Vehicle Work Group for Implementation of a Statewide Electric Vehicle Portfolio, Case No. 9478, at 75-82.

- New Mexico,²⁷ and
- New York.²⁸

Furthermore, we appreciate the Company's thoughtfulness in designing these rebates and the manner in which provisions for these rebates are tied to other considerations in §216B.1615, subd. 3, including "improv[ing] the operation of the electric grid" and "increase[ing] access to the use of electricity as a transportation fuel for all customers, including those in low- and moderate-income communities, rural communities, and communities most affected by air emissions from the transportation sector." By designing the rebates to require customers to participate in a managed charging rebate and making them accessible to low-income customers, we believe the Company has designed these programs in a way that meets public policy goals and is aligned with the public interest. **We recommend that the Commission approve the Company's proposal to place EV infrastructure rebates in a regulatory asset and earn a return and find that the Company's weighted average cost of capital ("WACC") is the appropriate rate of return.**

III. Conclusion

WeaveGrid appreciates the ongoing dialogue on transportation electrification in Minnesota. We look forward to continued engagement and thank the Commission for consideration of these comments.

Respectfully submitted,

WEAVE GRID, INC.

Sincerely,
/s/ Mathias Bell
Senior Director, Market Development
Phone: 612-979-6780
Email: mathias.bell@weavegrid.com

²⁷ New Mexico Public Regulation Commission. Final Order Adopting Recommended Decision With Modifications. Case No. 20-00150-UT In the Manner of Southwestern Public Service Company's Application for Approval of its 2021-2023 Transportation Electrification Plan; Proposed Plan Riders and Credit; and Other Associated Relief, at 12.

²⁸ New York Public Service Commission. July 16, 2020 Order Establishing Electric Vehicle Infrastructure Make-Ready Program and Other Programs. Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure, Case No. 18-E-0138, at 79.