



April 26, 2024

VIA E-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 Minnesota Power's
2023 Integrated Distribution Plan
Docket No. E015/M-23-258
UTILITY REPLY COMMENTS

Dear Mr. Seuffert:

Enclosed, please find Minnesota Power's Reply Comments in the above-referenced Docket.

If you have any questions regarding this filing, please feel free to contact me at (218) 428-9846 or jmccullough@mnpower.com.

Yours truly,

Jess McCullough
Public Policy Advisor II

JAM:th
Attach.

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

In the Matter of Minnesota Power's 2023
Integrated Distribution Plan

Docket No. E015/M-23-258
UTILITY REPLY COMMENTS

I. INTRODUCTION

Minnesota Power (or, the "Company") respectfully submits the following Reply Comments regarding the Company's 2023 Integrated Distribution Plan (or, "IDP"). These Reply Comments address questions and concerns raised by Fresh Energy, Union of Concerned Scientists, Sierra Club, and Plug In America filing jointly as Clean Energy Groups (or, "CEGs"), and those raised by the Minnesota Department of Commerce (or, "DOC").

II. BACKGROUND

On October 16, 2023, the Company submitted its third IDP to the Minnesota Public Utilities Commission (or, "Commission"). On January 18 the DOC requested a 30-day extension to adequately review the IDPs submitted by all regulated electric utilities. On January 19 the PUC granted the extension and following the discovery process both parties submitted their comments on April 5, 2024. Utility Reply Comments were initially due on April 19, 2024, but were extended to April 26, 2024, at the Company's request.

III. SUMMARY OF STAKEHOLDER COMMENTS

The Clean Energy Groups focused their comments and questions on the Company's Transportation Electrification Plan ("TEP") and are addressed in detail below. The Department of Commerce's questions were broader but emphasized the Non-Wires Alternatives ("NWA") study included in the IDP. The intervenors' questions are addressed individually in the following section.

IV. RESPONSE TO STAKEHOLDER COMMENTS

Clean Energy Groups Recommendations

The Clean Energy Groups recommended that the Commission accept the Company's 2023 IDP and suggested three recommendations for future IDP filings. These recommendations are listed below accompanied by company comments.

A robust discussion of equity, including analysis on how Minnesota Power's EV programs are serving those disproportionately impacted by transportation pollution, as well as renters, multifamily housing residents, communities of color, "low to moderate" income customers, and rural communities; and what gaps may remain.

The Company is focused on ensuring equitable access to infrastructure for all customers, including low income, rural, and underserved areas. As an example, the Company utilized the Minnesota Pollution Control Agency's (or, the "MPCA") environmental justice screening tool where possible when selecting site locations for its Direct Current Fast Charger (or, "DCFC") infrastructure buildout in conjunction with other qualifying criteria such as heavily used traffic corridors and distance from other charging stations.¹ The Company is also currently evaluating approaches to support EV charging in multifamily dwellings to ensure equitable access to EV charging. Some options currently being evaluated range from rebates and rate designs to make ready programs and other services. The Company plans to submit a detailed proposal by the fourth quarter of 2024 and will continue to include a discussion on equity in new EV proposals.

Discussion of coordination between EVs, energy efficiency, and building electrification planning, including, for example, Energy Conservation & Optimization (ECO) programs.

Minnesota Power regularly cross-promotes programs to customers in an attempt to provide a holistic customer experience, evaluating all the customers energy-related initiatives and goals including energy efficiency improvements, opportunities for building and transportation electrification, renewable energy projects, and more. All customer program and service offerings are delivered through one department within Minnesota Power's customer experience team, allowing the Company to share participation data across programs and make recommendations based on customer interest and applicability.

The Energy Conservation & Optimization ("ECO") Act, enacted by the legislature in 2021, significantly modified the existing conservation improvement program in Minnesota. Under the ECO Act, utilities are now able to support customers through energy efficiency improvements, load management programs, and efficient fuel switching projects within one program. While the ECO Act was an important step in advancing energy policy in Minnesota, it did create administrative complexity that many stakeholders expressed concerns about. As a result, a coalition of utilities, advocates, and lawmakers worked together in 2024 to propose additional modifications to the ECO Act through the legislature. As expressed in its 2024-2026 Triennial Plan filed on June 30, 2023, in Docket No. E015/CIP-23-93, Minnesota Power did not include any efficient fuel switching measures in its plan, including transportation electrification, but will continue to evaluate opportunities as guidance and processes continue to evolve. The Company will determine how efficient fuel switching measures, such as electric vehicle rebates, can be incorporated into its ECO plan at the close of session.

That Minnesota Power propose an additional EV residential managed charging program by or before their next TEP filing.

Minnesota Power currently offers three rates that are utilized by customers for residential EV charging including the EV Service Rate, the Time of Day Rate and the Dual Fuel Rate.

¹ Docket No. E015/M-21-257 In the Matter of Minnesota Power's Electric Vehicle Charging Infrastructure Investment.

Additionally, Minnesota Power currently provides a \$500 rebate for the installation of a second service and a \$500 rebate for the purchase of a level 2 smart charger. The Company recognizes that the majority of EV charging occurs at residences and as such, understands the CEGs desire to provide multiple options for residential EV charging. However, the Company has limited resources and given the number of existing offerings for residential EV charging, those resources should be dedicated to more immediate needs including access to public EV charging infrastructure and charging in multifamily dwellings.

Additionally, the Company is still in the early stages of evaluating its default Time of Day rate for residential customers, and it is premature to propose an additional EV residential managed charging program until more data can be collected and evaluated.

Clean Energy Groups Requests

Regarding the 2023 IDP, the CEGs requested responses from the Company to the following questions. The Company provides answers following each question.

How many of its customers on the Residential Time-of-Day rate have an EV, and what feedback (if any) has the Company received from customers on why EV drivers have or have not adopted the whole-home TOD rate?

Minnesota Power works directly with customers interested in learning more about electric vehicles. While many customers notify Minnesota Power when they purchase an EV, there are many customers that do not contact Minnesota Power. The Company is aware of 56 EV owners that are currently participating in the Time of Day Rate but recognizes that this number likely does not include all EV owners on the rate.

The Company requested preliminary feedback from EV owners on the Time of Day rate through its online forum for EV drivers. Responses were received via telephone, email, and in person. Some testimonials received via email include:

“I have the time of day rate and do own an EV. I use the time of day to my advantage. I charge starting at 11pm. I also delay start my dishwasher and avoid drying clothes during peak hours. It’s helpful knowing when I can save money and am more aware so I do take advantage. I like having the control.”

“I have not changed to ToD rates since it only looks like a \$6 annual savings while restricting myself to specific times to charge (unless I want to increase my cost vs save).”

The Company will continue to evaluate customer preferences related to the Time of Day Rate and will share results in Docket No. E015/M-20-850.

How many medium- and heavy-duty electric vehicles domicile in Minnesota Power’s service territory?

As stated on page 82 of its IDP, Minnesota Power estimates that there are 42 medium-duty electric vehicles and 12 heavy-duty electric vehicles in its service territory. The Company will continue to refine its assumptions related to medium- and heavy-duty EV forecasting as penetration increases and more information is available.

Are there any alternative technology providers that exist in the market that could replace the original technology provider selected for the canceled Charging Rewards Pilot?

Following notification from the Company's initial vendor for the Charging Rewards Pilot Program that the vendor was discontinuing the service in December 2021, the Company evaluated the offerings of other vendors and found them to be an inadequate fit for the Company's needs and objectives. The Company stated in its April 22, 2022, filing that it would continue to monitor the market for opportunities to provide a similar offering, but that the Company's TOD rate would provide similar encouragement for off-peak charging.²

As described above, the Company is pleased to offer three rate options that support residential EV charging today. The Company will continue to evaluate how ongoing proceedings, including potential updates to the ECO Act legislation and Minnesota Power's residential Time of Day Rate implementation and evaluation, will impact EV adoption. The Company is aware of various vendors offering managed charging programs and continues to evaluate how those offerings could integrate with other platforms that the Company currently operates.

Department of Commerce Recommendations

The DOC further made the following initial recommendations for future IDPs. The Company's comments, where applicable, are addressed individually below:

The Department recommends that the Commission require MP to consider demand response, energy efficiency, and renewable generation as part of its future NWA process in its next IDP.

The Company will evaluate incorporating demand response, energy efficiency, and renewable generation into its NWA process for the 2025 IDP.

The Department recommends that MP calculate future NWA ratepayer disbenefit categories based on the ratepayer cost of outages rather than in the calculated categories of "Compliance Risk," "Power Quality Consequences," and "Improved Customer Satisfaction."

The Company will evaluate incorporating ratepayer cost of outages into its NWA BCA analysis for the 2025 IDP.

² Docket No. E015/M-20-638 In the Matter of the Petition for Approval of Minnesota Power's Portfolio of Electric Vehicle Programs.

The Department recommends the Commission order MP to file a supplemental filing that proposes a plan to accelerate beneficial electrification for its customers, including a discussion of how to incentivize dual fuel adoption, and provide forecasts of expected grid impacts of the same.

Minnesota Power appreciates the Department's interest in accelerating beneficial electrification and the desire to understand how the Company is planning for the related load growth. As described above, Minnesota Power is actively engaged in a collaborative effort to update the ECO Act during this 2024 legislative session, creating more opportunity for Minnesota Power to encourage beneficial electrification. The Company intends to file a modification to its 2024-2026 ECO Plan incorporating efficient fuel switching measures as more information is known about what, if any, policy changes result from that process.

Additionally, Minnesota Power understands that the Department will be implementing the IRA Home Efficiency Rebate program ("HOMES") and Home Electrification and Appliance Rebate program ("HEAR") in late 2024 or early 2025. Minnesota Power has expressed a strong interest in collaborating on program design to ensure a seamless implementation with existing, overlapping programs.

Information about adoption of electrification measures and related impacts to the grid will be increasingly important in the coming years. However, given the fact that the IRA rebate programs have not yet been implemented and Minnesota Power does not currently have any efficient fuel switching measures within its filed and approved ECO Plan, the Company likely won't have significant data on the impacts of electrification prior to the next IDP which is scheduled to be filed on November 1, 2025. Minnesota Power respectfully requests that the Commission continue to explore distribution impacts from electrification through the IDP process as opposed to creating a separate regulatory requirement for utilities, stakeholders and regulators.

The Department recommends the Commission direct MP to develop a suite of metrics to track resiliency, including SAIDI and SAIFI, MEDs, and other metrics to the extent warranted.

Minnesota Power currently files resiliency and reliability metrics within the Safety, Reliability, and Service Quality (or, "SRSQ") filing on or before April 1st of each year. The Company's most recent SRSQ was filed April 1, 2024.³

Department of Commerce Requests

The Department found that Minnesota Power's 2023 IDP was "largely compliant with filing requirements" yet withheld its recommendation to the Commission to accept or not accept the IDP pending further replies. The Company addresses these replies below and hopes the DOC will find these answers sufficient.

³ Docket No. E015/M-24-29

The Department requests MP to present an NWA process, which includes the project screening process, the NWA analysis scope of work, cost estimation, and the Engineering, Procurement, and Construction (EPC) process, timeline and goals in its next IDP.

The Company agrees Non-Wires Alternatives play an important role in a rapidly changing distribution system and will continue to study the best path forward for incorporating NWAs into distribution planning. However, at this time, the Company feels that evaluating such projects on a case-by-case basis is more cost-effective than establishing a blanket NWA process due to the small number of NWA studies in effect. In addition, the majority of the spending within the IDP is tied to replacing aging assets. An NWA analysis will not displace the need to still replace aging infrastructure to meet reliability needs and represents a significantly smaller portion of projected costs and goals than asset renewal projects.

The Department requests that MP include calculated benefits for all Minnesota Test Cases, and to the extent practicable, present the results in reply comments.

While it is not feasible to provide these calculations in reply comments due to the scope of the request, the Company will evaluate incorporating the calculated benefits for all Minnesota Test Cases into its NWA BCA analysis for the 2025 IDP.

The Department requests that MP recalculate its BCA benefits starting with an “Avoided Capital Cost” benefit at the beginning of the BCA period of analysis and present the results in reply comments.

The table below represents the NPV and BCR with the Avoided Capital Cost benefit moved up to the Beginning of the BCA period.

Net Benefits	NPV	Benefit Cost Ratio (BCR)
Kerrick and Askov		
IVVC	\$105,422.05	1.09
Circuit Backup	\$8,000,959.92	2.83
FLISR	-\$1,445.13	0.99
Total NPV Net Benefits	\$8,104,936.84	2.42
Wrenshall and Thomson		
IVVC	\$900,292.54	1.78
Circuit Backup	-\$1,115,638.08	0.89
FLISR	\$248,687.49	2.89
Total NPV Net Benefits	\$33,341.95	1.00

Silver Bay 271 or 277		
IVVC	\$124,358.76	1.11
Circuit Backup	-\$612,322.20	0.86
Total NPV Net Benefits	-\$487,963.45	0.91
Silver Bay 271 and 277		
IVVC	\$124,358.76	1.11
Circuit Backup	-\$4,900,784.22	0.43
Total NPV Net Benefits	-\$4,776,425.46	0.51

The Department requests MP to present the full BCA for each NWA project studied by Black & Veatch in reply comments.

The Company experienced delays in securing full BCAs from its external consultant during the discovery process, and the BCAs did not reach the Department prior to comments being finalized. The Excel spreadsheets that present the full BCA were provided to the Department in response to DOC IR 042 on April 5, 2024.

The Department requests that MP discuss in reply comments planned 2023 to 2027 budget allocations for the Kerrick, Wrenshall, Silver Bay, and Cloquet NWA projects, including any budget dedicated to NWA solutions.

Of the 4 NWA projects studied, the Kerrick Battery Energy Storage System is the only project that Minnesota Power is developing. The project is in the planning and scoping phase with no vendor selected. Currently Minnesota Power has a planning level estimate of \$1.8 Million in 2024 and \$1.2 Million in 2025 in the budget. Estimates will be updated when projects move out of the planning stage and a vendor is selected.

The Department requests that MP present in reply comments additional information about its FLISR program, which includes a discussion of the cost recovery mechanism, an analysis of alternative investments, a discussion of customer anticipated benefits, a discussion to manage bill impacts, a presentation of the impact to the net present value of system costs, and a cost-benefit analysis, if available.

Minnesota Power's FLISR system, which includes reclosers and smart switches, is connected via a fiber optic network system that is purpose-built and is isolated from all other Minnesota Power communications systems. Extending the isolated fiber optic network system is the preferred communications solution for additional smart switch devices. Each distribution feeder is evaluated for the best FLISR solution available in each area. In some cases, there may not be an available feeder to create a back-up feed or fiber communication may be cost-prohibitive driving a different solution. Anticipated benefits of the FLISR program include improved reliability and resiliency.

Cost recovery for these programs will occur through the Company's rate cases. Any changes to customer rates will be evaluated in future rate cases. The Company is actively seeking grant funding to help manage bill impacts. Any grant funding received would lower the amount of recovery needed through standard rates. Net present value of system costs and a cost-benefit analysis is not available at this time.

The Department requests that MP present in reply comments additional information about its Smart Sensor program, which includes a discussion of the cost recovery mechanism, an analysis of alternative investments, a discussion of customer anticipated benefits, a discussion to manage bill impacts, a presentation of the impact to the net present value of system costs, and a cost-benefit analysis, if available.

The Smart Sensor program will provide additional visibility into areas of the system where SCADA and fiber communication is not readily available. Anticipated benefits of the Smart Sensor program include improved reliability, resiliency, and improved power quality as issues are identified by the sensors.

Cost recovery for these programs will occur through the Company's standard rates. Any changes to customer rates will be evaluated in future rate cases. The Company is actively seeking grant funding to help manage bill impacts. Any grant funding received would lower the amount of recovery needed through these future rate cases. Net present value of system costs and a cost-benefit analysis is not available at this time.

The Department requests that MP present in reply comments additional information about its OMS and GIS programs, which includes a discussion of the proposed budget, deployment plan, cost recovery mechanism, an analysis of alternative investments, a discussion of customer anticipated benefits, a discussion to manage bill impacts, a presentation of the impact to the net present value of system costs, and a cost-benefit analysis, if available.

Discussion of the anticipated customer benefits of the Company's OMS and GIS deployment plan is covered on pages 41-44 of the 2023 IDP. Deployment of the OMS is anticipated in December of 2024 with a budget of \$4 Million. The Company evaluated multiple vendors with OMS offerings. The chosen vendor was selected because its product aligns well with future Emergency Management Systems (or, "EMS") and Geographical Information Systems (or, "GIS") plans, including the implementation of the GIS Utility Network.

The GIS program implementation is also projected for December 2024 with a budget of \$2.07 Million. The Company's chosen GIS product was selected over other vendors due to its high functionality and lower overall cost.

Cost recovery for these programs will occur through the Company's rate cases. Any changes to customer rates will be evaluated in future rate cases. The Company is actively seeking grant funding to help manage bill impacts. Any grant funding received would

lower the amount of recovery needed in these future rate cases. Net present value of system costs and a cost-benefit analysis is not available at this time.

The Department requests MP to provide in reply comments a status update of any plans and budgets to deploy its EMS upgrade, a DERMS, or ADMS in its 2023 to 2027 budget.

The EMS was upgraded and placed into service on February 21, 2024. There are no current plans to install a DERMS or ADMS between 2023 to 2027. The need for a DERMS or ADMS will continue to be evaluated as the distribution system continues to modernize and evolve.

The Department requests that MP include in reply comments a description of how its distribution system planning will evolve with the incorporation of additional impacts from the IRA.

Minnesota Power is excited about the opportunities created by the IRA including tax credits and rebates for energy efficiency upgrades, home and building electrification projects, electric vehicle adoption and renewable energy investments. The Company is actively engaging with customers, stakeholders, and contractors to promote available tax credits and has offered to engage with the Department on the design and delivery of IRA rebate programs. Collaborative design and implementation of IRA programs will be critical to ensuring that Minnesotans realize the full benefits of all available resources including existing ECO programs, new IRA and state rebate programs, and other federal funding opportunities.

The Company anticipates that the combination of ECO and IRA programs will spur increased electrification, particularly in areas with high penetration of delivered fuels. However, the Company is also monitoring the impact of higher interest rates, economic uncertainty, and workforce constraints to understand how those factors may similarly impact adoption. Minnesota Power will continue to refine its DER forecasts as more information is available and incorporate that information into its distribution planning processes as adoption increases and DERs begin to have a greater impact on the distribution system.

Minnesota Power continues to evaluate how existing data sources can be leveraged to inform DER planning going forward and what additional tools or information may be needed for distribution planning in the future. Leveraging AMI data will assist the planning department in responding to electrification and load growth.

The Department requests that MP provide data on the fraction of its customers that rely on the primary heating sources of natural gas, electric resistance heat, or all other heat sources.

Through the Conservation Applied Research and Development (“CARD”) program, the Department of Commerce funds studies to help Minnesota utilities identify new technologies or strategies to maximize energy savings, improve the effectiveness of

energy conservation programs, or document the carbon dioxide reductions from energy conservation projects to enhance their ECO programs. In 2018, the Center for Energy and Environment (or, “CEE”) prepared a Minnesota Energy Efficiency Potential Study⁴ through the CARD program to explore the energy efficiency and carbon-saving potential in Minnesota for 2020-2029. Through that process, CEE surveyed households throughout Minnesota and identified the following primary fuel used for heating in Minnesota Power’s service territory:

Fuel Type	Percentage of Customers
Electricity	20.34%
Natural Gas	57.15%
Propane	15.16%
Fuel Oil	7.36%

The survey also requested information about the type of heating equipment use in the home:

Heating Equipment	Percentage of Customers
Central Furnace	59.83%
Heat Pump	4.04%
Steam or hot water system is radiators or pipes	25.25%
Built-in electric units installed in walls, ceilings, baseboards or floors	10.89%

The Department requests feedback from MP and other parties on how to schedule the IDP filing to better integrate the IDP’s inputs and outputs with other Commission proceedings in reply comments.

The Company appreciates the interest of the Department in streamlining the IDP process to better align with other Commission proceedings. On April 2, 2024, a Commission planning meeting was dedicated to distribution related issues and the question was raised of how to improve coordination between the IDP, the Integrated Resource Plan (or, “IRP”), Transmission Planning, and Rate Cases. The Company is supportive of processual improvement between these major filings and looks forward to continued discussion on the topic.

The Department requests that Minnesota Power discuss in reply comments its strategy to increase off-peak charging among EV owners in its service territory, including its assessment of the effectiveness of the Residential Time-of-Day rate to promote off-peak charging.

As noted above in the Company’s reply to the CEGs, the Company is still in the early stages of implementation and evaluation of its Residential Time of Day Rate and does

⁴ https://www.mncee.org/sites/default/files/2021-05/MN-Potential-Study_Final-Report_Publication-Date_2018-12-04.pdf

not yet have sufficient data to measure the effectiveness of the rate for EV charging. The Company continues to engage EV owners in its service territory to understand EV adoption barriers and charging preferences as more vehicle models become available and access to public charging increases.

The Department requests that Minnesota Power discuss in reply comments how it plans to increase utilization of its home charger rebates.

Participation in the Company's residential second service and level 2 smart charger rebate programs has steadily increased over time with 4 rebates paid in the first year, 25 rebates in the second year and 48 rebates thus far in the third year of the program. While customers continue to express interest in Minnesota Power's residential EV charging rates and rebates, these programs are not referenced by customers as the main driver for EV adoption. Rather, access to public charging, vehicle availability and purchase price are more prevalent market drivers. Minnesota Power will continue to promote programs through community engagement, customer outreach and awareness campaigns, and through electrician and auto dealer networks. The Company anticipates that the program will continue to scale in alignment with EV adoption.

The Department requests that Minnesota Power discuss in reply comments how its planned increased spending for labor costs will be utilized to further transportation electrification.

Minnesota Power included labor assumptions for 1.5 full-time employees per year in the five-year EV budget, increasing at a rate of 3% annually to account for inflation. This labor assumption is consistent with the labor assumptions included in the Company's EV portfolio filing in Docket No. E-015/M-20-638 for programs delivered from 2021-2023. Historical labor spending did not match the budgeted amount for several reasons including turnover in the position, resources dedicating time to multiple programs, and the difference between general budget assumptions and actual salaries. However, the labor assumptions in the 5-year EV budget do not reflect an increase in EV labor as the Company is still projecting 1.5 full-time resources.

These resources are primarily responsible for responding to customer EV inquiries, managing EV rebate and rate programs, attending community events, hosting trainings, coordinating the design and implementation of customer communication materials, tracking and reporting on program performance and evaluation metrics, identifying new opportunities to serve customers, and tracking industry trends and technological advancements.

V. CONCLUSION

The Company appreciates the opportunity to clarify and respond to the remarks from stakeholders regarding the 2023 Integrated Distribution Plan.

If you have any questions regarding this filing, please contact me at 218.428.9846 or jmccullough@mnpower.com.

Date Submitted: April 26, 2024

Respectfully submitted,

A handwritten signature in black ink, reading "Jess McCullough". The signature is fluid and cursive, with the first name "Jess" and last name "McCullough" clearly distinguishable.

Jess McCullough
Public Policy Advisor II
Minnesota Power
30 W Superior St.
Duluth, MN 55802

STATE OF MINNESOTA)
)ss
COUNTY OF ST. LOUIS)

AFFIDAVIT OF SERVICE VIA
ELECTRONIC FILING

Tiana Heger of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 26th day of April, 2024, she served Minnesota Power's Reply Comments in **Docket No. E015/M-23-258** on the Minnesota Public Utilities Commission and the Energy Resources Division of the Minnesota Department of Commerce via electronic filing. The persons on E-Docket's Official Service List for this Docket were served as requested.



Tiana Heger