

March 13, 2026

Sasha Bergman
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

RE: Comments of the Minnesota Department of Commerce
Docket No. E015/M-25-140

Dear Ms. Bergman,

Attached are the comments of the Minnesota Department of Commerce (Department) in the following matter:

In the Matter of Minnesota Power's 2025 Integrated Distribution Plan.

Minnesota Power's (MP) Integrated Distribution Plan (IDP) was filed on November 3, 2025. MP's Transportation Electrification Plan (TEP) was filed concurrently.

The Department recommends the Commission accept Minnesota Power's IDP with modifications and is available to answer any questions the Minnesota Public Utilities Commission may have.

Sincerely,

/s/ Dr. SYDNIE LIEB
Assistant Commissioner of Regulatory Analysis

AZ/RW/BP/DD/KB/ar
Attachment

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Acronyms and Abbreviations

AMI	Advanced Metering Infrastructure
BESS	Battery Energy Storage System
CBA/BCA	Cost-Benefit Analysis/Benefit Cost Analysis
CVR	Conservation Voltage Reduction
DER	Distributed Energy Resource
DERMS	Distributed Energy Resources Management System
DOE	US Department of Energy
DR	Demand Response
DRMS	Demand Response Management Systems
ECO	Energy Conservation & Optimization
EV	Electric Vehicle
FERC	Federal Energy Regulatory Commission
FLISR	Fault Location Isolation and Service Restoration
FPI	Fire Potential Index
Grid Mod	Grid Modernization
IDP	Integrated Distribution Plan
IR	Information Request
IRP	Integrated Resource Plan
kV	Kilo Volt
kW	Kilowatt
kWh	Kilowatt-Hour
MISO	Midcontinent Independent System Operator
MP	Minnesota Power
MDU	Multi-dwelling unit
MW	Megawatt
NWA	Non-Wire Alternative
O&M	Operations and Maintenance
PUC	Public Utilities Commission
PV	Photovoltaic
SAIDI	System Average Interruption Duration Index
TEP	Transportation Electrification Plan
VVO	Volt-Var Optimization
Xcel	Xcel Energy

Before the Minnesota Public Utilities Commission

Comments of the Minnesota Department of Commerce

Docket No. E015/M-25-140

I. INTRODUCTION

Every two years, Minnesota Power (MP or the Company) submits an Integrated Distribution Plan (IDP), which began with the Minnesota Public Utilities Commission's (Commission) February 20, 2019 Order Approving Integrated Distribution Planning Filing Requirements for MP.¹ The primary purpose of the IDPs is to ensure compliance with the Commission's filing requirements; the Commission approves each IDP after it determines that the Company has met those requirements.

To promote transparency in distribution system planning, the Commission set forth five planning objectives for IDPs, with additional filing requirements. The Commission's planning objectives for IDPs are to:

1. 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;
2. Enable greater customer engagement, empowerment, and options for energy services;
3. Move toward the creation of efficient, cost-effective, accessible grid platforms for new products, new services, and opportunities for adoption of new distributed technologies;
4. Ensure optimized utilization of electricity grid assets and resources to minimize total system costs; and
5. Provide the Commission with the information necessary to understand the utility's short-term and long-term distribution-system plans, the costs and benefits of specific investments, and a comprehensive analysis of ratepayer cost and value.²

On February 26, 2026, the Department filed initial comments in Docket No. E002/M-25-142, Xcel Energy's (Xcel) 2025 Integrated Distribution Plan.³ In those comments, the Department "advocates for an expansion of the review of Xcel's planning standards with a key objective to reduce Xcel's planned distribution spending."⁴ Because Xcel faces a greater budgetary need for process change, the Department intends to pilot the change in Xcel's distribution system planning rather than across the other utilities. The Department will assess the need for application to other utilities in the 2027 IDP.

¹ *In the Matter of Distribution System Planning for Minnesota Power, Order Adopting Integrated Distribution Plan Filing Requirements*, February 20, 2019, Docket No. E-015/CI-18-254, (eDockets) [20192-150449-03](#), (hereinafter "February 20, 2019 Order").

² *In the Matter of Minnesota Power's 2025 Integrated Distribution Plan, Notice of Comment Period*, November 13, 2025, Docket No. E-015/M-25-142, (eDockets) [202511-224926-01](#), at 2 (hereinafter "Notice").

³ *In the Matter of Xcel Energy's 2025 Integrated Distribution Plan*, Department, Comments, February 26, 2026, Docket No. E002/M-25-142, (eDockets) [20262-228738-02](#), (hereinafter "Department Initial Comments on Xcel's IDP").

⁴ *Id.*, at 2.

II. PROCEDURAL BACKGROUND

December 8, 2022	The Commission issued its Order in Docket Nos. E002/M-21-694, E999/CI-17-879. ⁵ The Order approved combining the filing requirements of electric utility IDPs and TEPs.
May 2023	The Minnesota Legislature established requirements for utility TEPs in 2023 Minn. Laws. ch. 60, art. 12, sec. 12, codified at Minn. Stat. § 216B.1615 – Electric Vehicle Deployment Program. Minn. Stat. § 216B.1615 requires electric utilities to file TEPs, established certain content requirements, granted the Commission authority to approve, modify or reject TEPs, and established evaluation criteria. ⁶
September 16, 2024	The Commission issued its Order in Docket No. E015/M-23-258, approving MP’s 2023 IDP and modifying reporting requirements. ⁷
November 3, 2025	MP files its 2025 TEP and IDP. ⁸
November 13, 2025	The Commission issues its Notice of Comment Period. ⁹

Topic(s) open for comment:

2025 Minnesota Power Integrated Distribution System Plan

1. Should the Commission accept or reject Minnesota Power’s IDP?
2. Did Minnesota Power adequately address the Commission’s IDP filing requirements and prior Orders, as outlined in Attachment A to this notice?

⁵ *In the Matter of a Commission Inquiry into Electric Vehicle Charging and Infrastructure; In the Matter of Xcel Energy’s 2021 Integrated Distribution System Plan; In the Matter of Minnesota Power’s 2021 Integrated Distribution System Plan; In the Matter of Distribution System Planning for Otter Tail Power Company, Order, December 8, 2022, Docket Nos. E-99/CI-17-879, E-002/M-21-694, E-015/M-21-390, E-017/M-21-612 (eDockets) [202212-191192-01](#).*

⁶ [Minn. Stat. § 216B.1615](#) (2023).

⁷ *In the Matter of Minnesota Power’s 2023 Integrated Distribution Plan, Order Accepting 2023 Integrated Distribution Plan and Transportation Electrification Plan, and Modifying Reporting Requirements, September 16, 2024, Docket No. E015/M-23-258, (eDockets) [20249-210224-01](#) (hereinafter “2023 IDP Order”).*

⁸ *In the Matter of Minnesota Power’s 2025 Integrated Distribution Plan, Minnesota Power, November 3, 2025, Docket No. E015/M-25-140, (eDockets) [202511-224624-01](#). (hereinafter “2025 IDP”).*

⁹ Notice.

3. Feedback, comments, and recommendations on the following areas of Minnesota Power's IDP:
 - a. Non-wires alternatives analysis
 - b. Planned grid modernization initiatives
 - c. Forecasted distribution budget
 - d. Distributed Energy Resource (DER) scenarios and forecasts
 - e. Pilot Projects
4. Other areas of Minnesota Power's IDP not listed above, along with any other issues or concerns related to this matter.

2025 Minnesota Power Transportation Electrification Plan (TEP)

5. Should the Commission approve, modify, or reject Minnesota Power's TEP?
6. Did Minnesota Power adequately address the Commission's TEP filing requirements and prior Orders, as outlined in Attachment A to this notice?
7. Are there gaps in Minnesota Power's transportation electrification programs the Commission should address to ensure equitable customer outcomes
8. Are there other issues or concerns related to this matter?

III. DEPARTMENT ANALYSIS

The initial comments provided by the Department address MP's IDP and TEP and the Commission's Notice Topics 1 through 8. Recommendations are offered in the corresponding sections and are summarized at the conclusion of this filing.

For organization and clarity, these comments do not follow the sequence of topics in the Notice.

A. IDP COMPLIANCE WITH FILING REQUIREMENTS AND RECOMMENDATIONS CONCERNING ACCEPTANCE

The Department responds to the following notice topics:

Notice Topic 1: Should the Commission Accept or Reject Minnesota Power's IDP?

Notice Topic 2: Did Minnesota Power Adequately Address the Commission's IDP Filing Requirements and Prior Orders, as Outlined in Attachment A to This Notice?

The Department recommends the Commission accept MP's 2025 IDP with additional recommendations. As part of the Department's review of MP's November 3, 2025 filing, the Department verifies that MP's filing includes the basic documentation required by the applicable Commission orders, rules, and statutes. While the Department's review process raises additional questions and concerns about the current filing, the attached compliance chart in Attachment A documents MP's compliance with the basic filing requirements established by the Commission in this docket.

B. FORECASTED DISTRIBUTION BUDGET

The Department responds to the following notice topic:

Notice Topic 3.C: Feedback, Comments, and Recommendations on the Forecasted Distribution Budget.

To support its strategic planning process, MP has prepared five-year financial forecast for the years 2025 through 2030 using the capital expenditure (capex) budget categories used by other utilities in their IDPs.

In reviewing the trends occurring in MP's historical and forecasted budgets, the Department analyzed both the O&M and Capex budgets. The Department factors inflation and energy sales estimates into its calculations, to facilitate comparisons between MP's budgets for the years 2018 through 2030 and potential comparisons with that of other Minnesota electric utilities. Figure 1 shows MP's distribution capex budget categories, in 2025 dollars, normalized to energy sales and covering the years 2018 to 2030. MP's distribution spending for the years 2018 through 2024 are based on actual numbers and the data for the years 2025 through 2030 are based on forecasted numbers.

Figure 1: Summary of MP’s Distribution Capex Budget Controlled for Inflation and Energy Sales

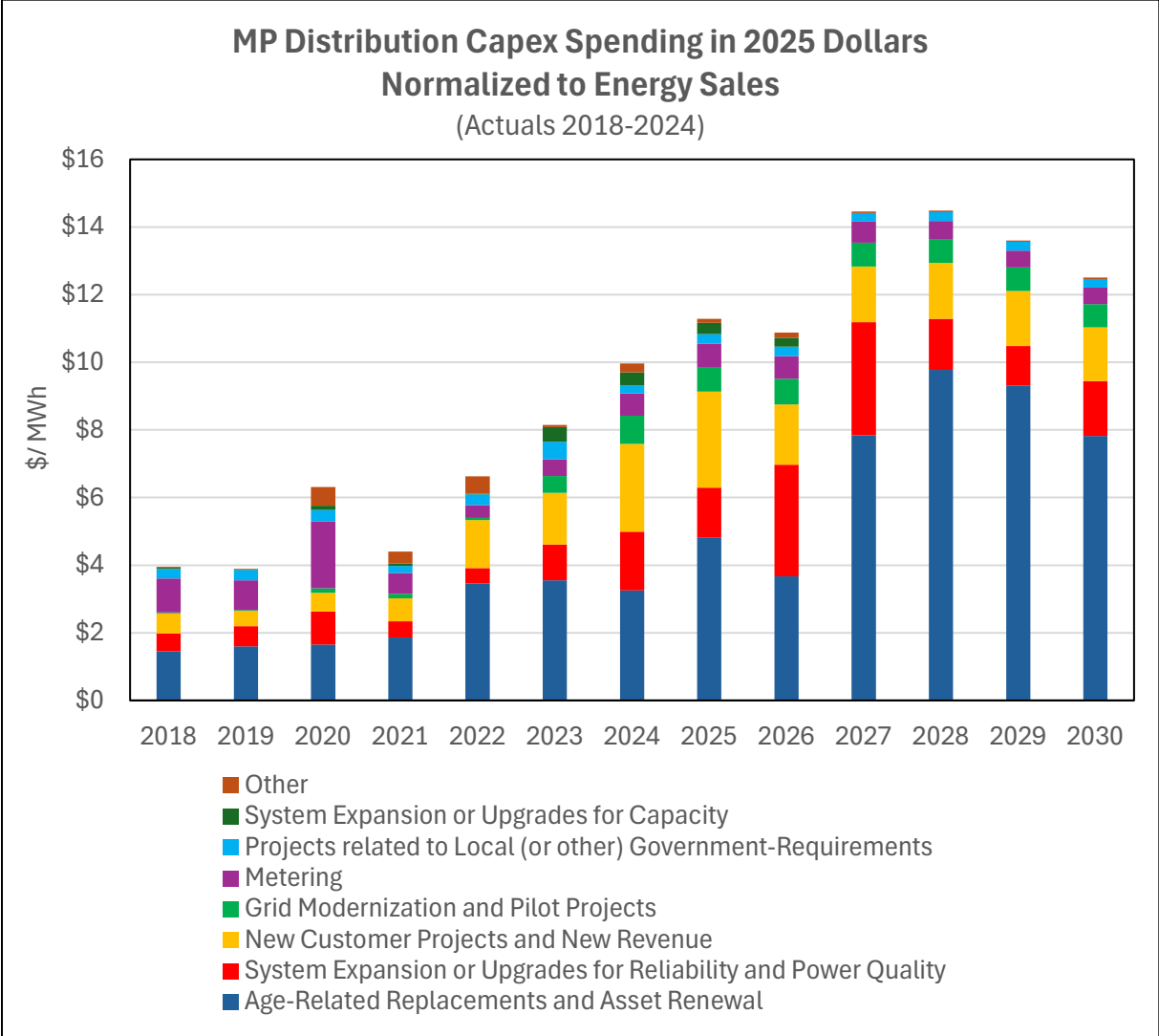


Figure 1 shows that the greatest relative spending increases occurs in Age Related Replacements and Asset Renewal; and System Expansion or Upgrades for Reliability and Power Quality.

The Department presents a second perspective on MP’s distribution spending, which instead of being normalized to MP’s distribution cost allocation, normalizes MP’s budget to its expected distribution sales. Figure 2 excludes sales to mines, which are loads over 114 kW. These loads are transmission connected, and do not contribute to distribution projects. The sales in Figure 2 also align closely with

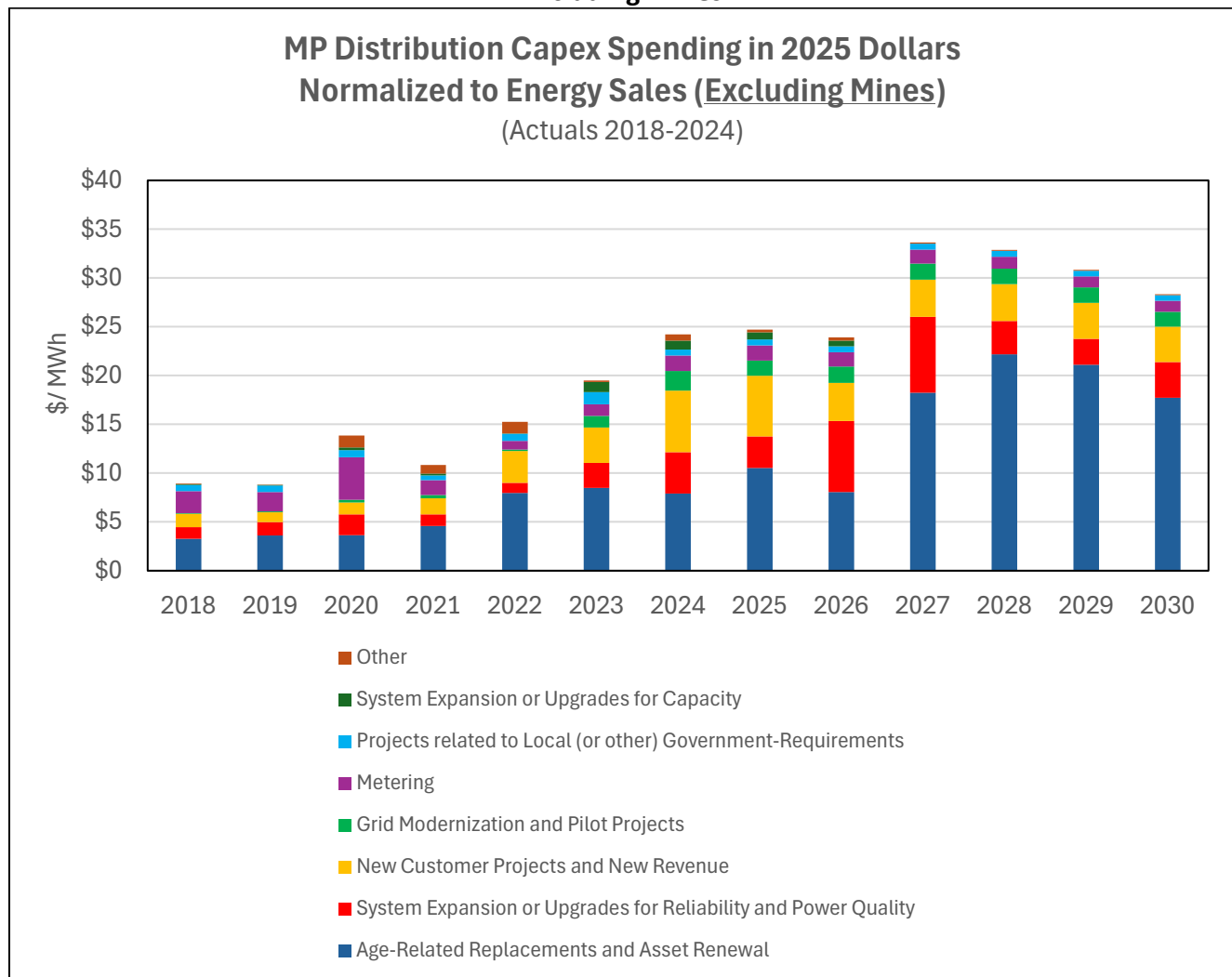
¹⁰ In the Matter of Minnesota Power’s 2023 Integrated Distribution Plan, Minnesota Power, Integrated Distribution Plan, October 16, 2023, Docket No. E-0015/M-23-258, (eDockets) [202310-199614-01](https://www.dockets.mn.gov/202310-199614-01), (hereinafter “2023 IDP”), at 25 & 37.

¹¹ 2025 IDP at 59-60.

¹² The Department assumes 2% annual inflation after 2025, per Federal Reserve targets. Historical inflation based on June with data from https://www.bls.gov/data/inflation_calculator.htm.

MP's 2024 Distribution Loss Study.¹³ Figure 2 provides a better comparison of MP's distribution spending compared to other utilities, who do not subsidize their distribution rates with industrial sales.

Figure 2: Summary of MP's Distribution Capex Budget Controlled for Inflation and Energy Sales Excluding Mines



Source: 2023 IDP,¹⁴ 2025 IDP,¹⁵ Docket No. E999/M-YR-11.

MP states that Age-Related Replacements and Asset Renewal Projects “are used to replace failing and end of life infrastructure on the distribution system. Some age-related replacements and asset renewal projects are planned in advance and implemented proactively. [...] Other age-related replacements

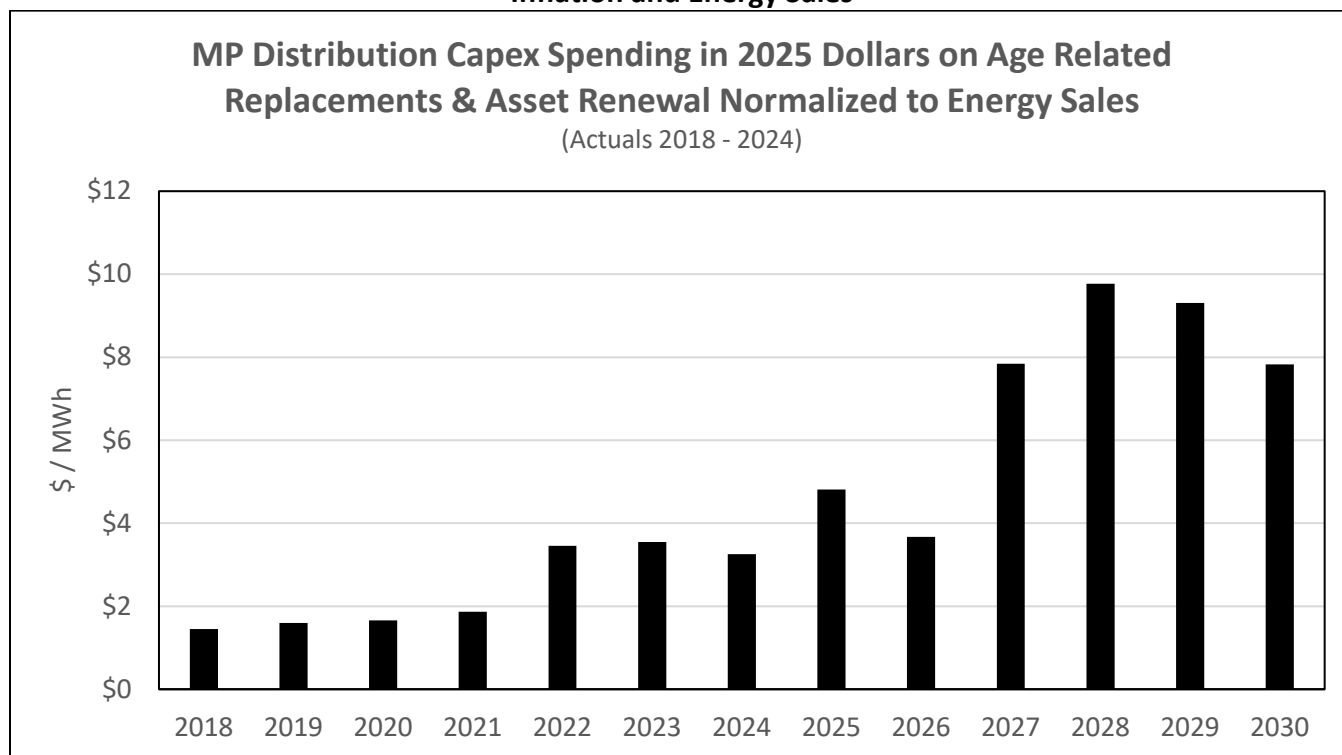
¹³ MP lists estimated energy distribution losses of 121,486 MWh, which is 3.89% of annual energy. The total distribution energy before losses is 3,123,033 MWh. Total energy sales minus mining in 2024 that correspond to the Distribution Loss Study data were 3,451,007 MWh, which means that most Industrial class energy sales are on the distribution system because Industrial Class sales were 1,306,825 MWh. Data from 2025 IDP Appendix D – at 5 and Docket No. E999/M-YR-11.

¹⁴ *In the Matter of Minnesota Power's 2023 Integrated Distribution Plan*, Minnesota Power, Integrated Distribution Plan, October 16, 2023, Docket No. E-0015/M-23-258, (eDockets) [202310-199614-01](#), (hereinafter “2023 IDP”), at 25 & 37.

¹⁵ 2025 IDP – at 59-60.

and asset renewal projects are implemented in response to unanticipated failures.”¹⁶ Figure 3 shows MP’s Age-Related Replacements and Asset Renewal Projects spending, in 2025 dollars, normalized to energy sales and covering the years 2018 to 2030. The spending for Age-Related Replacements and Asset Renewal Projects over the years 2018 through 2024 are based on actual numbers and the data for the years 2025 through 2030 are based on forecasted numbers. Figure 3 shows a recent jump in spending on Asset Renewal and Pilot Projects spending for 2022 and 2024, then a forecasted increase in spending through 2030. Between 2026 and 2030, MP plans to spend \$327 million on Age Related Replacements and Asset Renewal projects. For comparison, in 2020 to 2024 budget period, MP spent \$106 million. Adjusted to 2025 dollars, MP’s 2026 to 2030 Age-Related Replacements and Asset Renewal budget is \$307 million, compared to \$116 million in MP’s 2020 to 2024 budget period. MP’s forecasted spending is therefore 2.65 times higher than MP’s historical budget.

Figure 3: Summary of MP’s Age-Related Replacements and Asset Renewal Budget Adjusted for Inflation and Energy Sales



Source: 2023 IDP,¹⁷ 2025 IDP,¹⁸ IR 7, IR 8.

MP states that System Expansion Upgrades for Reliability and Power Quality “are driven by improvement of load-serving capacity or customer reliability. If voltage or capacity issues are identified because of load growth on a circuit, the Company may need to reconductor a portion of a circuit to

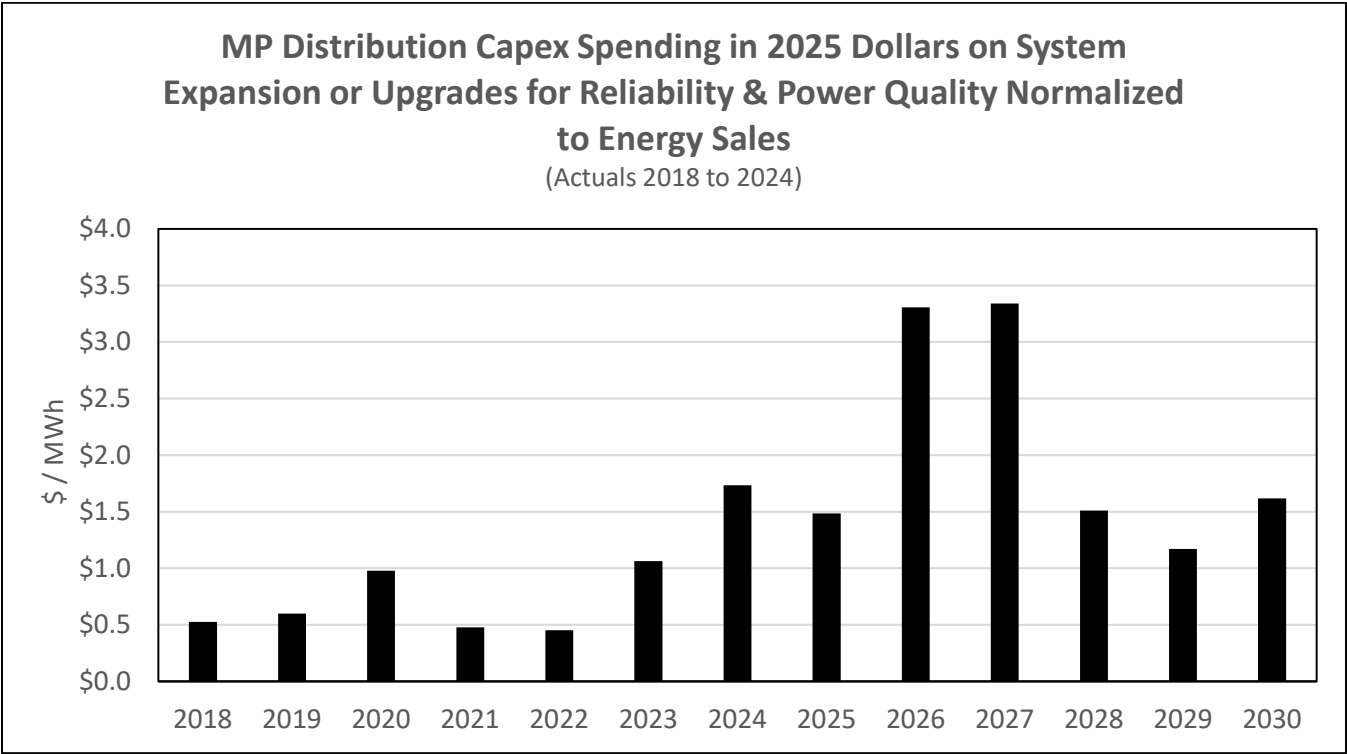
¹⁶ *Id.*, at 60.

¹⁷ 2023 IDP – at 25 & 37.

¹⁸ 2025 IDP – at 59-60.

ensure continued reliable service.”¹⁹ Figure 4 shows MP’s System Expansion or Upgrades for Reliability & Power Quality spending, in 2025 dollars, normalized to energy sales and covering the years 2018 to 2030. The System Expansion or Upgrades for Reliability & Power Quality spending for the years 2018 through 2024 are based on actual numbers and the data for the years 2025 through 2030 are based on forecasted numbers. Figure 4 shows a recent jump in spending on System Expansion or Upgrades for Reliability & Power Quality spending for the year 2023, which then increases and maintains a level that is at least double the average of 2018 to 2022 spending. Between 2026 and 2030, MP plans to spend \$92 million on System Expansion or Upgrades for Reliability & Power Quality projects. For comparison, in the 2020 to 2024 budget period, MP spent \$36 million. Adjusted to 2025 dollars, MP’s 2026 to 2030 System Expansion or Upgrades for Reliability & Power Quality spending is \$87 million, compared to \$39 million in MP’s 2020 to 2024 budget period. MP’s forecasted spending is therefore 2.22 times higher than MP’s historical budget.

Figure 4: Summary of MP’s System Expansion or Upgrades for Reliability & Power Quality Budget Adjusted for Inflation and Energy Sales



Source: 2023 IDP,²⁰ 2025 IDP,²¹ IR 7, IR 8.

C. CAPACITY

The Department responds to the following notice topic:

¹⁹ 2025 IDP – at 61.
²⁰ 2023 IDP – at 25 & 37.
²¹ 2025 IDP – at 59-60.

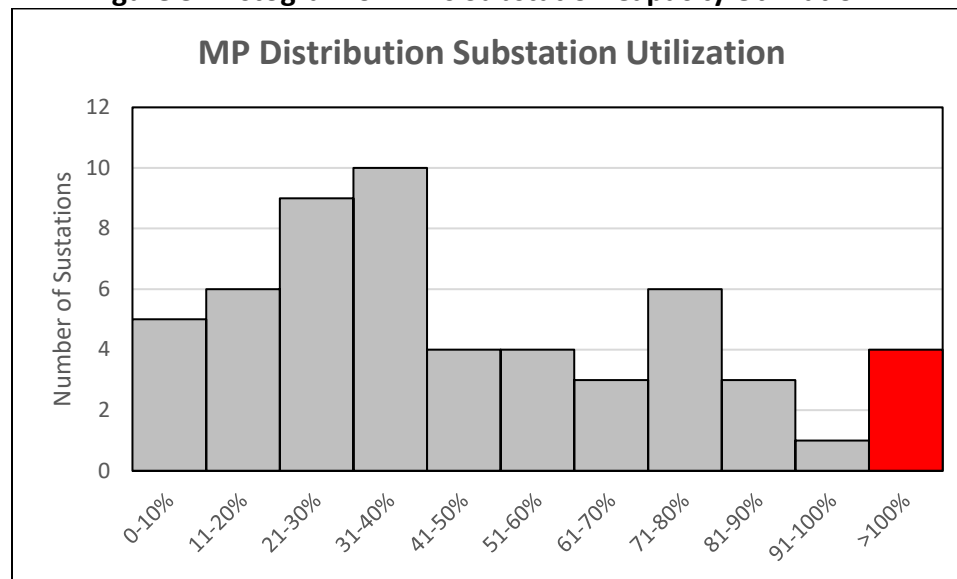
Are there other issues or concerns related to this matter?

MP's capacity budget is not significant driver of distribution spending, which made up 3.0 percent of distribution spending between 2020 and 2024. The Department reviews MP's capacity budget to determine whether MP is right-sizing its distribution system, given that capacity needs are not significant budget drivers.

C.1. Substation Utilization

The Department shows MP's substation utilization in Figure 5, which shows the percentage of peak load compared to rated capacity. The median substation utilization in Figure 5 is 37.5 percent. In general, most of MP's substations have relatively low utilization.

Figure 5: Histogram of MP's Substation Capacity Utilization²²



Source: IR 10²³ and 2025 IDP Appendix F

There are four substations that are overloaded, but only three of the substations appear in MP's updated budget table in the answer to the Department's IR 35.²⁴ The Blanchard Substation measured a 32.39 MW peak load, and has a capacity rating of 30 MW, which results in an overload of 8.0 percent. Blanchard is mentioned twice in the answer to IR 35, but the two projects "Blanchard BLD-508 Relocation" and "Blanchard BLD-511 Rebuild" appear to be related to feeders or tap lines, and not substation mitigations. In addition, the 15th Ave West Substation measured a 39.5 MW peak load and has a capacity rating of 39.2 MW, which results in an overload of 0.8 percent. The 15th Ave West Substation does not appear in the updated budget table in IR 35 or in MP's list of planned capacity

²² 7 substations with no reported demand or no capacity ratings are excluded from this data set.

²³ See Appendix B.

²⁴ See Appendix B.

projects in the answer to IR 21. The Little Falls and Verndale Substations also reported significant overloads,²⁵ but do appear as substation modernization projects in the updated budget table MP provides in its answer to IR 35.

The Department requests MP explain in reply comments why the Blanchard and 15th Ave West Substations do not appear to have capacity mitigations in MP's planned budget.

The Department requests MP explain in reply comments whether it considers the overloads at the Little Falls and Verndale substations to be significant safety or reliability risks, and if so, how MP plans to mitigate these risks.

C.2. Capacity Planning Standards

The Department presents MP's capacity planning standards both to review these standards for their reasonableness, as well as to compare capacity planning standards between utilities.

MP determines the need for capacity, reliability, or other mitigations based on targeted distribution planning studies. MP describes how it performs targeted distribution planning studies:

Area distribution engineering and field crews request distribution planning engineers to study certain feeders or substations to improve reliability and support ongoing field operations. Planning engineers will also perform targeted distribution planning studies for substation modernization and grid modernization projects in the 10-year plan to provide project scoping support and construction coordination. In some cases, planning engineers will perform targeted distribution planning studies based on historical loading data and reliability results. Distributed Energy Resources and load interconnection requests will also drive targeted distribution planning studies to determine feasibility, system impacts, and interconnection project scope.

[...]

Minnesota Power performs studies on a needed basis, and there is no defined interval.²⁶

During these studies, MP confirms that it coordinates reliability and age-related replacements with large capacity projects.²⁷

²⁵ Overloads are 113.9% and 140.1% for Little Falls and Verndale, respectively.

²⁶ IR 32.

²⁷ IR 20.

MP states that capacity needs are not typically the drivers of upgrades; but, when capacity needs do drive projects, it describes its forecasting methodology as follows:

In most cases, asset replacement decisions are based on age and condition rather than historical or projected future load growth. Where load growth may be a factor, Minnesota Power evaluates historical substation and feeder loading on an annual basis and uses the historical loading and general load growth assumptions to assess reliability and capacity issues. In targeted distribution planning studies, Minnesota Power performs both baseline and contingency analysis using the feeders' historical peak as well as a future load growth scenario. Minnesota Power is currently investigating software that can help model transformers, tap lines, feeders and substation level load growth to inform future decisions regarding asset replacement where load growth is a factor.²⁸

The Department asked MP in IR 24 whether MP conducts an analysis of its forecast accuracy in IR 24. MP responds as follows:

Minnesota Power ("the Company") applies general load growth assumptions to the substations or feeders historical loading when the Company does perform targeted distribution planning studies. If determined necessary, Minnesota Power will check the general assumption against the load forecast information available from our most recent Annual Electric Utility Forecast Report.²⁹

Based on this response, the Department concludes that MP does not conduct robust forecast accuracy checks for its forecasted load. However, because MP is not experiencing significant load growth, this oversight is unlikely to result in unnecessary projects at this time.

Finally, the Department asked MP to explain how it plans for N-1 capacity needs. The Company responds as follows:

In targeted distribution planning studies, Minnesota Power performs contingency (N-1) analysis on feeders. The contingency analysis evaluates the backup capability of closing a normally open tie switch to serve the distribution feeder from an adjacent feeder at their historical coincident peaks and a future load growth scenario. This evaluation will identify any constraints in serving the full load of the two feeders from one source or

²⁸ IR 23.

²⁹ IR 24.

the other, including any potential projects that could be needed to create full capacity ties. The contingency analysis also includes an evaluation of the loading of the T-D transformers for all scenarios. This would allow Minnesota Power to fully back up the load on the feeders during any planned or unplanned outages. Minnesota Power does not factor in the probability of these events in planning practices.³⁰

In summary, MP conducts a holistic review of capacity, reliability, and age-related needs when the Company conducts a targeted distribution planning study. These studies occur on an irregular time horizon and appear to be mostly reactionary to emergent grid needs, such as overloads, poor reliability, or poor condition of equipment. MP screens its substation and feeder capacity needs on an annual basis, and conducts N-1 contingency analysis during targeted distribution planning studies. MP confirms that it does not evaluate its N-1 contingency mitigations for cost effectiveness, and its irregular distribution planning study process ensures that mitigation of capacity risks may go unnoticed for years until a targeted distribution planning study is performed. Despite gaps in forecast accuracy and consistent overview of MP's distribution capacity needs, the Department does not, at this time, see a need for further capacity planning standard review—because capacity is not a significant driver of distribution mitigations. The Department will re-evaluate the need for further capacity planning standard review in MP's next IDP.

D. SYSTEM EXPANSION OR UPGRADES FOR RELIABILITY AND POWER QUALITY

The Department responds to the following notice topic:

Are there other issues or concerns related to this matter?

D.1. Strategic Undergrounding

MP presents strategic undergrounding as an important part of improving reliability and resilience for portions of the distribution system that are persistently exposed to vegetation and storm-related risk. MP is implementing strategic undergrounding in areas where vegetation management is difficult due to accessibility, topography, or vegetation cover. The Company lists several drivers for implementing strategic undergrounding: reliability improvement, storm resilience, overhead conversion as part of aging-asset evaluation, potential O&M vegetation reduction, and aesthetics.³¹ MP reports that “throughout 2024, over 54 miles of underground conductor was installed across our distribution system including the conversion of overhead facilities to underground.”³² MP anticipates that undergrounding overhead lines would lower outages and enhance reliability. The Department

³⁰ IR 22.

³¹ 2025 IDP – at 61.

³² *In the Matter of Minnesota Power's 2024 Safety, Reliability and Service Quality Standards Report*, Minnesota Power, Compliance Filing, April 1, 2025, Docket No. E015/M-25-29, (eDockets) [20254-217120-01](#) at 19 (hereinafter, MP's 2025 SRSQ).

considers MP's strategic undergrounding initiatives as a targeted approach focused on specific physical conditions and reliability outcomes rather than a uniform system-wide conversion strategy.

MP's 2025 SRSQ report provides support for its strategic undergrounding as a component of its reliability program. In Table 1, MP reports that, for major-event-excluded SAIDI, weather accounted for 36%, overhead equipment failure for 22%, vegetation for 16%, underground equipment failure for 13%, wildfire for 8%, and public events for 7% of outage minutes. The worst performing overhead lines include areas where customers limit access to vegetation management and where overhead lines are located in accessible areas with heavy vegetation.

Table 1: Factors Affecting Reliability Excluding Major Event Days³³

Cause	Frequency
Weather	36%
Overhead equipment failure	22%
Vegetation	16%
Underground equipment failure	13%
Wildfire events	8%
Public events	7%

The Department identifies strategic undergrounding as potentially reasonable if narrowly applied to segments that drive high outage minutes and where site conditions limit the effectiveness or cost-effectiveness of other mitigation measures. Strategic undergrounding can significantly reduce exposure to tree contact, wind-driven debris, and other storm-related hazards that are associated with overhead construction in heavily vegetation areas. At the same time, strategic undergrounding requires significant investments and therefore requires cost and outcome accountability to ensure ratepayer protection. The Company expects to spend \$8 million per year on strategic undergrounding from 2026-2030.³⁴ The Department therefore evaluates strategic undergrounding not only as a reliability tool, but also as an ongoing expenditure category that should be supported by transparent site-selection and alternative selection criteria.

MP's IR responses provide further evidence that undergrounding can be comparatively expensive relative to overhead construction; this evidence supports the need for disciplined targeting. In its answer to Department IR 34, MP provides illustrative unit-cost examples showing that a "1 mile of 3-phase underground feeder" is substantially higher than a "1 mile of 3-phase overhead feeder."³⁵ The Department notes that MP's estimate is for greenfield projects, which is expected to be substantially less expensive compared to undergrounding existing lines. While the Department recognizes these

³³ *Id.*, at 21.

³⁴ IR 16.

³⁵ IR 34.

values are illustrative and not site-specific, they reinforce a basic prudence principle: undergrounding can be cost-effective in the right locations, but it should not be presumed cost-effective across all circumstances without verifying the reliability and resiliency benefit expected per dollar of investment.

Further, MP's strategic undergrounding approach is tied to feeder reliability performance and vegetation management conditions, including access and topography constraints. While the Department agrees to these criteria, the 2025 MP IDP strategic undergrounding discussion is primarily qualitative--it lacks the foundational information typically needed to evaluate cost-effectiveness.

The Department recommends the Commission require the Company to develop clear reporting metrics for its reliability projects (e.g., miles converted, segments addressed) and provide a clear methodology for selecting segments in their distribution system.

D.2. Value of Reliability

In its response to Department IR 17, MP states it "does not have a standard monetized value to calculate the reduction in customer minutes of outages savings between different spending levels," and also notes that that part of the budget increase reflects increased spending on both grid modernization and strategic undergrounding.³⁶ In DOC IR 26, MP states:³⁷

Minnesota Power [...] does not assign a monetized value to quantify reliability or customer minutes of outage. The Company does not have an example of quantification, nor is a monetary value of reliability integrated into Minnesota Power's existing decision-making process.

The Department recommends the Commission require MP to quantify the value of major reliability and resiliency investments, such as strategic undergrounding, using a recognized customer interruption cost approach (e.g, an Interruption Cost Estimate [ICE] calculator methodology) and to apply that value consistently in cost-benefit comparisons across alternatives.

The Department's recommendation is consistent with Xcel Energy's 2025 IDP,³⁸ which uses the Lawrence Berkeley National Laboratory ICE calculator.

MP highlights other reliability tools that can reduce outage minutes on targeted circuits and should be evaluated as alternatives in the strategic undergrounding decision process. In its answer to Department IR 17, MP reports that underground feeders average 15 times fewer outages and over 10 times less frequent interruptions than overhead feeders, but also reported that feeders with

³⁶ IR 17.

³⁷ IR 26.

³⁸ *In the Matter of Xcel Energy's 2025 Integrated Distribution Plan*, Xcel, Integrated Distribution Plan, October 31, 2025, Docket No. E002/M-25-142, (eDockets) [202510-224538-01](#), (hereinafter "2025 Xcel IDP").

TripSavers installed experienced a 55.5 percent reduction in SAIDI minutes in 2024 and feeders with IntelliRupters saw a 98.3-100 percent reduction in SAIDI minutes in 2024 compared to prior five year average. MP's 2025 IDP characterizes TripSavers as a proven device to clear temporary faults without a truck roll and notes that MP has installed over 350 since 2017. MP, in its answer to Department IR 19, explains that FLISR projects involve smart switches and communications, and provides criteria for selecting IntelliRupters versus reclosers.³⁹

The Department recommends that strategic undergrounding should be evaluated alongside other reliability tools that can materially reduce outage minutes on targeted feeders.

E. AGE RELATED REPLACEMENTS AND ASSET RENEWAL

The Department responds to the following notice topic:

Are there other issues or concerns related to this matter?

E.1. Budget

Between 2026 and 2030, MP plans to spend \$327 million on Age Related Replacements and Asset Renewal projects. Compared to the 2020 to 2024 budget period, MP spent \$106 million. Adjusted to 2025 dollars, MP's 2026 to 2030 Age-Related Replacements and Asset Renewal budget is \$307 million, compared to \$116 million in MP's 2020 to 2024 budget period, which is 2.65 times higher than MP's historical budget. In its IDP, MP states the main driver of the increase in spending:

Starting in 2022, the Company increased its investments above depreciation level spend to accelerate asset renewal, modernization, and reliability projects.⁴⁰

In IR 17, the Department asked MP to describe any anticipated negative consequences that would result if the Company returned to depreciation level spending, and MP responds as follows:

The majority of Minnesota Power's budget has been targeting aging infrastructure with asset renewal projects that improve reliability, resiliency, and customer satisfaction across the service territory. If Minnesota Power returned to depreciation level spending for the budgets, the biggest impact would be to the Company's substation renewal projects, which make up a large majority of the Age Related & Asset Renewal (Category A) budget. As noted on page 75 of the 2025 Integrated Distribution Plan, 12 of the 18 projects with costs exceeding \$2 million are classified as Age Related and Asset Renewal and include substation

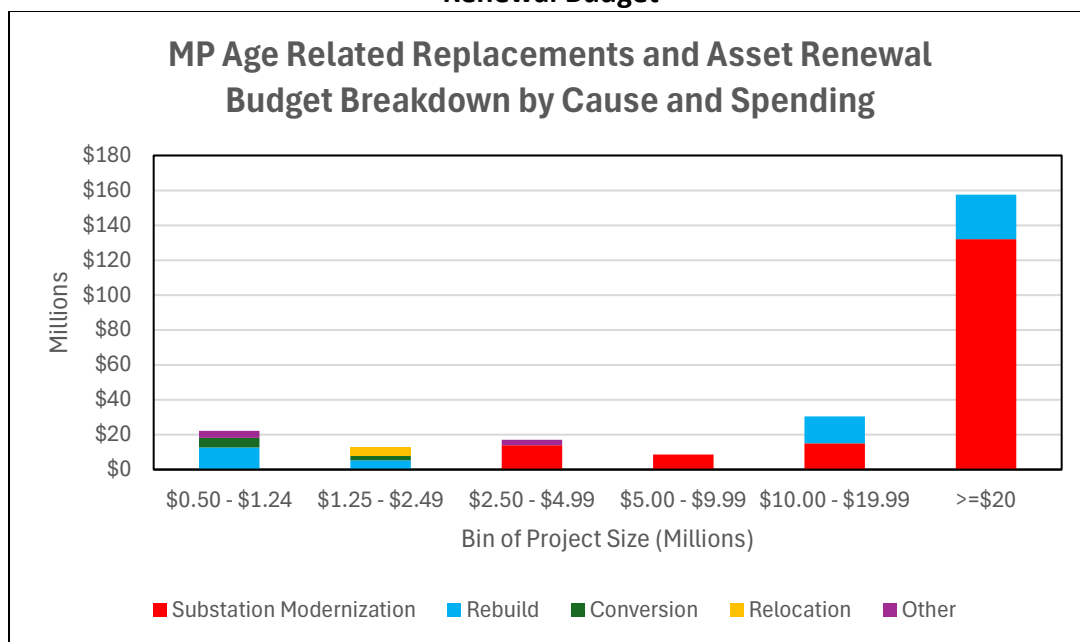
³⁹ IR 19.

⁴⁰ 2025 IDP – at 58.

replacement or transformer upgrade costs. Substation equipment typically has long lead times with transformers taking more than 2 years to procure. In addition, substation-related outages typically have larger customer impacts and would increase outage times if deployment of mobile substations is needed to restore power. Minnesota Power believes the combination of these factors could substantially negatively affect the Company's reliability. Over the last 5 years, the second most common outage cause on the Company's system was due to equipment failures (overhead, underground, and substation) typically tied to aging infrastructure.⁴¹

The Department presents a subset of MP's \$327 million Age Related Replacements and Asset Renewal Budget for near-term projects that total \$249 million in Figure 6. As MP states, *Substation Modernization* projects compose the majority of planned spending, which total \$169.6 million, followed by *Rebuilds* with a budget of \$58.9 million, *Conversions* with a budget of \$8.4 million, *Relocations* with a budget of \$4.8 million, and *Other* with a budget of \$7.1 million. Of these projects, 68.2 percent of the budget is for projects over \$20 million, and an additional 23.7 percent of the budget is for projects between \$10.0 - \$19.9 million. The total of these two project bins is 91.9 percent of MP's stated budget in its answer to Department IR 35, which comprises 9 total projects. This budget breakdown substantiates MP's claim that the majority of its spending is targeted towards substation renewal.

Figure 6: Breakdown by Cause and Project Size of MP's Age Related Replacements and Asset Renewal Budget



⁴¹ IR 17.

Source: IR 35

E.2. Costs and Benefits of MP's Accelerated Age Related Replacements and Asset Renewal Budget

The Department notes that MP's response to IR 17 is entirely qualitative. The response does not quantify the reliability benefits of MP's accelerated Age Related Replacements and Asset Renewal budget or attempt to quantify cost assumptions of deferred asset replacements or increased outage costs that could result from deferral. As it states in Section III.E, MP does not attempt to quantify the reliability cost of outages, and therefore neither MP nor intervenors know the cost and benefits of MP's accelerated depreciation budget. Given the high cost of transformers, every year that existing transformers remain in use means significant deferred costs of expensive infrastructure. The Department agrees that substation outages are the highest consequence outage events that are difficult to repair, and long lead times make replacement challenging when equipment fails. While the Department believes it is better to err on the side of reliability, a justification for the accelerated replacement plan is needed.

MP's 2026 to 2030 Age Related Replacements and Asset Renewal budget of \$307 million in 2025 dollars is greater than MP's entire 2020 to 2024 distribution budget of \$297 million in 2025 dollars. An increase this large requires enhanced analysis for the timing and need of MP's largest distribution projects.

The Department recommends the Commission order MP to conduct a cost benefit analysis of all Age Related Replacements and Asset Renewal projects with a 5-year budget of \$10 million or greater. The cost benefit analysis should compare depreciation-level spending to MP's planned Age Related Replacements and Asset Renewal budget. In this analysis, MP should estimate reliability impacts in both cases and monetize the value of reliability to compare the cost effectiveness of MP's accelerated budget plan. The cost benefit analysis should be filed in MP's 2027 IDP.

With this recommendation, the Department does not seek to impede the current schedule of MP's plan, but notes that MP plans to have an increased budget through 2034.⁴²

E.3. Right Sizing Equipment

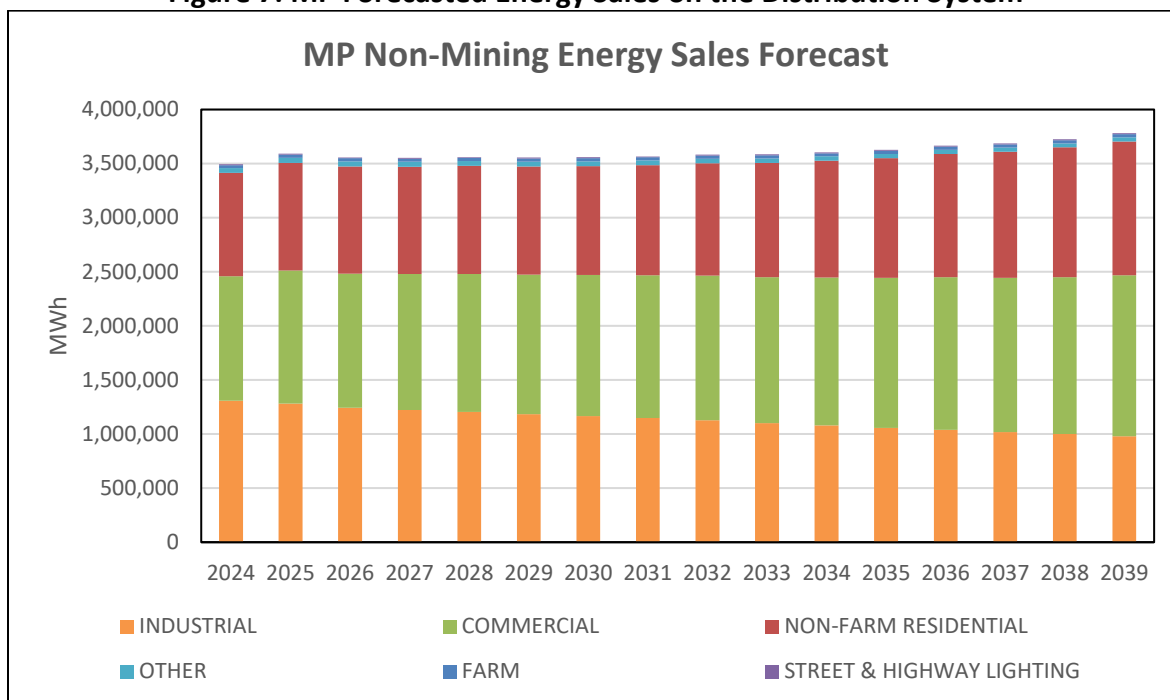
As Figure 5 shows, the majority of MP's substations have significant capacity overhead, with a median substation utilization of 37.5 percent. Figure 7 shows MP's likely distribution sales forecast from its 2025 Annual Forecast Report.⁴³ Distribution sales are expected to grow at a 15-year growth rate of 8.2

⁴² See Figure 20. 2025 IDP – at 78.

⁴³ *Minnesota Electric Utility Reporting - Forecast Section*, Minnesota Power, Compliance Filing, August 1, 2025, Docket No. E015/PR-25-11, (eDockets) [20258-221641-03](#).

percent, which annualizes to approximately 0.53% / yr.⁴⁴ The growth rate at 30 and 50 years is 17.0 and 30.0 percent, respectively. At the median substation utilization of 37.5 percent, the 15-year, 30-year, and 50-year substation utilization would be 40.6, 43.9, and 48.8 percent, respectively. MP's median substation utilization could easily double without a significant risk of overload on a 30-year horizon, which indicates that MP's substation infrastructure is significantly oversized.

Figure 7: MP Forecasted Energy Sales on the Distribution System



Source: 2025 Annual Forecast Report

In contrast to the 15-, 30-, and 50-year forecasts discussed by the Department, MP states that it typically uses a five-year forecast planning horizon in its targeted distribution planning studies:

In targeted baseline distribution planning studies, Minnesota Power studies a future load growth scenario with 5 years of load growth in its baseline and contingency analysis.

a. For asset renewal & age-related projects, Minnesota Power selects standard equipment sizes that meet or exceed the current distribution assets specifications without factoring in any forecasted load growth.⁴⁵

It does not appear that MP oversizes its substation transformers based on forecasted loads. While equipment ratings could explain some of the excess capacity, the Department does not expect that the

⁴⁴ The Industrial Class is forecasted to shrink, while Commercial and Residential are expected to grow at rates above 1% / yr, which will unevenly distribute load growth on different substations with different compositions of customer classes.

⁴⁵ IR 25.

next equipment size can justify why MP's substations typically use less than half of their rated capacity. Pending MP's response, the Department's initial conclusion is that the majority of MP's substations are oversized.

The time to right-size MP's equipment is during asset replacement. Oversizing equipment protects against future upgrades, but it also increases costs in the near term because larger assets are more expensive. Given that the majority of MP's system is not capacity constrained, MP has an opportunity to right-size its old equipment to avoid paying for oversized system assets that may never be fully utilized. Right sizing equipment could spare MP's ratepayers from significant impacts that are expected from MP's Age Related Replacements and Asset Renewal budget. While the Department expects a significant portion of MP's budget to be covered by existing rates, the Department does not expect MP's spending plan to be fully covered by existing rates. MP's budget is 2-3 times higher than its historical spending, and this trend will be sustained for over a decade. In addition, transformer costs are several times higher than prices dating back just a few years ago, which means that existing rates will not sustain depreciation-level spending, let alone accelerated spending.⁴⁶

The Department requests MP explain in reply comments how the Company plans to address oversized system assets in its planned Age Related Replacements and Asset Renewal projects.

E.4. Inspection Programs and Failure Rates

The Department's primary interest in inspection programs and failure rates relates to the probability of equipment failure and resulting outage events. Inspection programs establish failure rates, and failure rates establish the cost of reliability. In IR 28, the Department asked MP to describe 1) each of its asset inspection programs, 2) assets that are not inspected, and 3) failure rates for each age-related inspection program. MP responds as follows:

1. Minnesota Power (the "Company") conducts several age-related asset inspection programs including groundline inspections conducted by an external contractor on distribution poles throughout the service territory. Poles are inspected on a 10-year cycle. The Company conducts preventative maintenance activities on distribution equipment as follows: switches- every 5 years, hydraulic reclosers- every 7 years, electronic reclosers- every 2 years, intellirupters- every 5 years, neutral isolators- every year, and plans to set maintenance cycles for capacitor banks and regulators in 2026. Minnesota Power also inspects distribution substation equipment quarterly, and pole attachments every 7 years. Minnesota Power employees utilize a tool that can capture deficiencies and issues on the system via requests from a desktop computer or mobile device. Those

⁴⁶ 2025 Xcel IDP – See Table 6-6.

requests are routed to work management software and are tracked throughout the remedial process.

Regarding the transmission to distribution substations, there are also several asset inspection programs including typically bi-weekly substation inspections. Inspection and testing programs include battery inspections, thermal inspections, oil sampling, electrical testing, breaker maintenance, switch maintenance, and breaker trip testing.

2. Asset types that do not currently fall under any program include primary and secondary cables, primary and secondary conductors, residential and commercial transformers, cutouts, crossarms, and streetlights.

3. The only asset failure rates that are currently tracked are from the Company's groundline inspection program. Failure rates vary by area, averaging 2%-6% yearly, system wide.⁴⁷

MP's response indicates that MP inspects its larger system assets and equipment that can be inspected by MP's groundline inspection program, such as power poles. MP does not inspect equipment that requires lift access, such as cables, non-substation transformers, and power pole equipment such as cutouts and crossarms. Depending on the number of customers served by equipment, failure rates of 2 – 6 percent may have relatively minimal consequences, or these rates could affect thousands of customers on a yearly basis.

The Department highlights an example of how it expects to evaluate inspection programs with MP's Pole Replacement Program. MP operates 153,046 power poles and experienced between 14 to 23 power pole failures per year between 2023 and 2024, which is a failure rate of 0.009 – 0.015 percent for the fleet-wide average.⁴⁸ The oldest power poles will have much higher failure rates than the fleet-wide average. Between 2023 and 2024, MP replaced an average of 274 poles per year at a cost of \$3.4 million / yr or \$12,400 / pole. MP estimates between 9,036 – 19,701 customer minute of outages (CMO) per failed power pole. Using Xcel's \$3.05 / CMO as an example,⁴⁹ the reliability cost of power pole failures at the current replacement rate is \$27,560 - \$60,088 / yr. The Department notes that MP likely has more non-residential customers in its distribution service territory than Xcel, and therefore a higher \$ / CMO value is expected, unless cost controls are used to restrict the \$ / CMO value.

With a current annual budget of \$3.4 million / yr, if MP were to increase its budget by 10 percent, it would spend an additional \$340,000 per year, with a maximum reliability benefit of \$60,088 / yr. The maximum reliability benefit, however, would not be eliminated with a 10 percent increase in spending,

⁴⁷ IR 28.

⁴⁸ IRs 5 and 30.

⁴⁹ 2025 Xcel IDP – Chapter 2, at 16.

and therefore the actual reliability benefit is expected to be much smaller than the maximum benefit. In addition, with a current replacement to failure ratio of 12 - 20 poles replaced per single annual failure MP would need to spend approximately \$148,800 - \$248,000 / yr to prevent one additional outage per year, which again is not proportional to the expected reliability benefit. The Department notes that MP's current pole replacement rate is significantly lower than the expected lifespan of its power poles, and therefore its pole replacement budget should increase significantly when its power pole stock ages.⁵⁰

The Department is not suggesting MP change its Power Pole Replacement program at this time. However, after MP develops a value of reliability, and begins raising its power pole replacement budget, this program should be reviewed for cost effectiveness.

The Department highlights MP's power pole replacement program as an example of how MP could value its much larger Age Related Replacements and Asset Renewal budget. While it is not appropriate to let substation transformers fail, MP should justify its investments with engineering judgments on the probability of failure and the consequences of these failure events.

The Department does not make further recommendations to enhance MP's inspection programs at this time to allow MP to dedicate its resources to analyzing the cost effectiveness of its largest Age Related Replacements and Asset Renewal projects. The Department will revisit MP's inspection programs in MP's 2027 IDP.

F. WILDFIRE MITIGATION

F.1. Summary of Wildfire in the IDP

MP is currently developing the tools to implement a comprehensive wildfire mitigation plan.⁵¹ MP states it is committed to implementing a comprehensive wildfire mitigation plan that not only reduces the risk of catastrophic fire events but also enhances overall system reliability, resiliency, and safety.⁵² MP states it will approach will focus on multi-benefit planning where wildfire specific measures are evaluated alongside improvements to grid reliability, climate resilience, operational efficiencies, and customer service.⁵³ MP states it has included a budget of roughly \$500,000 in its IDP for developing its wildfire mitigation plan.⁵⁴ MP states that it will develop its plan in four phases:

1. Wildfire Risk Map: The Company is working with industry-leading consultants to develop risk factors to create a wildfire risk map for MP's territory with hazardous fire areas identified. Risk

⁵⁰ With a 2023-2024 average replacement rate of 274 poles / yr and 153,046 power poles, it would take 559 years to replace all of MP's power poles.

⁵¹ 2025 IDP – at 67.

⁵² *Ibid.*

⁵³ *Ibid.*

⁵⁴ *Id.*, at 68.

factors include fuel loading, vegetation information, wild-land urban interface areas as well as others. The Company will implement a rating scheme for each hazardous fire areas near MP facilities and population areas to create a graphical representation of risk areas. The graphical representation of risk areas can then be utilized to drive decision-making on utility investments related to wildfire mitigation such as hardening, undergrounding, and system operations.⁵⁵

2. Wildfire Risk Model: Once the map from phase one is developed, MP will begin integrating information about its assets into its maps to help the Company effectively evaluate asset ignition and protection risk as well as efficiently prioritize, operationalize, and implement wildfire mitigation initiatives. The Company also states the work being done on its wildfire risk model is intended to be used as a weighting factor into future capital investments and cost-benefit analysis.⁵⁶
3. Calibrate and Implement a Fire Potential Index (FPI): MP states that an FPI is an important situation awareness tool intended to inform and support field mitigation planning and operational decision-making, including proactive de-energization under fire danger conditions. The FPI will help the Company visualize and quantify current and forecasted fire danger conditions and make operational decisions during fire season regarding hot-work, reclosing, and inspections.⁵⁷
4. Wildfire Mitigation Plan (WMP): After developing the tools in the first three phases, MP will evaluate its current WMP. The WMP will “document Minnesota Power’s wildfire risk awareness and mitigation strategy and describe the wide array of mitigation programs, activities, technologies, tools, and business units contributing to wildfire risk reduction efforts.”⁵⁸ MP states its WMP will be informed by industry best practices and right sized to MP’s risk and operations.⁵⁹

F.2. Department Recommendation

MP has included roughly \$500,000 in its five-year IDP budget for the development of a Wildfire Mitigation Plan.⁶⁰ MP states once it has identified the hazardous fire areas within its service territory—phase one of its wildfire mitigation plan development—it will have a better sense of additional system investments and the resources needed to properly mitigate wildfire risk within its territory.⁶¹ The Department appreciates the foundational work beginning in MP’s territory to map and identify high fire risk areas of its service area.

⁵⁵ 2025 IDP – at 67.

⁵⁶ *Id.*, at 67-68.

⁵⁷ *Id.*, at 68.

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*

⁶⁰ 2025 IDP – at 68.

⁶¹ *Ibid.*

The Department recommends the Commission require MP to file a compliance filing in this docket after phase one of MP's wildfire mitigation plan development is complete. The filing should include the results of phase one of its Wildfire Mitigation Plan, including the Company's wildfire risk map and its methodology, its identified hazardous fire areas, a timeline for the remaining phases, and a proposed budget relating to continued development of the plan.

After developing the tools in the first three phases of its development plan, MP states that it will begin to reevaluate its current Wildfire Mitigation Plan.⁶² Although the MP states it will "evaluate Minnesota Power's current WMP (Wildfire Mitigation Plan)," ⁶³ MP did not file its current Wildfire Mitigation Plan, nor was it easily located on MP's website. MP has a page on its website dedicated to Emergency Power Shutoffs which describes power shutoffs in instances of wildfire, but it is unclear if the Emergency Power Shutoffs webpage is what MP is referring to as its current plan.⁶⁴ The Department asserts that the reevaluation of MP's current plan will be an important juncture for regulatory and stakeholder review ahead of any potential cost recovery proceeding for wildfire expenditures. Without a docketed location for the review of wildfire mitigation proposals, the Department is concerned that the only review will occur when MP files for cost recovery. The confines of a contested cost recovery proceeding can put great strain on stakeholders' time and resources across a range of interrelated and complex issues. The contested case arena should not be where stakeholders learn of and analyze potentially complex, costly proposals for the first time. The Department concludes that the IDP process can provide the opportunity for more fulsome review of wildfire expenditures ahead of rate recovery.

The Department was able to locate and review MP's North Dakota Wildfire Mitigation Plan.⁶⁵ The Department appreciates the content of the North Dakota Wildfire Mitigation Plan in describing MP's internal process to mitigate wildfire in its North Dakota territory. However, the North Dakota plan reads as a report, rather than evidence for any cost recovery proceeding. The Department is concerned, as discussed above, about the lack of record development relating to wildfire mitigation expenditures ahead of cost recovery proceedings. The Department concludes that an eventual Minnesota Wildfire Mitigation Plan could be structured similarly to the North Dakota plan, but like the Transportation Electrification Plans, should include reporting on the Company's current processes and portfolio of wildfire mitigation measures as well as any proposals that the Company would like to undertake to increase wildfire mitigation. The wildfire mitigation proposals included in the Company's Wildfire Mitigation Plan would then be reviewed and potentially approved parallel to the IDP proceeding, like TEP proposals.

⁶² *Id.*, at 68.

⁶³ *Ibid.*

⁶⁴ Minnesota Power, *Emergency Power Shutoffs*, ALLETE, Inc. [Emergency Power Shutoffs - Minnesota Power is an ALLETE Company](#) (accessed on: March 2, 2026).

⁶⁵ Minnesota Power, *North Dakota Wildfire Mitigation Plan [pdf]*, ALLETE, Inc. January 1, 2026, available at: <https://minnesotapower.blob.core.windows.net/content/Content/Documents/OutageCenter/NorthDakotaWildfireMitigationPlan.pdf> (accessed on: March 2, 2026).

The Department recommends that the Commission require Minnesota Power to file its future Wildfire Mitigation Plan with the Commission as an attachment or supplement to its IDP. The Department recommends the Commission require MP to include at least the following in its Wildfire Mitigation Plan:

- **A description of the intent of the Company in mitigating wildfire risk (i.e. mitigating utility-caused wildfires/minimizing liability or mitigating fire damage to utility assets).**
- **A definition of “wildfire” as it is used for utility identification, planning and mitigation.**
- **A discussion of its risk modelling, mapping and project prioritization process within its Wildfire Mitigation Plan.**
- **Quantification of actual wildfire risk in MP’s territory based on the probability of a fire.**
- **The most recent version of its wildfire risk map with a narrative explanation of the highest risk areas, and any changes from the last iteration of the Wildfire Mitigation Plan.**
- **Reporting on the number and location of wildfires experienced in its territory, the number of outages caused by wildfire, and the average length of wildfire-related outage over the last ten years.**
- **Reporting on the efficacy of its wildfire mitigation strategy in reducing wildfire-related outages (i.e. After deployment of the approved wildfire mitigation measures, wildfire-related outages in MP’s territory decreased 50 percent; the average length of wildfire-related outage decreased by 20 percent.⁶⁶).**
- **A full cost benefit analysis of any proposals.**

The Department requests Minnesota Power, in reply comments, indicate whether its Wildfire Mitigation Plan will be completed by the filing of its next IDP (to be filed in 2027).

G. PLANNED GRID MODERNIZATION INITIATIVES

The Department responds to the following notice topic:

Notice Topic 3.B: Feedback, Comments, and Recommendations on Planned Grid Modernization Initiatives

The Commission’s Order accepting MP’s 2019 IDP amended MP’s IDP filing requirement regarding cost-benefit analysis for grid modernization projects to read:

For each grid modernization project in its 5-year Action Plan, require Minnesota Power to provide a cost-benefit analysis based on the best information it has at the time and include a discussion of non-quantifiable

⁶⁶ Values are arbitrary given as examples for how MP could demonstrate the efficacy of its Wildfire Mitigation Plan.

benefits. Minnesota Power shall provide all information to support its analysis.⁶⁷

MP's IDP budget includes \$6 million annually for grid modernization projects.⁶⁸ MP states that the projects included in the Grid Modernization category are generally intended to achieve both quantifiable benefits, such as reduced customer outage time, as well as non-quantifiable benefits such as enhanced customer experience.⁶⁹ MP acknowledges the above filing requirement for grid modernization projects within the IDP planning budget, but argues that broad application of cost-benefit analysis would not be practical or cost-effective.⁷⁰ MP states that a case-by case application of CBA is needed to focus resources on projects with the highest potential for deferral or grid benefits such as resiliency or reliability.⁷¹

MP provides a narrative discussion of the benefits of its grid modernization projects, but does not quantify the benefits of its proposals.⁷² In discussing its Fault Location Isolation Service Restoration (FLISR) project for example, MP cites benefits such as improved customer satisfaction, improved employee safety, and greater grid visibility.⁷³ However, for the risk of not implementing FLISR (which automates fault detection, isolates the affected segment and reroutes power to restore service), MP states it would have to continue to use manual fault detection and switching, which could lengthen outages and restoration times as well as impact overall customer satisfaction. Therefore, the risk of not implementing FLISR is particularly concerning to MP as "expectations for grid reliability, resilience, and customer service continue to rise."⁷⁴

The Department sent IRs to MP to gather additional cost details and to better understand MP's decision-making process in selection of the suite of grid modernization projects included in its IDP. The Department hoped to more broadly understand MP's selection process in determining the suitability of a grid modernization project, or suite of projects, to improve system reliability through its responses. MP did provide additional detail regarding each of its grid modernization proposals (FLISR, Motor Operated Disconnect Switches, and Single Phase Reclosers) or more specific annual budget estimates for each project type in response to the Department's IRs.⁷⁵ The Company also discussed its 2021 and 2023 consultant-led NWA study that resulted in the proposals for the Askov and Kerrick Battery Energy Storage Solution (BESS) projects in response to Department IR 19. The consultant-led NWA process

⁶⁷ Note: underlines indicate amendment. *In the Matter of Minnesota Power's 2019 Integrated Distribution Plan, Order Accepting Integrated Distribution Plan and Modifying Filing Requirements*, May 27, 2020, Docket No. E015/M-19-684, (eDockets) [202011-167944-02](#), at Order Point 3.

⁶⁸ 2025 TEP – Xcel Table 15, at 60.

⁶⁹ *Id.*, at 63-64.

⁷⁰ *Id.*, at 75.

⁷¹ *Id.*, at 77.

⁷² *Id.*, at 76.

⁷³ *Ibid.*

⁷⁴ *Ibid.*

⁷⁵ IRs 18 and 19.

included a cost-benefit framework for determining where an NWA project may have provided sufficient value.⁷⁶ As discussed in MP's 2023 IDP, the Askov and Kerrick BESS projects were found to have a positive return on investment.⁷⁷

The Department continues to emphasize the importance of cost-benefit analyses for distribution investments, regardless of distribution budget category. The Department looks forward to reviewing cost-benefit analyses for grid modernization proposals in future IDPs as required by the IDP filing requirements. Grid modernization, as the term suggests, is a budget category for innovative solutions. As such, many of the technologies proposed to modernize the system are often nascent technologies that should be scrutinized for grid impact, costs and benefits before and during operation. To this end, the Department recommends the Company include reporting on the projects within its grid modernization category in its next IDP.

The Department recommends the Commission require MP to report on the actual reliability benefits and actual costs of the projects in its grid modernization budget category in its next IDP. The reporting of actual reliability benefits and actual costs should include at least MP's FLISR, MODS, and Single Phase Reclosers projects, as well as the Askov and Kerrick BESS projects. Where there is sufficient data, reporting should include the actual reliability benefits and costs of individual installations.

H. PILOT PROJECTS

The Department responds to the following notice topic:

Notice Topic 3.F: Feedback, Comments, and Recommendations on Pilot Projects

H.1. Planned Pilot Projects

MP lists several pilot projects that MP is considering in its IDP. These projects include enhanced load flexibility, advanced FLISR, selective customer metering applications, and conservation voltage reduction (CVR).⁷⁸ The Department is supportive of all of MP's pilots. The Department expects the results of the pilots that have been implemented to be reported in MP's next IDP.

H.2. Existing Pilot Projects

The results of MP's existing pilot projects are covered in the preceding section.

⁷⁶ IR 19.

⁷⁷ 2023 IDP – Appendix F.

⁷⁸ 2025 IDP – at 68-70.

I. NON-WIRES ALTERNATIVES ANALYSIS

The Department responds to the following notice topic:

Notice Topic 3.A: Feedback, Comments, and Recommendations on Non-Wires Alternative Analysis.

As a part of the NWA analysis, MP must:

provide a detailed discussion of all distribution system projects in the filing year and the subsequent 5 years that are anticipated to have a total cost of greater than \$2 million. For any forthcoming project or project in the filing year, which cost \$2 million or more, provide an analysis on how non-wires alternatives compare in terms of viability, price, and long-term value.⁷⁹

Additionally, MP is required to include:

- Project types that would lend themselves to non-traditional solutions (i.e. load relief or reliability)
- A timeline that is needed to consider alternatives to any project types that would lend themselves to non-traditional solutions (allowing time for potential request for proposal, response, review, contracting and implementation)
- Cost threshold of any project type that would need to be met to have a non-traditional solution reviewed.
- A discussion of a proposed screening process to be used internally to determine that non-traditional alternatives are considered prior to distribution system investments are made.⁸⁰

In its 2025 NWA analysis, MP anticipates that 18 projects may have total costs greater than two million dollars. The Company identifies that those projects fall into two main IDP categories, age related and asset renewal, and reliability and power quality. The Company reports that 12 of its 18 projects fall into investment Category A (Age Related and Asset Renewal) and six of its 18 projects fall into investment Category C (Reliability and Power Quality).⁸¹

I.1. Types of Projects

The types of projects that MP considers for NWAs include capacity and reliability. Capacity-related solutions are those designed to address load-serving while reliability-related solutions circuit backup.

⁷⁹ February 20, 2019 Order – at 6.

⁸⁰ *Id.*, at 6-7.

⁸¹ 2025 IDP – at 73-74.

Furthermore, MP states that “a non-wire solution may also be suitable to improve reliability by enhancing circuit backup capability in situations where large capital costs projects are needed to create external backup sources.”⁸² In this instance however, the Company clarifies that NWAs may only be viable when the following conditions are met:

- There is not a significant asset renewal need being addressed.
- Operational characteristics of the non-wires solution adequately correspond to need.⁸³

As a part of its NWA analysis, the MP is also required to “consider demand response, energy efficiency, and renewable generation as part of its future Non-Wires Alternatives process.”⁸⁴ In response, MP states:

Software platforms enable real-time data integration, predictive analytics, and automated decision-making, which are critical for optimizing grid performance, enhancing reliability, and supporting future non-wires alternatives. By coordinating distributed energy resources, managing load flexibility, and streamlining outage response, software tools transform raw data into actionable insights.⁸⁵

While software platforms may have the ability to support future NWA projects, the Department is uncertain if this explanation complies with the Order. In response to MP’s 2023 IDP, the Department stated, “MP does not consider renewable generation as part of either a standalone or coupled energy storage NWA solution, which were both considered by Xcel and the Dakota Electric Association in their IDP filings.”⁸⁶ The Department notes that MP is not proposing any capacity projects that are potentially better suited for renewable generation projects, however MP will be required to install 3% of its total retail electric sales from distributed solar generation by 2030,⁸⁷ which opens up the opportunity to potentially pair distributed solar with future NWA solutions.”⁸⁸ The Commission agreed with the Department “that the analysis could be improved with the consideration of demand response, energy efficiency, and renewable generation.”⁸⁹ As described above, MP attempts to address this requirement primarily through a brief reference to software platforms and system capabilities. Therefore, the Department finds that MP’s response relies on enabling technology rather than on an assessment of the specific resources identified in the Order.

⁸² *Id.*, at 70.

⁸³ *Id.*, at 71.

⁸⁴ 2023 IDP Order – at 8.

⁸⁵ 2025 IDP – at 70.

⁸⁶ See Docket Nos. E002/M-23-452 and E111/M-23-420.

⁸⁷ [Minn Stat. 216B.1691 Subd. 2f.](#)

⁸⁸ *In the Matter of Minnesota Power’s 2023 Integrated Distribution Plan*, Department, Comments, April 5, 2024, Docket No. E015/M-23-258 (eDockets) [20244-205042-01](#) at 7.

⁸⁹ 2023 IDP Order – at 5.

The Department requests that MP clarify in its reply comments how the Company satisfies the requirement to consider demand response, energy efficiency, and renewable generation within its NWA analysis.

1.2. NWA Implementation Timeline

MP states that an implementation timeline for NWA projects varies based on the scope and scale of the solution.⁹⁰ MP provides an overview of three timeline components: internal analysis, project development, and project execution.⁹¹

1.3. Screening Process and NWA Results

In line with its 2023 IDP, MP refers to its consultant-led Distribution NWA Study and its BCA framework which included an assessment of the benefits associated with Circuit Backup capability, FLISR capability, and Integrated Volt-VAR Control.⁹² The Company provides a list of the benefits and risks evaluated and quantified in its BCA.⁹³ MP notes that “benefits were applied to scenarios only as applicable based on the particular issues and solutions being evaluated” and “risk-based benefits were also evaluated and quantified based on the probability and consequence of certain types of risks.”⁹⁴

In its 2025 IDP, MP provides an overview of its 18 distribution projects greater than \$2 million, which includes the estimated cost, in-service date, and IDP category. Six of those projects are categorized as reliability and power quality. MP states, “[t]hese [reliability] projects are driven by improvements to a transmission to distribution substation or distribution feeder that improves backup capability or customer reliability. These improvements involve either reconductoring existing feeders, adding additional feeders, or adding transformers.”⁹⁵ MP does not provide further discussion of the results of reliability projects in its NWA analysis.

1.4. Improvements to NWA Analysis

Per the January 9, 2023 Order, Order point 9d, MP is required to report on “improve[ments to its] non-wires alternatives analysis, including market solicitations for deferral opportunities to make sure Minnesota Power can take advantage of distributed energy resources to address discrete distribution system costs.”⁹⁶ In response, MP refers to its CVR/Volt-VAR Optimization pilot, which was analyzed in

⁹⁰ 2025 IDP – at 70.

⁹¹ *Id.*, at 71.

⁹² *Id.*, at 72.

⁹³ *Ibid.*

⁹⁴ *Ibid.*

⁹⁵ *Id.*, at 74.

⁹⁶ *In the Matter of Minnesota Power’s 2021-2035 Integrated Resource Plan, Order Approving Plan and Setting Additional Requirements*, January 9, 2023, Docket No. E-015/RP-21-33, (eDockets) [20231-191970-01](#), at 15.

its CBA framework from its Distribution Non-Wire Alternatives Study.⁹⁷ The Department is not aware of any specific improvements MP has made to its 2025 non-wire alternatives analysis.

J. DISTRIBUTED ENERGY RESOURCE (DER) SCENARIOS AND FORECASTS

The Department responds to the following notice topic:

Notice Topic 3.D: Feedback, Comments, and Recommendations on Distributed Energy Resources (DER) Scenarios and Forecasts

The Department has no comments on this notice topic.

K. DER INTERCONNECTION PROCESS

The Department responds to the following notice topic:

Notice Topic 3.E: Feedback, Comments, and Recommendations on DER Interconnection Process

The Department has no comments on this notice topic.

L. TEP

MP filed its Transportation Electrification Plan (TEP) as Appendix E to its IDP.⁹⁸ The Company's TEP does not request approval of any new programs or pilots, instead it focuses on the Commission's filing requirements and compliance with prior Commission Orders. The following section responds to Notice topics 5 through 8.⁹⁹

L.1. TEP Filing Requirements

The Department responds to the following notice topic:

Did Minnesota Power adequately address the Commission's TEP filing requirements and prior Orders, as outlined in Attachment A to this notice?

⁹⁷ 2025 IDP – at 70.

⁹⁸ 2025 IDP – Appendix E.

⁹⁹ Notice – at 1-2.

MP's TEP is structured to address each of the filing requirements from the Commission's December 8, 2022 Order¹⁰⁰ as well as the Commission's September 16, 2024 Order.¹⁰¹ The Department notes that the Commission's December 8, 2022 Order includes and builds on the requirements that were first established in its December 12, 2019 Order cited in the Commission's Notice Attachment A.¹⁰² The Department has reviewed MP's TEP in its entirety and concludes that MP has addressed each of the TEP filing requirements of the aforementioned Orders.

In addition, the Department analyzes MP's TEP under the relevant statute, Minn. Stat. § 216B.1615.¹⁰³ Subdivision 1 of Minn. Stat. § 216B.1615 defines relevant terms. Subdivision 2 defines the contents of the TEP that public utilities are required to file. Subdivision 3 of Minn. Stat. § 216B.1615 gives the Commission the authority to approve, modify, or reject a TEP and the rubric under which the decision is to be made. Finally, subdivision 4 of the statute gives the Commission authority to approve cost recovery under Minn. Stat. § 216B.16¹⁰⁴ for investments made and expenses incurred under an approved plan.

The Department also recognizes the importance of electrifying Minnesota's transportation sector consistent with the Commission's February 1, 2019 Order in Docket No. E999/CI-17-879 ("EV Inquiry Order"):

1. Electrification Is In Public Interest: The Commission finds that electrification of Minnesota's transportation sector can further the public interest in:

- a. Affordable, economic electric utility service* by improving utility system utilization/efficiency and placing downward pressure on utility rates through increased utility revenues and better grid utilization;
- b. Renewable energy use* by increasing electricity demand during hours when renewable energy is most prevalent on the system and developing tariffs that correlate renewable energy resources to electric vehicle charging; and

¹⁰⁰ *In the Matter of a Commission Inquiry into Electric Vehicle Charging and Infrastructure; In the Matter of Minnesota Power's 2021 Integrated Distribution System Plan*, Order, December 8, 2022, Docket Nos. E999/CI-17-879 and E015/M-21-390, (eDockets) [202212-191192-01](#).

¹⁰¹ *In the Matter of Minnesota Power's 2023 Integrated Distribution Plan, Order Accepting 2023 Integrated Distribution Plan and Transportation Electrification Plan, and Modifying Reporting Requirements*, September 16, 2024, Docket No. E015/M-23-258, (eDockets) [20249-210224-01](#).

¹⁰² *In the Matter of a Commission Inquiry into Electric Vehicle Charging and Infrastructure; In The Matter of Minnesota Power's Petition for Approval of a Residential Off-Peak Electric Vehicle Service Tariff, Order Accepting Filings and Establishing Requirements for Additional Filings*, December 12, 2019, Docket Nos. E999/CI-17-879 and E015/M-15-120, (eDockets) [201912-158280-03](#).

¹⁰³ [Minn. Stat. § 216B.1615](#) (2023).

¹⁰⁴ [Minn. Stat. § 216B.16](#).

c. *Clean energy* by reducing statewide greenhouse gas and other environmentally harmful emissions.¹⁰⁵

L.2. *Statutory Criteria*

L.2.1. *Minn. Stat. § 216B.1615, subd. 3(1)*

Minn. Stat. § 216B.1615, subd. 3(1) requires Commission consideration of whether the TEP proposals are reasonably expected to “improve the operation of the electric grid.”

The Commission’s EV Inquiry Order established that transportation electrification “can further the public interest in affordable, economic electric utility service by improving utility system utilization/efficiency and placing downward pressure on utility rates through increased utility revenues and better grid utilization.”¹⁰⁶ The Commission also established that optimized EV integration includes charging during periods of low demand and high renewable energy generation and promoting load management.¹⁰⁷

MP discusses its ongoing transportation electrification efforts in his TEP. MP states that it focuses on programs that provide foundational support for transportation electrification including education and awareness, access to charging infrastructure, rebates to reduce upfront costs, and rates to encourage charging at optimal times.¹⁰⁸ The Company currently offers three time-based rate options for residential customers, and two for commercial customers including:

- Residential EV Service Rate;
- Residential Time-of-Day Rate;
- Residential Dual Fuel Rate;
- Commercial Fleet EV Charging Rate;
- Commercial Public EV Charging Rate.

The Residential EV Service rate requires a separate service to participate but provides a lower energy charge for off-peak (outside of 8 a.m. to 10 p.m.).¹⁰⁹ The Residential Time-of-Day tariff does not require a second meter and provides an opportunity for off-peak and super off-peak charging. MP is in the process of transitioning all of its residential customers to the Residential Time-of-Day Tariff.¹¹⁰ The

¹⁰⁵ *In the Matter of a Commission Inquiry into Electric Vehicle Charging and Infrastructure, Order Making Findings and Requiring Filings*, February 1, 2019, Docket No. E999/CI-17-879, (eDockets) [20192-149933-01](#), (hereinafter: “EV Inquiry Order”) at Order Point 1.

¹⁰⁶ EV Inquiry Order at Order Point 1.a.

¹⁰⁷ *Id.*, at Order Point 3.

¹⁰⁸ 2025 IDP – Appendix E, at 6.

¹⁰⁹ *Id.*, at 12.

¹¹⁰ *Id.*, at 13.

Residential Dual Fuel Rate is not specifically set up for EV charging, however the interruptible service rate allows for EV chargers to connect to the customer's Dual Fuel Standard service¹¹¹ to receive discounted charging in exchange for occasional interruptions.¹¹² MP states that it is currently aware of 65 customers on the Residential EV Service Rate, 99 EV customers on the Residential Time-of-Day Rate, and 28 EV customers on the Residential Dual Fuel rate.¹¹³ However, MP states it is not required that a customer disclose EV ownership to participate in non-EV-specific time varying rates, though MP does ask. MP asserts that there may be more EV owners enrolled on its residential time-of-day rate or the dual fuel rate than shown in the TEP for that reason.¹¹⁴

MP discusses its rebate offerings stating it currently has two offerings: a \$500 rebate for the installation of a second service and a \$500 rebate for the purchase of a Level 2 charger.¹¹⁵ MP states it has provided 55 rebates for level 2 smart chargers and seven second service installation rebates from April 1, 2024 to March 31, 2025.¹¹⁶ MP states the goals of its rebates are to lower the upfront costs of charger installation and to promote efficient optimized charging.¹¹⁷ The Department notes that rebates for level 2 chargers have increased from the prior year, continuing the increase over time as discussed by MP in its 2023 TEP reply comments:

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 [2023] of the program.¹¹⁸

MP also discusses its attempts to increase general customer awareness about EVs.¹¹⁹ MP states that customer misconceptions about range, reliability, and charging access persist due to a lack of widespread education and outreach.¹²⁰ MP states its engages with customers in several venues such as community events, social media posts, and promotional campaigns.¹²¹ MP also conducts targeted outreach to trade allies, auto dealerships and electricians for example, as trade allies play an important role in encouraging EV adoption and the infrastructure to support them.¹²² MP also began hosting training sessions for first responders to provide information about passenger extractions and

¹¹¹ *Ibid.*, The Company describes the two tiers of its Dual Fuel tariff: Dual Fuel Standard and Dual Fuel Plus. Customers are allowed to connect their EV charger to their Dual Fuel Standard service.

¹¹² *Ibid.*

¹¹³ *Id.*, at 8.

¹¹⁴ *Ibid.*

¹¹⁵ *Id.*, at 8.

¹¹⁶ *Ibid.*

¹¹⁷ *Ibid.*

¹¹⁸ *In the Matter of Minnesota Power's 2023 Integrated Distribution Plan*, Minnesota Power Utility Reply Comments, Minnesota Power, April 26, 2023, Docket No. E015/M-23-258, (eDockets) [20244-206050-01](#), at 11.

¹¹⁹ 2025 TEP – Appendix E, at 8-9.

¹²⁰ *Id.*, at 8.

¹²¹ *Ibid.*

¹²² *Id.*, at 9.

firefighting if EV are involved. 115 first responders throughout northern Minnesota have participated in the training since MP began offering the training in 2024.¹²³

The Department concludes MP satisfies this criterion.

L.2.2. Minn. Stat. § 216B.1615, subd. 3(2)

Minn. Stat. § 216B.1615, Subd. 3(2) requires Commission consideration of whether the TEP proposals are reasonably expected to “increase 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.”

MP states that having access to home and public charging infrastructure, rebates for electric vehicles and chargers, and discounted rates for off-peak charging are critical to ensuring adoption among income-qualified customers.¹²⁴ MP states it thoughtfully plans its EV programs proposals to address these concerns and provide equitable access to all customers including those disproportionately impacted by transportation pollution.¹²⁵

MP discusses its multi-dwelling unit (MDU) make-ready pilot. The MDU make-ready pilot prioritizes income-qualified building, with a requirement to fund at least one project at an income project at an income-qualified building per year.¹²⁶ MP’s MDU pilot has yet to be implemented as it was approved in July 2025.¹²⁷ The Department looks forward to the implementation and the ultimate evaluation of MP’s MDU pilot.

MP also states it continues to evaluate the opportunity for partnerships for electric car sharing in its service territory.¹²⁸ EV car sharing presents an opportunity for electrified transportation for those that cannot purchase an EV or do not otherwise have access to the infrastructure to support EV ownership.

MP discusses that it will continue to evaluate equity and accessibility gaps within its programs and identify opportunities to address them through new program offerings.¹²⁹ The Department agrees that continued analysis into the equity and accessibility gaps of MP’s EV programs would be beneficial. Though MP states its DCFC sites that currently have executed site host agreements are going to be sited in disadvantaged communities,¹³⁰ MP does not quantify more broadly how its commercial and

¹²³ *Ibid.*

¹²⁴ *Id.*, at 23.

¹²⁵ *Ibid.*

¹²⁶ *Ibid.*

¹²⁷ *In the Matter of Minnesota Power’s 2023 Integrated Distribution, Order Approving Pilot Program with Modifications*, July 29, 2025, Docket No. E015/M-23-258, (eDockets) [20257-221524-01](#).

¹²⁸ 2025 IDP – Attachment E, at 24.

¹²⁹ *Id.*, at 24.

¹³⁰ *Id.*, at 23.

residential programs are addressing EV accessibility for all Minnesotans, as required by this statute subsection.

L.2.3. Minn. Stat. § 216B.1615, subd. 3(3)

Minn. Stat. § 216B.1615, subd. 3(3) requires Commission consideration of whether the TEP proposals are reasonably expected to “increase access to publicly available electric vehicle charging for all types of electric vehicles.”

MP has a Commercial Public EV Charging Rate intended for public charging where shifting the time of charging may not always be possible.¹³¹ MP states that there are 74 public EV charging stations in its territory—only 17 of the charging stations are currently enrolled on its Commercial Public EV Charging Rate.

The Department requests that MP, in reply comments, explain why utilization of the Commercial Public Charging EV Rate is low. The Department also requests MP, in reply comments, discuss how it intends to increase utilization of its Commercial Public Charging EV Rate.

MP’s make-ready pilot program also includes public charging applications as one of the applications to test the make-ready model on.¹³² Further, MP’s DCFC network is its largest public-focused offering. MP received approval from the Commission in 2021 to begin installation of 16 DCFC chargers in its service territory.¹³³ In 2019, MP worked with customers to donate 20 Level 2 EV Chargers to businesses in strategic locations across its service territory.¹³⁴

L.2.4. Minn. Stat. § 216B.1615, subd. 3(4)

Minn. Stat. § 216B.1615, subd. 3(4) requires Commission consideration of whether the TEP proposals are reasonably expected to “support the electrification of medium-duty and heavy-duty vehicles and associated charging infrastructure.”

MP discusses the Duluth Transit Authority’s early adoption of electric transit buses. MP states that it works closely with DTA to understand the user experience and has proposed programs designed to address barriers to participation and operation.¹³⁵ MP’s Commercial EV Charging Rates were designed in close collaboration with DTA and other interested customers to address high demand charges associated with charging large electric vehicles,¹³⁶ leading to the development of the permanent

¹³¹ *Id.*, at 15.

¹³² *Id.*, at 11.

¹³³ *Id.*, at 10.

¹³⁴ *Ibid.*

¹³⁵ *Id.*, at 22.

¹³⁶ *Ibid.*

offerings of the Commercial Fleet EV Charging and the Commercial Public EV Charging Rates.¹³⁷ Currently, the seven DTA buses are the only known medium and heavy duty EVs in MP's service territory, but MP states it continues to work to promote the benefits of EV to large fleet operators.¹³⁸

MP states it is currently evaluating two fleet related proposals for inclusion in its upcoming ECO Triennial Plan.¹³⁹ The first proposal is fleet conversion analytics to help fleet operators and managers determine which vehicles in their fleet would be the most appropriate for conversion to an electric fuel source based on a variety of factors including utilization rates, costs, and sustainability objectives.¹⁴⁰ The second proposal is an offering for electric school buses. MP states that electrifying school buses improves air quality, reduces greenhouse gas emissions, and offers potential benefits to the electric grid.¹⁴¹ The Department notes that a fulsome review of these ECO proposals will be completed after MP files for ECO approval. The proposals will be reviewed for compliance with the relevant statute, and the Department's technical requirements. A review of cost effectiveness will be completed as well. The Department concludes these programs are currently under evaluation by MP and were included in the TEP as informational. The Department provides no recommendation on the MP's upcoming ECO filing.

The Department concludes the Company has satisfied this criterion.

L.2.5. Minn. Stat. § 216B.1615, subd. 3(5)

Minn. Stat. § 216B.1615, subd. 3(5) requires Commission consideration of whether the TEP proposals are reasonably expected to "reduce statewide greenhouse gas emissions, as defined in section 216H.01, and emissions of other air pollutants that impair the environment and public health."

MP states it is constantly exploring ways to align periods of EV rates with periods of lower electric system demand and higher renewable energy production.¹⁴² MP states that its Residential EV Service, Residential Time-of-Day, and its Commercial Fleet EV Charging rates, which utilize time of use periods, will prepare customers for anticipated time varying and dynamic pricing-based rates.¹⁴³ MP states that the aforementioned programs will allow MP to collect data around EV charging behavior, patterns,

¹³⁷ Splitting the Commercial EV Charge Rate Pilot into two permanent offerings (Commercial EV Charging and Commercial Public EV Charging) was an uncontested issue in the Company's 2023 rate case. See: *In the Matter of the Application of Minnesota Power for Authority to Increase Rates for Electric Utility Service in Minnesota*, Minnesota Power, The Department of Commerce, the Office of the Attorney General—Residential Utilities Division, Large Power Intervenors, Executed Settlement Agreement, May 3, 2024, Docket No. E015/GR-23-155, (eDockets) [20245-206372-01](#), at 15.

¹³⁸ 2025 IDP – Appendix E, at 22-23.

¹³⁹ *Id.*, at 23.

¹⁴⁰ *Ibid.*

¹⁴¹ *Ibid.*

¹⁴² *Id.*, at 17.

¹⁴³ *Ibid.*

demands, system impacts and price impacts.¹⁴⁴ The lessons learned will help MP perform the necessary forecasting and analytics to create more effective programming in the future.¹⁴⁵

MP also states that it has taken a holistic approach to planning, designing, and delivering customer programs and services including energy efficiency, electrification and demand response. MP designs its programs are designed so that customers participating in an electrification program are encouraged, if not required, to also participate in demand respond or load management programs to ensure grid benefits are maximized.¹⁴⁶ MP coordinates its programs out of the same department so customers can be provided with all the information about the suite of available programs to ensure the customer can make informed decisions.¹⁴⁷

The Department concludes that MP meets the requirements of this criterion.

L.2.6. Minn. Stat. 216B.1615, subd. 3(6)

Minn. Stat. § 216B.1615, subd. 3(6) requires Commission consideration of whether the TEP proposals are reasonably expected to “stimulate nonutility investment and the creation of high-quality jobs for local workers.”

MP is working to implement its MDU make-ready pilot in which the utility would install, own, and maintain a dedicated service for EV charging in MDU, public charging, and workplace applications.¹⁴⁸ The customer would install, own, and maintain all equipment on the customer side of the meter.¹⁴⁹ The customer side equipment includes a new service panel, conduit and wiring up to the charger. MP also offers a rebate for participants of the program, which covers anywhere from zero to 100 percent of the costs of infrastructure on the customer side of the meter.¹⁵⁰ The program’s rebate structure for the infrastructure on the customer side allows for contractor choice for the participating MDU.

In reference to MP’s DCFC initiative, the Company states the cost of charging at is DCFC public chargers will be benchmarked with other publicly available chargers, so MP’s chargers do not deter future private development of fast charging.¹⁵¹

The Department concludes MP meets the requirements of this criterion.

¹⁴⁴ *Ibid.*

¹⁴⁵ *Ibid.*

¹⁴⁶ *Id.*, at 24.

¹⁴⁷ *Id.*, at 25.

¹⁴⁸ *Id.*, at 11.

¹⁴⁹ *Ibid.*

¹⁵⁰ *Ibid.*

¹⁵¹ *Id.*, at 10.

L.2.7. Minn. Stat. 216B.1615, subd. 3(7)

Minn. Stat. § 216B.1615, subd. 3(7) requires Commission consideration of whether the TEP proposals are reasonably expected to “educate the public about the benefits of electric vehicles and related infrastructure.”

MP discusses in its TEP its methods to encourage customers with EVs to participate in managed charging.¹⁵² MP states it works directly with customers to promote its time-based programs and rate offerings. First, customers must be on a time-based rate in order to be eligible for MP’s residential EV charger rebates. Secondly, MP has developed webpages and marketing materials specific to explaining the benefits of its time-based EV programs to stakeholders including car dealerships, electricians, equipment distributors and regional/national EV advocacy groups.¹⁵³ MP states that the electricians and auto dealers serve as a trusted resources to customers looking to purchase an EV or install charging equipment.¹⁵⁴ Trade allyships ensure that tradespeople can adequately demonstrate and promote the technology utilized in MP’s programs.¹⁵⁵ Furthermore, MP states it provides grants to interested dealerships for training, service equipment, advertising to promote electric vehicles, or EV chargers to be installed in the showroom.¹⁵⁶

MP is currently designing an electrician network with the following objectives:

- Provide training opportunities for regional electricians on EV charging installation best practices.
- Promote the Make Ready Pilot Program and other EV program offerings to participating electricians, allowing them to share the information with their customers.
- Maintain a list of electricians that are informed about EV charging technologies and Minnesota Power’s EV programs that customers can access.¹⁵⁷

The Department concludes MP has satisfied this criterion.

L.2.8. Minn. Stat. § 216B.1615, subd. 3(8)

Minn. Stat. § 216B.1615, subd. 3(8) requires Commission consideration of whether the TEP proposals are reasonably expected to “be transparent and incorporate reasonable public reporting of program activities, consistent with existing technology and data capabilities, to inform program design and commission policy with respect to electric vehicles.”

¹⁵² *Id.*, at 17.

¹⁵³ *Ibid.*

¹⁵⁴ *Id.*, at 20.

¹⁵⁵ *Id.*, at 20.

¹⁵⁶ 2025 IDP – Appendix E, at 20.

¹⁵⁷ *Ibid.*

In its TEP, MP includes the docket locations for several corresponding dockets in which the Company files its publicly available EV program reporting.¹⁵⁸ Through its Annual EV Report and other corresponding dockets such as its ECO docket and its Make Ready Pilot docket, the Company provides reasonable reporting of its program activities. The Department concludes that MP has satisfied this criterion.

L.2.9. Minn. Stat. § 216B.1615, subd. 3(9)

Minn. Stat. § 216B.1615, subd. 3(9) requires Commission consideration of whether the TEP proposals are reasonably expected to “reasonably balance the benefits of ratepayer funded investments in transportation electrification and impacts on utility rates.”

MP provides the following table in its TEP relating its historical spending on transportation electrification initiatives.¹⁵⁹

Budget Category	Capital	O&M	Marketing & Communications	Other*
Distribution	\$3,189,615	\$313,367		
Customer Programs			\$	\$239,687

*Other expenses include rebate incentives and labor

Source: 2025 IDP, Appendix E, at 21.

Further, MP provides the following table in its TEP relating to its planned spending for the next 5 years on all transportation electrification initiatives.¹⁶⁰

Budget Category	Capital	O&M	Marketing & Communications	Other ²
Distribution	\$890,000 ¹			
Customer Programs			\$75,000	\$1,051,000

1. These costs are related to utility-side investment budgeted through the Company's recently approved Make Ready Pilot Program.

2. Other expenses include rebates and labor.

Source: 2025 IDP, Appendix E, at 22.

The Department requests that MP, in reply comments, provide the following:

- Regarding historical spending:
 - Annual amounts for the historical spending,
 - Identify labor costs separately from rebates, and
 - Identify the amounts for specific rebate programs.

¹⁵⁸ *Id.*, at 21.

¹⁵⁹ *Ibid.*

¹⁶⁰ *Id.*, at 22.

- **Regarding future spending:**
 - **Annual amounts for each of the budget categories,**
 - **Identify capital and O&M costs by each initiative,**
 - **Identify labor costs separately from rebates,**
 - **Identify the amounts for specific rebate programs.**

The Department requests MP, in replies, clarify how its labor costs will be utilized to further transportation electrification.

L.2.10. Minn. Stat. § 216B.1615, subd. 3(10)

Minn. Stat. § 216B.1615, subd. 3(10) requires Commission consideration of whether the TEP proposals are reasonably expected to “appropriately balance the participation of public utilities and private enterprise in the market for transportation electrification and related services.”

The Department finds this statutory criterion most relevant to the Commission’s Order for MP to consider potential divestment strategies for its DCFC stations.¹⁶¹ The Company states that it will investigate all possible divestment strategies at the conclusion of the pilot. Potential divestment strategies may include sales of the EV charging infrastructure to site hosts or third-party charging companies, states MP.¹⁶² No divestment strategy has been developed, as the pilot is still in progress and the Company continues to install the chargers.¹⁶³ The Department looks forward to more robust discussions in the future as to how MP’s TEP can support EV charging initiatives and appropriately balance its participation with that of the private sector, up to and including its divestment from its DCFC stations. The Department concludes MP has satisfied this criterion.

L.3. Equitable Customer Outcomes

The Department responds to the following notice topic:

Are there gaps in Minnesota Power’s transportation electrification programs the Commission should address to ensure equitable customer outcomes?

As discussed in response to Minn. Stat. § 216B.1615, Subd. 3(2),¹⁶⁴ there is little measurement in MP’s TEP regarding the equity reach of its EV portfolio beyond narrative discussion. The Department also

¹⁶¹ *In the Matter of Minnesota Power’s Electric Vehicle Charging Infrastructure Investment, Order Approving Proposal as Modified, Authorizing Deferred Accounting, Requiring Reporting*, October 22, 2021, Docket No. E015/M-21-257, (eDockets) [202110-179031-01](#), at order point 4.

¹⁶² 2025 TEP, Attachment E, at 17.

¹⁶³ *Ibid.*

¹⁶⁴ [Minn. Stat. § 216B.1615 Subd. 3\(2\)](#)

reviewed MP's Annual EV Report and found no discussion of equity.¹⁶⁵ In the Order approving its 2023 IDP and TEP, it was ordered:

*Minnesota Power shall include in future TEPs a discussion of equity and an analysis of how the Company's EV programs are serving communities disproportionately impacted by transportation pollution including renters, multifamily housing residents, communities of color, low- to moderate-income customers, and rural communities. Minnesota Power shall also include a discussion on what gaps may remain.*¹⁶⁶

The Department asserts that more specific analysis in the TEP as to how MP's EV programs are serving the communities cited in the Commission's Order is necessary to determine if MP's programs are effectively reaching all Minnesotans.

The Department recommends the Commission require MP to report on the following in future TEPs:

- **The percentage of its commercial sites located in areas disproportionately impacted by transportation pollution, broken out by commercial program.**
- **The percentage of residential EV program customers located in areas disproportionately impacted by transportation pollution, broken out by residential program.**
- **The percentage of residential EV program customers that live in areas where both renters and multifamily units make up 50 percent of the housing units, broken out by program.**
- **The percentage of residential EV program customers located in census tracts where 40 percent or more of the people identify as people of color,¹⁶⁷ broken out by program.**
- **The percentage of residential EV program customers located in census tracts where 35 percent or more of households have an income that is at or below 200 percent of the federal poverty level,¹⁶⁸ broken out by program.**
- **The percentage of residential EV program customers located in rural communities, broken out by program.**

The Department concludes that the analysis recommended above will further MP's equity analysis in the TEP and perhaps illuminate any potential underreach in the target populations cited in the Commission's Order and in Minn. Stat. § 216B.1615, subd. 3(2).

¹⁶⁵ *In the Matter of Minnesota Power's Residential Off-Peak Electric Vehicle Service Tariff*, 2024/2025 Annual Electric Vehicle Report, Minnesota Power, June 2, 2025, Docket No. E015/M-15-210, (eDockets) [20256-219475-01](#).

¹⁶⁶ *In the Matter of Minnesota Power's 2023 Integrated Distribution Plan, Order Accepting 2023 Integrated Distribution Plan and Transportation Electrification Plan, and Modifying Reporting Requirements*, September 16, 2024, Docket No. E015/M-23-258, (eDockets) [20249-210224-01](#), at Order Point 10.

¹⁶⁷ [Minn. Stat. § 216B.1691, Subd. 1\(e\)\(1\)](#).

¹⁶⁸ [Minn. Stat. § 216B.1691, Subd. 1\(e\)\(2\)](#).

IV. DEPARTMENT RECOMMENDATIONS

Based on analysis of Minnesota Power's 2025 IDP and the information in the record, the Department has prepared recommendations, which are provided below. The recommendations correspond to the subheadings of Section III above.

REQUESTS FOR ADDITIONAL INFORMATION DURING REPLY COMMENTS:

C. CAPACITY

- C.1. The Department requests MP explain in reply comments why the Blanchard and 15th Ave West Substations do not appear to have capacity mitigations in MP's planned budget.
- C.2. The Department requests MP explain in reply comments whether it considers the overloads at the Little Falls and Verndale substations to be significant safety or reliability risks, and if so, how MP plans to mitigate these risks.

E. AGE RELATED REPLACEMENTS AND ASSET RENEWAL

- E.1. The Department requests MP explain in reply comments how the Company plans to address oversized system assets in its planned Age Related Replacements and Asset Renewal projects.

F. WILDFIRE MITIGATION

- F.1. The Department requests Minnesota Power, in reply comments, indicate whether its Wildfire Mitigation Plan will be completed by the filing of its next IDP (to be filed in 2027).

I. NON-WIRE ALTERNATIVES ANALYSIS

- I.1. The Department requests that MP clarify in its reply comments how the Company satisfies the requirement to consider demand response, energy efficiency, and renewable generation within its NWA analysis.

L. TEP

- L.1. The Department requests that MP, in reply comments, explain why utilization of the Commercial Public Charging EV Rate is low.
- L.2. The Department requests MP, in reply comments, discuss how it intends to increase utilization of its Commercial Public Charging EV Rate.
- L.3. The Department requests that MP, in reply comments, provide the following:
 - Regarding historical spending:
 - Annual amounts for the historical spending,
 - Identify labor costs separately from rebates, and
 - Identify the amounts for specific rebate programs.
 - Regarding future spending:
 - Annual amounts for each of the budget categories,

- Identify capital and O&M costs by each initiative,
 - Identify labor costs separately from rebates,
 - Identify the amounts for specific rebate programs.
- O.4. The Department requests MP, in replies, clarify how its labor costs will be utilized to further transportation electrification.

PRELIMINARY RECOMMENDATIONS:

D. SYSTEM EXPANSION OR UPGRADES FOR RELIABILITY AND POWER QUALITY

- D.1. The Department recommends the Commission require the Company to develop clear reporting metrics for its reliability projects (e.g., miles converted, segments addressed) and provide a clear methodology for selecting segments in their distribution system.
- D.2. The Department recommends the Commission require MP to quantify the value of major reliability and resiliency investments, such as strategic undergrounding, using a recognized customer interruption cost approach (e.g, an Interruption Cost Estimate [ICE] calculator methodology) and to apply that value consistently in cost-benefit comparisons across alternatives.
- D.3. The Department recommends that strategic undergrounding be evaluated alongside other reliability tools that can materially reduce outage minutes on targeted feeders.

E. AGE RELATED REPLACEMENTS AND ASSET RENEWAL

- E.1. The Department recommends the Commission order MP to conduct a cost benefit analysis of all Age Related Replacements and Asset Renewal projects with a 5-year budget of \$10 million or greater. The cost benefit analysis should compare depreciation-level spending to MP's planned Age Related Replacements and Asset Renewal budget. In this analysis, MP should estimate reliability impacts in both cases and monetize the value of reliability to compare the cost effectiveness of MP's accelerated budget plan. The cost benefit analysis should be filed in MP's 2027 IDP.

F. WILDFIRE MITIGATION

- F.1. The Department recommends the Commission require MP to file a compliance filing in this docket after phase one of MP's wildfire mitigation plan development is complete. The filing should include the results of phase one of its Wildfire Mitigation Plan, including the Company's wildfire risk map and its methodology, its identified hazardous fire areas, a timeline for the remaining phases, and a proposed budget relating to continued development of the plan.
- F.2. The Department recommends that the Commission require Minnesota Power to file its future Wildfire Mitigation Plan with the Commission as an attachment or supplement to its IDP. The Department recommends the Commission require MP to include at least the following in its Wildfire Mitigation Plan:
 - A description of the intent of the Company in mitigating wildfire risk (i.e. mitigating utility-caused wildfires/minimizing liability or mitigating fire damage to utility assets).
 - A definition of "wildfire" as it is used for utility identification, planning and mitigation.

- A discussion of its risk modelling, mapping and project prioritization process within its Wildfire Mitigation Plan.
- Quantification of actual wildfire risk in MP's territory based on the probability of a fire.
- The most recent version of its wildfire risk map with a narrative explanation of the highest risk areas, and any changes from the last iteration of the Wildfire Mitigation Plan.
- Reporting on the number and location of wildfires experienced in its territory, the number of outages caused by wildfire, and the average length of wildfire-related outage over the last ten years.
- Reporting on the efficacy of its wildfire mitigation strategy in reducing wildfire-related outages (i.e. After deployment of the approved wildfire mitigation measures, wildfire-related outages in MP's territory decreased 50 percent; the average length of wildfire-related outage decreased by 20 percent¹⁶⁹).
- A full cost benefit analysis of any proposals.

G. PLANNED GRID MODERNIZATION INITIATIVES

- G.1. The Department recommends the Commission require MP to report on the actual reliability benefits and actual costs of the projects in its grid modernization budget category in its next IDP. The reporting of actual reliability benefits and actual costs should include at least MP's FLISR, MODS, and Single Phase Reclosers projects, as well as the Askov and Kerrick BESS projects. Where there is sufficient data, reporting should include the actual reliability benefits and costs of individual installations.

L. TEP

- L.1. The Department recommends the Commission require MP to report on the following in future TEPs:
 - The percentage of its commercial sites located in areas disproportionately impacted by transportation pollution, broken out by commercial program.
 - The percentage of residential EV program customers located in areas disproportionately impacted by transportation pollution, broken out by residential program.
 - The percentage of residential EV program customers that live in areas where both renters and multifamily units make up 50 percent of the housing units, broken out by program.
 - The percentage of residential EV program customers located in census tracts where 40 percent or more of the people identify as people of color, broken out by program.
 - The percentage of residential EV program customers located in census tracts where 35 percent or more of households have an income that is at or below 200 percent of the federal poverty level, broken out by program.
 - The percentage of residential EV program customers located in rural communities, broken out by program.

¹⁶⁹ Values are arbitrary given as examples for how MP could demonstrate the efficacy of its Wildfire Mitigation Plan.

Docket No. E015/M-25-140

Analyst(s) assigned: Ari Zwick, Bhavin Pradhan, Rachel Wiedewitsch, Diane Dietz, Krystal Binversie

Attachments

Attachment A – Compliance Table

Minnesota Power’s 2025 Integrated Distribution Plan

MPUC IDP Requirement	Compliance Item	Section/Page Number
MPUC 02/20/2019 Order E-015/CI-18-254 Starting at Page 2	<i>A. Baseline Distribution System and Financial Data</i>	
System Data: Order Point 1	Modeling software currently used and planned software deployments	VI.a, p.56
System Data: Order Point 2	Percentage of substations and feeders with monitoring and control capabilities, planned additions	IV.b., p.14
System Data: Order Point 3	A summary of existing system visibility and measurement (feeder-level and time interval) and planned visibility improvements; include information on percentage of system with each level of visibility (ex. max/min, daytime/nighttime, monthly/daily reads, automated/manual)	IV.b., p.14
System Data: Order Point 4	Number of customer meters with AMI/smart meters and those without, planned AMI investments, and overview of functionality available	IV.b., p.14
System Data: Order Point 5	Discussion of how the distribution system planning is coordinated with the integrated resource plan (including how it informs and is informed by the IRP), and planned modifications or planned changes to the existing process to improve coordination and integration between the two plans	I., p.1
System Data: Order Point 6	Discussion of how DERs and electrification are considered in load forecasting and any expected changes in load forecasting methodology.	V.b., p.38
System Data: Order Point 7	Discussion if and how IEEE Std. 1547-2018 impacts distribution system planning considerations (e.g. opportunities and constraints related to interoperability and advanced inverter functionality)	V.b., p.40
System Data: Order Point 8	Distribution system annual loss percentage for the prior year (average of 12 monthly loss percentages)	Appendix D

System Data: Order Point 9	The maximum hourly coincident load (kW) for the distribution system as measured at the interface between the transmission and distribution system. This may be calculated using SCADA data or interval metered data or other non-billing metering / monitoring systems	IV.b., p.13
System Data: Order Point 10	Total distribution substation capacity in kVA	IV.b., p.14
System Data: Order Point 11	Total distribution transformer capacity in kVA, if different from total distribution substation capacity and the reason for the difference	IV.b., p.15
System Data: Order Point 12	Total miles of overhead distribution wire	IV.b., p.13
System Data: Order Point 13	Total miles of underground distribution wire	IV.b., p.13
System Data: Order Point 14	Total number of distribution customers	IV.b., p.13
System Data: Order Point 15	Total costs spent on DER generation installation in the prior year. These costs should be broken down by category (including application review, responding to inquiries, metering, testing, make ready, etc.)	Table 5
System Data: Order Point 16	Total charges to customers/member installers for DER generation installations, in the prior year. These costs should be broken down by category in which they were incurred (including application, fees, metering, make ready, etc.)	Table 6
System Data: Order Point 17	Total nameplate kW of DER generation system which completed interconnection to the system in the prior year, broken down by DER technology type (e.g. solar, combined solar/storage, storage, etc.)	Appendix C
System Data: Order Point 18	Total number of DER generation systems which completed interconnection to the system in the prior year, broken down by DER technology type (e.g. solar, combined solar/storage, storage, etc.)	Appendix C
System Data: Order Point 19	Total number and nameplate kW of existing DER systems interconnected to the distribution grid as of time of filing, broken down by DER technology type (e.g. solar, combined solar/storage, storage, etc.)	Appendix C
System Data: Order Point 20	Total number and nameplate kW of queued DER systems as of time of filing, broken down by DER technology type (e.g. solar, combined solar/storage, storage, etc.)	Appendix C

System Data: Order Point 22	Total number and capacity of public access electric vehicle charging stations, broken out by: a. Number and capacity of known public access Level 2 Charging Stations b. Number and capacity of Level 2 Charging Stations enrolled in a utility program, broken out by program c. Number and capacity of known public access direct current fast charging (DCFC) stations d. Number and capacity of DCFC installed through a utility EV program, broken out by program e. All other known EV charging stations (by type, ex DCFC, Level 2)	V., p.52
System Data: Order Point 23	Number of units and MW/MWh ratings of battery storage	V., p.43
System Data: Order Point 24	MWh saving and peak demand reductions from EE program spending in previous year	Table 13
System Data: Order Point 25	Amount of controllable demand (in both MW and as a percentage of system peak)	V. p. 31
Financial Data: Order Point 26	Historical distribution system spending for the past 5-years, in each category: a. Age-Related Replacements and Asset Renewal b. System Expansion or Upgrades for Capacity c. System Expansion or Upgrades for Reliability and Power Quality d. New Customer Projects and New Revenue e. Grid Modernization and Pilot Projects f. Projects related to local (or other) government-requirements (road-relocations, etc.) g. Metering h. Other i. Electric Vehicle Programs	VII.a, p.59
Financial Data: Order Point 27	All non-Minnesota Power investments in distribution system upgrades (e.g. those required as a condition of interconnection) by subset (e.g. CSG, customer-sited, PPA, and other) and location (i.e. feeder or substation)	VII.a, p.57 - 65
Financial Data: Order Point 28	Projected distribution system spending for 5-years into the future for the categories listed above, itemizing any non-traditional distribution projects	VII.a, p.60

Financial Data: Order Point 29	Planned distribution capital projects, including drivers for the project, timeline for improvement, and summary of anticipated changes in historic spending. Driver categories should include: a. Age-Related Replacements and Asset Renewal b. System Expansion or Upgrades for Capacity c. System Expansion or Upgrades for Reliability and Power Quality d. New Customer Projects and New Revenue e. Grid Modernization and Pilot Projects f. Projects related to local (or other) government-requirements g. Metering h. Other i. Electric Vehicle Programs	VII.a, p.60
Financial Data: Order Point 30	Provide any available cost benefit analysis in which the company evaluated a non-traditional distribution system solution to either a capital or operating upgrade or replacement.	VII.a, p.60
DER Deployment: Order Point 31	Current DER deployment by type, size, and geographic dispersion (as useful for planning purposes; such as, by planning areas, service/work center areas, cities, etc.)	Appendix C
DER Deployment: Order Point 32	Information on areas of existing or forecasted high and/or electrification penetration. Include definition and rationale for what the Association considers "high" DER and electrification penetration.	V., p. 46, VII., p.65
DER Deployment: Order Point 33	Information on areas with existing or forecasted abnormal voltage or frequency issues that may benefit from the utilization of advanced inverter technology; provide information describing experiences where DER installations have caused operational challenges: such as, power quality, voltage or system overload issues.	V., p.38
06/03/2025 MPUC Notice of Approval of Updated Filing Requirements Docket Nos. E015/CI-18-254 E015/M-23-258 E015/M-25-140		
Order Point 34	Information on distribution upgrades made to accommodate electrification, when known, including whether it was reactive to new load or based on a short-term forecast.	V., p.35

Order Point 35	Number of fuel-switching rebated granted through Minnesota Power's Energy Conservation Optimization (ECO) plan in the prior year, broken out by technology type (air/ground source heat pump, water heater, cooking, other industrial process heat, electric vehicles, etc.)	V., p.35
Order Point 36	Number of electric space or water heating devices enrolled in a time-of-use rate or demand response program, broken out by program type.	V., p.36
MPUC 12/12/2019 Order; MPUC 04/16/2021 Order Docket No.17-879		
Order Point 8g	A summary table with the following information for each EV rate offering or program during the reporting period: a. Number of customers and/or vehicles enrolled at the end of the reporting period b. Energy consumed (MWh) during the reporting period c. Peak demand (MW) during the reporting period and the time at which it occurred.	Table 4
Order Point 3b	Any system upgrades performed to accommodate EV charging, total costs paid by utility and by customer, and average cost per upgrade. Cost should be reported separately for the following customer groups: Residential, Government Fleet, Private Fleet, and Public Charging, Other (specify)	V., p.38
MPUC 02/20/2019 Order E-015/CI-18-254 Page 4	B. Preliminary Hosting Capacity Data	
Order Point 1	Provide an excel spreadsheet (or other equivalent format) by feeder of either daytime minimum load (daily, if available) or, if daytime minimum load is not available, peak load (time granularity should be specified)	Appendix F
MPUC 02/20/2019 Order E-015/CI-18-254 Starting at Page 4	C. Distributed Energy Resource Scenario Analysis	
Order Point 1	In order to understand the potential impacts of faster-than-anticipated DER and electrification adoption, define and develop conceptual base-case, medium, and high scenarios regarding increased DER and electrification deployment on the distribution system. Scenarios should select a reasonable mix of individual DER and electrification adoption and aggregated or bundled DER/electrification service types, dispersed geographically across the Minnesota Power distribution system in the locations Minnesota Power would reasonably anticipate seeing DER and electrification growth take place first and how the [utility] would anticipate the combined impacts of simultaneous DER and electrification growth. For electric vehicle forecasts	V., p.45

	scenarios, Minnesota Power shall provide base-case, medium, and high adoption, capacity, and energy forecasts by sector (light duty, medium duty, and heavy duty).	
Order Point 2	Include information on methodologies used to develop the low, medium, and high scenarios, including the DER and electrification adoption rates (if different from the minimum 10% and 25% levels), geographic deployment assumptions, expected DER and electrification load profiles (for both individual and bundled installations), and any other relevant assumptions factored into the scenario discussion. Indicate whether or not these methodologies and inputs are consistent with Integrated Resource Plan inputs.	V., p.45
Order Point 3	Provide a discussion of the processes and tools that would be necessary to accommodate the specified levels of DER and electrification integration, including whether existing processes and tools would be sufficient. Provide a discussion of the system impacts and benefits that may arise from increased DER and electrification adoption, potential barriers to DER and electrification integration, and the types of system upgrades that may be necessary to accommodate the DER and electrification at the listed penetration levels.	V., p.45
Order Point 4	Include information on anticipated impacts from FERC Order 841 (Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators) and a discussion of potential impacts from the related FERC Docket RM18-9-000 (Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators).	V., p.44 - 48
MPUC 02/20/2019 Order E-015/CI-18-254 Starting at Page 5	<i>D. Long-Term Distribution System Modernization and Infrastructure Investment Plan</i>	
Order Point 1a	Overview of investment plan: scope, timing, and cost recovery mechanism	VII. p.73
Order Point 1b	Grid Architecture: Description of steps planned to modernize the utility's grid and tools to help understand the complex interactions that exist in the present and possible future grid scenarios and what utility and customer benefits that could or will arise.	VII. p.73 -75

Analyst(s) assigned: Ari Zwick, Rachel Wiedewitsch, Bhavin Pradhan, Diane Dietz, Krystal Binversie

Order Point 1c	Alternatives analysis of investment proposal: objectives intended with a project, general grid modernization investments considered, alternative cost and functionality analysis (both for the utility and the customer), implementation order options, and considerations made in pursuit of short-term investments. The analysis should be sufficient enough to justify and explain the investment.	VII. p. 68 - 72
Order Point 1d	System interoperability and communications strategy	IV. p.16
Order Point 1e	Costs and plans associated with obtaining system data (EE load shapes, photovoltaic output profiles with and without battery storage, capacity impacts of demand response combined with EE, EV charging profiles, load profiles of electrification, etc.)	V., p.24 - 28
Order Point 1f	Interplay of investment with other utility programs (effects on existing utility programs such as demand response, efficiency projects, etc.)	V., p.24 - 28
Order Point 1g	Customer anticipated benefit and cost.	V., p.24 - 28
Order Point 1h	Customer data and grid data management plan (how it is planned to be used and/or shared with customers and/or third parties)	VIII., p.79
Order Point 1i	Plans to manage rate or bill impacts, if any	VI., p.56
Order Point 1j	Impacts to net present value of system costs (in net present value revenue requirements/megawatt/hour or megawatt)	VII. p.70
Order Point 1k	For each grid modernization project in its 5-year Action Plan, Minnesota Power should provide a cost-benefit analysis based on the best information it has at the time and include a discussion of non-quantifiable benefits. Minnesota Power shall provide all information to support its analysis.	VII. p.72 - 79
Order Point 1l	Status of any existing pilots or potential for new opportunities for grid modernization pilots.	VII. p.77

Order Point 2	In addition to the 5-year Action Plan, Minnesota Power shall provide a discussion of its vision for the planning, development, and use of the distribution system over the next 10 years. The 10-year Long-Term Plan discussion should address long-term assumptions (including load growth assumptions), the long-term impact of the 5-year Action Plan investments, what changes are necessary to incorporate DER and electrification into future planning processes based on the DER and electrification futures analysis, and any other types of changes that may need to take place in the tools and processes Minnesota Power is currently using.	VII. p.78
MPUC 12/08/2022 Order Docket No. E-015/M-21-390		
Order Point 3	Allowed utilities to file electric vehicle data in future Integrated Distribution System Plans that aligns with the data filed in their Annual Program Electric Vehicle reports, currently due June 1 of each year.	V., p.48
MPUC 01/09/2029 Order Docket No. E015/RP-21-33		
Order Point 9a	Set the forecasts for distributed energy resources consistently in its resource plan and its IDP.	V., p.45
Order Point 9b	Conduct advanced forecasting to better project the levels of distributed energy resource deployment at a feeder level.	V., p.45
Order Point 9c	Proactively plan investments in hosting capacity and other necessary system capacity to allow distributed generation and electric vehicle additions consistent with the forecast for distributed energy resources.	V., p.45
Order Point 9d	Improve non-wires alternatives analysis, including market solicitations for deferral opportunities to make sure Minnesota Power can take advantage of distributed energy resources to address discrete distribution system costs.	VII., p.70
Order Point 9e	Plan for aggregated distributed energy resources to provide system value including energy/capacity during peak hours.	VII., p.69
MPUC 09/16/2024 Order Docket No. E-015/M-23-258		
Order Point 5	In its next IDP, Minnesota Power shall consider demand response, energy efficiency, and renewable generation as part of its future Non-Wires Alternatives process.	VII., p.65



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E-015/M-25-140
Requested From: Minnesota Power
Type of Inquiry: General

☐ Nonpublic ☒ Public
Date of Request: 12/1/2025
Response Due: 12/21/2025

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Ari Zwick, Bhavin Pradhan, Adway De, Diane Dietz

Email Address(es): Ari.Zwick@state.mn.us, Bhavin.Pradhan@state.mn.us, Adway.De@state.mn.us,
diane.dietz@state.mn.us

Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1724, 651-539-1876

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

Request Number: 5
Topic: Pole Replacement Program
Reference(s): 2025 Integrated Distribution Plan

Request:

Please describe:

- A. The 2023 and 2024 actual spending for MP's pole replacement program
- B. Estimated number of power poles that were replaced in 2023 and 2024
- C. Estimated customer minutes of outages that were experienced in 2023 and 2024 that were a result of failed power poles

Response:

- A. Minnesota Power's pole replacement program called groundline replacement is tracked under the Age & Asset Renewal IDP category. In 2023, \$2,518,347.08 was spent on pole inspection and replacement costs. In 2024, \$4,275,791.73 was spent on pole inspection and replacement costs.
- B. Minnesota Power's pole replacement program called groundline replacement is tracked under the Age & Asset Renewal IDP category. In 2023, 225 poles were replaced throughout the year under this program. In 2024, 323 poles were replaced throughout the year under this program.
- C. Minnesota Power logs outages based on the root cause of the event and does not always link outage data to secondary equipment or pole damage when the event is primarily caused by other factors including vehicles, weather, trees, etc. Minnesota Power estimates 253,029 customer minutes of outage directly related to the primary cause of the outage being a pole failure in 2023 and 2024. Minnesota Power also notes that an additional 653,218 customer minutes of outage were linked to other outage causes where a pole failure was identified in that same timeframe.

Response Date: 12/22/2025

Response by: Eric Clement

Title: Manager - T&D Grid Modernization

Department: Distribution Engineering

Email Address: eclement@mnpower.com

Phone Number: 218.471.4009



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Request Number: 7
Topic: Actual Distribution Customer Energy Sales
Reference(s): 2025 Integrated Distribution Plan

Request:

Please provide the actual 2018-2024 energy sales to MP's Minnesota retail customers that are served at the distribution level or at a cost of service that is tied to distribution charges. To elaborate on the cost of service component, please include sales to any transmission-level customers whose rates include distribution cost allocation.

Response:

Refer to the table below for the actual 2018-2024 energy sales to Minnesota Power's Minnesota retail customers that are served at the Distribution level or at a cost of service that is tied to the distribution charges, as well as sales to any transmission-level customers whose rates include distribution cost allocation.

Table 1: Retail Sales at Distribution Level

FERC Form 1 Page 300, Line 10 Retail Sales MWh 2018-2024							
	2018	2019	2020	2021	2022	2023	2024
MWh	9,027,899	9,014,805	7,889,945	8,896,839	8,333,736	8,478,783	8,391,265

Response Date: 12/22/2025

Response by: Cory Erickson

Title: Load Forecasting & Data Analyst

Department: Customer Experience

Email Address: cmerrickson@mnpower.com

Phone Number: (218) 355-3014



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Information Request

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Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1724, 651-539-1876

ADDITIONAL INSTRUCTIONS:

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Request Number: 8
Topic: Forecasted Distribution Customer Energy Sales
Reference(s): 2025 Integrated Distribution Plan

Request:

Please provide the forecasted 2025-2030 energy sales to MP's Minnesota retail customers that are served at the distribution level or at a cost of service that is tied to distribution charges. To elaborate on the cost of service component, please include sales to any transmission-level customers whose rates include distribution cost allocation.

Response:

Refer to Table 1 below for the forecasted 2025-2030 energy sales to Minnesota Power's (or the "Company") Minnesota retail customers that are served at the distribution level or at a cost of service that is tied to the distribution charges, as well as sales to any transmission-level customers whose rates include distribution cost allocation. The forecasted values derive from The Company's 2025 Annual Forecast¹. Please note, the Company's 2025 Integrated Resource Plan² used forecasts from the 2024 Annual Forecast³.

¹ Docket No. E-999/PR-25-11

² Docket No. E015/RP-25-127

³ Docket No. E-999/PR-24-11

Response Date: 12/22/2025

Response by: Cory Erickson

Title: Load Forecasting & Data Analyst

Department: Customer Experience

Email Address: cmerickson@mnpower.com

Phone Number: (218) 355-3014

Table 1: Forecasted Energy Sales

Forecasted 2025-2030 Energy Sales	
Year	MWh
2025	7,752,134
2026	7,723,024
2027	8,157,262
2028	7,977,897
2029	7,962,755
2030	7,966,175

Response Date: 12/22/2025

Response by: Cory Erickson

Title: Load Forecasting & Data Analyst

Department: Customer Experience

Email Address: cmerickson@mnpower.com

Phone Number: (218) 355-3014



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Information Request

Docket Number: E-015/M-25-140
Requested From: Minnesota Power
Type of Inquiry: General

☐ Nonpublic ☒ Public
Date of Request: 12/1/2025
Response Due: 12/21/2025

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Email Address(es): Ari.Zwick@state.mn.us, Bhavin.Pradhan@state.mn.us, Adway.De@state.mn.us,
diane.dietz@state.mn.us

Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1724, 651-539-1876

ADDITIONAL INSTRUCTIONS:

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Request Number: 10
Topic: Substation and Feeder Rated Capacity and Observed Peak
Reference(s): 2025 Integrated Distribution Plan

Request:

Please provide the following information for each substation and feeder line operated by MP:

- A. Rated Capacity
- B. Technical Planning Standard Capacity that triggers a need for a capacity upgrade
- C. 3-year highest peak load observed

For any system assets that do not have the available data, please summarize the number of assets by type [substation / feeder] that are affected and explain why the data is not available.

Please provide the requested data in a Microsoft Excel executable format with all links and formulae intact. If any of these links target an outside file, please provide all such additional files.

Response:

- A. For rated capacity of Minnesota Power owned substations please see DOC IR 0010.01 Attach. Minnesota Power does not track each feeder's rated capacity. To calculate a feeder's rated capacity, Minnesota Power would need to evaluate the substation equipment (circuit breaker, switches, current transformers, substation conductors and bus) and feeder equipment (conductor, switches, and protective devices). Minnesota Power will calculate Head of Feeder rating for targeted distribution planning studies, which includes the substation equipment and the first span of feeder conductor outside that substation. Minnesota Power does not formally track that information outside of those studies. Feeder ratings may

Response Date: 12/22/2025

Response by: Nicholas Boldt

Title: Lead Distribution Planning Engineer

Department: Delivery Support Operations

Email Address: nboldt@mnpower.com

Phone Number: 218-355-2822

also vary by location along the feeder, for example if different sections of the feeder are constructed with different conductors. Applicable ratings are applied for individual sections of feeders in distribution planning models to identify overloads.

- B. Minnesota Power Distribution Construction Standards lists Minnesota Power's capacity rating for commonly used underground and overhead feeder conductors. Feeder section ratings are applied in distribution planning models based on the conductor. If feeder section loading is observed in studies or engineering analysis to exceed those ratings, Minnesota Power will evaluate the need for a capacity upgrade project.
- C. Individual substation and feeder peak loads for 2022-24 are provided in Appendix G of the 2023 IDP and Appendix F of the 2025 IDP.



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Information Request

Docket Number: E-015/M-25-140
Requested From: Minnesota Power
Type of Inquiry: General

☐ Nonpublic ☒ Public
Date of Request: 1/15/2026
Response Due: 1/26/2026

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Ari Zwick, Bhavin Pradhan, Adway De, Krystal Binversie

Email Address(es): Ari.Zwick@state.mn.us, Bhavin.Pradhan@state.mn.us, Krystal.Binversie@state.mn.us

Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1025

ADDITIONAL INSTRUCTIONS:

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Request Number: 16
Topic: Strategic Undergrounding Budget
Reference(s): 2025 Integrated Distribution Plan – Page 61

Request:

Please outline the expected program spending on strategic undergrounding for each year between 2026-2030.

Response:

The table below outlines the expected spend for Minnesota Power's strategic undergrounding program. Minnesota Power categorizes the strategic undergrounding program expected spend within the Integrated Distribution Plan Category C (Reliability and Power Quality).

Table 1: Strategic Undergrounding Expected Spend

	2026	2027	2028	2029	2030
Strategic Undergrounding	\$8,000,000	\$8,000,000	\$8,000,000	\$8,000,000	\$8,000,000

Response Date: 01/26/2026

Response by: Nicholas Boldt

Title: Lead Distribution Planning Engineer

Department: Delivery Support Operations

Email Address: nboldt@mnpower.com

Phone Number: (218) 355-2822



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E-015/M-25-140
Requested From: Minnesota Power
Type of Inquiry: General

☐ Nonpublic ☒ Public
Date of Request: 1/15/2026
Response Due: 1/26/2026

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

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Request Number: 17
Topic: Asset Renewal Budget
Reference(s): 2025 Integrated Distribution Plan – Page 58

Request:

MP states:

Starting in 2022, the Company increased its investments above depreciation level spend to accelerate asset renewal, modernization, and reliability projects.

Please provide:

1. An Age Related & Asset Renewal budget estimate for each year between 2026-2030 that reflects depreciation level spending.
2. A description of anticipated negative consequences that would result if the Company returned to depreciation level spending.
3. An estimate of the reduction in customer minutes of outages (CMO) savings that will result from MP's increased investments, compared to depreciation level spending.

Response:

1. Minnesota Power (the "Company") cannot provide the breakdown of just the Age and Asset Renewal budget tied to depreciation level spending for future years. A reduction of the current distribution budget to attain the depreciation amount would affect most Integrated Distribution Plan ("IDP") categories. With the majority of Minnesota Power's distribution budget in the Age Related & Asset Renewal (Category A), this category would receive the largest reduction.

Response Date: 01/26/2026

Response by: Eric Clement

Title: Manager – T&D Grid Modernization

Department: Distribution System Engineering

Email Address: eclement@mnpower.com

Phone Number: 218-471-4009



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-
2. The majority of Minnesota Power's budget has been targeting aging infrastructure with asset renewal projects that improve reliability, resiliency, and customer satisfaction across the service territory. If Minnesota Power returned to depreciation level spending for the budgets, the biggest impact would be to the Company's substation renewal projects, which make up a large majority of the Age Related & Asset Renewal (Category A) budget. As noted on page 75 of the 2025 Integrated Distribution Plan, 12 of the 18 projects with costs exceeding \$2 million are classified as Age Related and Asset Renewal and include substation replacement or transformer upgrade costs. Substation equipment typically has long lead times with transformers taking more than 2 years to procure. In addition, substation-related outages typically have larger customer impacts and would increase outage times if deployment of mobile substations is needed to restore power. Minnesota Power believes the combination of these factors could substantially negatively affect the Company's reliability. Over the last 5 years, the second most common outage cause on the Company's system was due to equipment failures (overhead, underground, and substation) typically tied to aging infrastructure.
 3. Minnesota Power does not have a standard monetized value to calculate the reduction in customer minutes of outages savings between different spending levels. Part of the overall distribution budget increase has been due to an increased spend in both Grid Modernization and Strategic Undergrounding in addition to replacing aging infrastructure. In review of the Company's undergrounding efforts, reliability data shows that underground feeders have an average of 15 times fewer outages than overhead feeders. Additionally, underground feeders have over 10 times less frequent interruptions than overhead feeders. In the 2024 filing of Minnesota Power's Safety, Reliability and Service Quality Report, the Company stated that feeders with TripSavers installed experienced a 55.5 percent reduction in System Average Interruption Duration Index ("SAIDI") minutes in 2024. In addition, Feeders with IntelliRupter teams saw a 98.3-100 percent reduction in SAIDI minutes in 2024 compared with the prior 5-year average.

Response Date: 01/26/2026

Response by: Eric Clement

Title: Manager – T&D Grid Modernization

Department: Distribution System Engineering

Email Address: eclement@mnpower.com

Phone Number: 218-471-4009



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Request Number: 18
Topic: Grid Modernization Projects
Reference(s): 2025 Integrated Distribution Plan

Request:

Please provide a list of all grid modernization projects that MP is planning in its five-year budget. The list should include:

1. A description of the purpose of the grid modernization project.
2. The 5-year budget for the project.
3. A description of whether cost recovery has been approved for the project.
4. A description of whether MP has conducted, or plans to conduct competitive bidding for the project.

Response:

The grid modernization projects, schedules, and budgets in Minnesota Power's plan are subject to change.

1. Description and purpose of Grid Modernization projects from 2026 through 2030:
 - a. Fault Location Isolation Service Restoration ("FLISR") Projects refers to the installation of smart switches (Interrupters and reclosers) and necessary communications to these devices, refer to P. 76 of IDP for more information
 - b. 69 kV Motor Operated Disconnect Switches, refer to P. 63 of IDP for more information
 - c. Single Phase Reclosers (Trip Savers, etc.), refer to P. 76 of IDP for more information
 - d. Kerrick Battery Energy Storage System ("BESS"), refer to P. 77 of IDP for more information
 - e. Askov Battery Energy Storage System ("BESS") will support reliability of the Askov 12.47kV distribution system by maintaining energy supply to the City of Askov and, coupled with the

Response Date: 01/26/2026

Response by: Kurt Blomquist

Title: Engineer Senior - Lead

Department: Enterprise Programs

Email Address: kblomquist@mnpower.com

Phone Number: 218-355-2406



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Information Request

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Kerrick BESS project, will eliminate the need to rebuild almost 30 miles of aging 46kV infrastructure, thereby avoiding capital costs of around \$15.8 million.

2. Minnesota Power is planning \$6,000,000 in annual spend on Grid Modernization projects from 2026 through 2030.
 - a. 2026:
 - i. \$4,750,000 12 FLISR Projects: LGW/ZMP-335, VRD-503, VRD-510, VRD-519, EGV-513, EGV-517, CLQ-404, CLQ-406, CLQ-412, CNA-413, RGV-259, RGV-253, DOG-503, FRR-275, COL-240, FCS-215, CNA-413, and Silver Bay feeders
 - ii. \$ 550,000 69 kV Motor Operated Disconnect Switches on 32 Line
 - iii. \$ 325,000 65 Single Phase recloser installations across numerous feeders
 - iv. \$ 375,000 Kerrick BESS
 - b. 2027:
 - i. \$5,400,000 12 FLISR Projects: HAT-332, HAT-321, EMB-317, AUR-313, RVT-505, RVT-506, RGV-251, RGV-252, RGV-254, NIN-246, NIN-248, FIF-230, Two Harbors, Long Lake, and Duluth 34kV feeders
 - ii. \$ 350,000 69 kV Motor Operated Disconnect Switches on 31 Line
 - iii. \$ 250,000 50 Single Phase recloser installations across numerous feeders
 - c. 2028:
 - i. \$3,750,000 14 FLISR Projects: Hinkley, Cohasset, Pequot Lakes, Pine River, Nashwauk, Colbyville, Chisholm, Canosia Rd, Mahtowa, French River, Baxter, and Sylvan feeders
 - ii. \$ 250,000 50 Single Phase recloser installations across numerous feeders
 - iii. \$ 2,000,000 Askov BESS
 - d. 2029:
 - i. \$3,750,000 11 FLISR Projects: Canosia, Cloquet, Lake Superior Paper, Four Corners, 15th Ave West, Burnett, Savanna, Meadowlands, Taft, and Duluth 34 kV feeders
 - ii. \$ 250,000 50 Single Phase recloser installations across numerous feeders

Response Date: 01/26/2026

Response by: Kurt Blomquist

Title: Engineer Senior - Lead

Department: Enterprise Programs

Email Address: kblomquist@mnpower.com

Phone Number: 218-355-2406



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-
- iii. \$2,000,000 Askov BESS
 - e. 2030:
 - i. \$5,750,000 5 FLISR Projects: Little Falls, Wrenshall, International Falls, and Long Lake feeders
 - ii. \$ 250,000 50 Single Phase recloser installations across numerous feeders
 - 3. Minnesota Power has not sought expedited cost recovery; the Company would seek cost recovery through future rate cases.
 - 4. Minnesota Power has previously or plans to competitively bid the listed components on the following Grid Modernization Projects:
 - a. FLISR Projects
 - i. Procure Minnesota Power's standard equipment
 - ii. Competitively bid construction activities exceeding \$50,000
 - b. 69 kV Motor Operated Disconnect Switches
 - i. Procure Minnesota Power's standard equipment
 - ii. Competitively bid construction activities exceeding \$50,000
 - c. Single Phase Reclosers
 - i. Procure Minnesota Power's standard equipment
 - ii. Competitively bid construction activities exceeding \$50,000
 - d. Kerrick BESS
 - i. 2025 competitive bid award on BESS equipment
 - ii. 2025 competitive bid award on Interconnection Shelter
 - iii. 2025 competitive bid award on site development and construction activities
 - e. Askov BESS
 - i. Plan to competitively bid BESS equipment procurement
 - ii. Plan to competitively bid Interconnection Shelter procurement
 - iii. Plan to competitively bid site development and construction activities
-

Response Date: 01/26/2026

Response by: Kurt Blomquist

Title: Engineer Senior - Lead

Department: Enterprise Programs

Email Address: kblomquist@mnpower.com

Phone Number: 218-355-2406



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Request Number: 19
Topic: Grid Modernization Project Analysis
Reference(s): 2025 Integrated Distribution Plan - Page 62

Request:

MP states:

Grid Modernization Projects are efforts that go beyond the Company's baseline efforts to maintain safe, reliable, and affordable energy but are necessary to keep pace with changing technology, regulatory requirements, and customer expectations. These projects are identified and selected through analyzing reliability metrics and determining what solution or suite of solutions is best suited to improve reliability on the system.

Please provide a summary of the analysis MP performed to determine that the solution or suite of grid modernization solutions is best suited to improve reliability on the system. Please provide a list of each solution that was identified and analyzed, and describe MP's reason for selecting the grid modernization solution.

Response:

As discussed in Section VII.B on pg 72 of the 2025 Intergrated Distribution Plan ("IDP"), Minnesota Power (the "Company") initiated a consultant-led Non-Wire Alternatives Study in 2021 in 2023 to develop one or more non-wire solutions for specific scenarios that could benefit from enhanced backup capability, feeder automation, or dynamic voltage control. As part of the study, the consultant developed a benefit cost analysis framework for determining where non-wire solutions provided sufficient value. From the Non-Wire Alternative Study, the Kerrick and Askov Battery Energy Storage Solution projects were found to have a positive return on investment. The Non-Wires Alternative Study can be found in Appendix F of the 2023 Integration Distribution Plan.

Response Date: 01/26/2026
Response by: Kurt Blomquist
Title: Engineer Senior Lead-Grid Modernization
Department: Enterprise Programs
Email Address: kblomquist@mnpower.com
Phone Number: 218-355-2406



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Fault Location Isolation Service Restoration ("FLISR") Projects refers to the installation of smart switches (Interruption and reclosers) and necessary communications to these devices, refer to P. 76 of the IDP for more information. Interruption or reclosers are selected for FLISR Projects on Minnesota Power's 3-phase distribution feeders below 46kV with a full capacity tie point. Interruption require fiber communications to each device and are utilized in more complex feeder tie configurations, primarily in urban areas. Reclosers with radio communications are utilized where feeder tie configurations can be simplified, primarily in rural areas. Distribution planning software is utilized to analyze feeder capacity and adjacent tie feeders as well as preferred locations to sectionalize the feeder. Feeder tie complexity and fiber infrastructure installation are then considered to select whether Interruption or reclosers are utilized for the FLISR project.

Motor Operated Disconnect Switches ("MODS") with communications for remote control are utilized on Minnesota Power's 3-phase distribution feeders at or above 46kV, refer to P. 63 of the IDP for more information. Recloser technology at this voltage level is in its infancy. MODS offer the Company's system operators the ability to manually restore distribution substations based on line sensor data in addition to information from line workers as to the location of the fault. These devices are not as technologically advanced as reclosers and thus restoration can take longer due to uncertainty of the fault location. With distribution substations being high priority reliability assets, the 46kV or 69kV distribution feeder is typically sectionalized to include one substation per line segment between MODS.

Single Phase Recloser installations (Trip Savers, etc.) are considered on taps experiencing frequent momentary outages and hydraulic recloser replacements, refer to P. 76 of the IDP for more information. Feeder reliability metrics and asset condition drive consideration for single phase recloser installations. Primarily single-phase taps, with a minimum of 0.25 Miles of overhead primary conductor and 25 or more customers, are considered for single phase recloser installations. Often, the protection coordination of the entire feeder is first reviewed and corrected, if necessary, then locations for single phase reclosers are selected based on the feeder protection coordination philosophy and the Company's experience with single phase recloser performance.

Response Date: 01/26/2026

Response by: Kurt Blomquist

Title: Engineer Senior Lead-Grid Modernization

Department: Enterprise Programs

Email Address: kblomquist@mnpower.com

Phone Number: 218-355-2406



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Request Number: 20
Topic: Capacity Upgrade Planning Standards and Integration
Reference(s): 2025 Integrated Distribution Plan

Request:

Please describe:

1. The planning standard or standards that MP uses to determine if a capacity upgrade is needed for feeders, tap lines, transformers, or other equipment.
2. How MP coordinates capacity upgrades with projects identified for reliability and/or age-related replacements.
3. How MP coordinates 2. with storm-related asset replacements.

Response:

1. Minnesota Power (the "Company")'s Distribution Construction Standards lists the capacity rating for commonly used equipment for feeders, tap lines, transformers, and other equipment. Feeder section ratings are applied in distribution planning models based on the overhead or underground conductor. If feeder section loading is observed in studies or engineering analysis to exceed those ratings, Minnesota Power will evaluate the need for a capacity upgrade project.
2. Minnesota Power evaluates any capacity needed upgrades of large reliability and age-related replacement projects to include the capacity upgrade portion to the project scope.
3. All storm-related asset replacements use Minnesota Power's standard construction and materials that meet current National Electrical Safety Code (NESC) standards. Capacity upgrades are typically not evaluated during storm-related replacements.

Response Date: 01/26/2026

Response by: Eric Clement

Title: Manager – T&D Grid Modernization

Department: Distribution System Engineering

Email Address: eclement@mnpower.com

Phone Number: 218-471-4009



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Request Number: 21
Topic: Capacity Upgrade Projects
Reference(s): 2025 Integrated Distribution Plan

Request:

Please provide a list of capacity upgrade projects that MP plans to complete in the next 5 years. The list should include:

1. All projects for which a capacity upgrade is the primary purpose of the project.
2. The capacity rating and relevant planning standard limit (if applicable) of the current infrastructure.
3. The capacity rating and relevant planning standard limit (if applicable) of the new infrastructure.
4. The year for which the capacity upgrade need is expected to arise.
5. Estimated risk of customer minutes of outages (CMO) that would occur if the project is not executed, if known.

Response:

1. Below are the projects listed as Category B (Capacity) Spend.

Project	ISD
Embarass 23 kV feeder Addition	2026
BIW-1 12kV to 23 kV Conversion	2026
Boswell Feeder Exit	2026

Response Date: 01/26/2026

Response by: Nicholas Boldt

Title: Lead Distribution Planning Engineer

Department: Delivery Support Operations

Email Address: nboldt@mnpower.com

Phone Number: (218) 355-2822



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-
2. Below is a discussion of the capacity ratings and relevant planning standard limit (if applicable) of the current infrastructure associated with each project.

Project	Capacity Ratings of Current Infrastructure
Embarrass 23 kV Feeder Addition	Targeted distribution study of Embarrass / Biwabik area identified low voltage and transformer overload beyond approximately 8 MW
BIW-1 12kV to 23kV Conversion	
Boswell Feeder Exit	Targeted distribution study of Cohasset / Deer River area identified low voltage beyond approximately 6 MW

Response Date: 01/26/2026

Response by: Nicholas Boldt

Title: Lead Distribution Planning Engineer

Department: Delivery Support Operations

Email Address: nboldt@mnpower.com

Phone Number: (218) 355-2822



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3. Below is a discussion of the capacity ratings and relevant planning standard limit (if applicable) of the new infrastructure associated with each project.

Project	Capacity Ratings of New Infrastructure
Embarrass 23 kV Feeder Addition	Targeted distribution study of Embarrass / Biwabik area identified post-project load-serving capability would be increased by approximately 3 MW for Embarrass 317 Feeder, to around 11 MW. After addition of the new Embarrass 23 kV Feeder, including the parts of BIW-1 feeder being converted from 12 kV to 23 kV, the combined load-serving capability of the two Embarrass feeders will be limited by the existing 115/23 kV transformer which has a rating of 18.6 MVA.
BIW-1 12kV to 23kV Conversion	
Boswell Feeder Exit	Targeted distribution study of Cohasset / Deer River area identified that the new Boswell 23 kV distribution source can fully back up Zemple and Lind-Greenway substation feeders and is capable of supporting at least 125 percent of the historical peak load expected to be normally served from Boswell. Beyond that level, the post-project load-serving limit has not been identified, but the Boswell 115/23 kV transformer will have a rating of 39.2 MVA.

4. Below is a discussion of the year for which the capacity upgrade need is expected to arise for each project.

Response Date: 01/26/2026
 Response by: Nicholas Boldt
 Title: Lead Distribution Planning Engineer
 Department: Delivery Support Operations
 Email Address: nboldt@mnpower.com
 Phone Number: (218) 355-2822



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Project	Capacity Ratings of New Infrastructure
Embarrass 23 kV Feeder Addition	Embarrass 317 Feeder had a 2024 historical peak load of 7.82 MW which is 98% of its load-serving capability limit. In the normal configuration, the feeder peak load is expected to exceed the 8 MW limit between 2025 and 2027. Where loads may be transferred onto Embarrass 317 during outages of adjacent feeders, the 8 MW limit is already exceeded at historical peak load levels.
BIW-1 12kV to 23kV Conversion	
Boswell Feeder Exit	The Boswell Feeder Exit project solves an existing capacity issue at recent historical peak load levels that prevents the Lind-Greenway 335 and Zemple 337 feeders from being full capacity ties.

- At this time, the company does not have a method to estimate customer minutes of outages ("CMO") impacted if the projects are not executed.

Response Date: 01/26/2026

Response by: Nicholas Boldt

Title: Lead Distribution Planning Engineer

Department: Delivery Support Operations

Email Address: nboldt@mnpower.com

Phone Number: (218) 355-2822



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E-015/M-25-140
Requested From: Minnesota Power
Type of Inquiry: General

☐ Nonpublic ☒ Public
Date of Request: 1/15/2026
Response Due: 1/26/2026

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Ari Zwick, Bhavin Pradhan, Adway De, Krystal Binversie

Email Address(es): Ari.Zwick@state.mn.us, Bhavin.Pradhan@state.mn.us, Krystal.Binversie@state.mn.us

Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1025

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Request Number: 22
Topic: N-1 Capacity Risk
Reference(s): 2025 Integrated Distribution Plan

Request:

Please explain if MP includes the risk of contingency events (N-1) in its capacity planning standards.

- If MP does include N-1 capacity planning, please explain how the probability of these events is accounted for within MP's planning standards.

Response:

In targeted distribution planning studies, Minnesota Power performs contingency (N-1) analysis on feeders. The contingency analysis evaluates the backup capability of closing a normally open tie switch to serve the distribution feeder from an adjacent feeder at their historical coincident peaks and a future load growth scenario. This evaluation will identify any constraints in serving the full load of the two feeders from one source or the other, including any potential projects that could be needed to create full capacity ties. The contingency analysis also includes an evaluation of the loading of the T-D transformers for all scenarios. This would allow Minnesota Power to fully back up the load on the feeders during any planned or unplanned outages. Minnesota Power does not factor in the probability of these events in planning practices.

Response Date: 01/26/2026
Response by: Nicholas Boldt
Title: Lead Distribution Planning Engineer
Department: Delivery Support Operations
Email Address: nboldt@mnpower.com
Phone Number: 218-355-2822



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Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1025

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Request Number: 23
Topic: Capacity Forecast
Reference(s): 2025 Integrated Distribution Plan

Request:

Please describe MP's methodology for how it forecasts load growth of transformers, feeders, tap lines, and other equipment when making decisions regarding asset replacement.

Response:

In most cases, asset replacement decisions are based on age and condition rather than historical or projected future load growth. Where load growth may be a factor, Minnesota Power evaluates historical substation and feeder loading on an annual basis and uses the historical loading and general load growth assumptions to assess reliability and capacity issues. In targeted distribution planning studies, Minnesota Power performs both baseline and contingency analysis using the feeders' historical peak as well as a future load growth scenario. Minnesota Power is currently investigating software that can help model transformers, tap lines, feeders and substation level load growth to inform future decisions regarding asset replacement where load growth is a factor.

Response Date: 01/26/2026
Response by: Nicholas Boldt
Title: Lead Distribution Planning Engineer
Department: Delivery Support Operations
Email Address: nboldt@mnpower.com
Phone Number: (218) 355-2822



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Date of Request: 1/15/2026
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Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1025

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Request Number: 24
Topic: Capacity Forecast Accuracy
Reference(s): 2025 Integrated Distribution Plan

Request:

Please describe any analysis MP has performed regarding the accuracy of MP's forecasts that are used for capacity planning purposes. Please include a metric of forecast accuracy, if known.

Response:

Minnesota Power ("the Company") applies general load growth assumptions to the substations or feeders historical loading when the Company does perform targeted distribution planning studies. If determined necessary, Minnesota Power will check the general assumption against the load forecast information available from our most recent Annual Electric Utility Forecast Report.

Response Date: 01/26/2026
Response by: Nicholas Boldt
Title: Lead Distribution Planning Engineer
Department: Delivery Support Operations
Email Address: nboldt@mnpower.com
Phone Number: (218) 355-2822



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Information Request

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Response Due: 1/26/2026

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Email Address(es): Ari.Zwick@state.mn.us, Bhavin.Pradhan@state.mn.us, Krystal.Binversie@state.mn.us

Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1025

ADDITIONAL INSTRUCTIONS:

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Request Number: 25
Topic: Planning for Future Load Growth
Reference(s): 2025 Integrated Distribution Plan

Request:

When MP needs to replace a system asset, please describe:

1. How many forecasted years MP will consider in its analysis.
 - a. If the forecast varies by project or asset type, please provide a summary of how the forecast varies in different scenarios.
2. What data MP includes in its analysis of the need for asset replacement.
3. How forecast uncertainty is accounted for in MP's asset replacement methodology.

Response:

1. In targeted baseline distribution planning studies, Minnesota Power studies a future load growth scenario with 5 years of load growth in its baseline and contingency analysis.
 - a. For asset renewal & age-related projects, Minnesota Power selects standard equipment sizes that meet or exceed the current distribution assets specifications without factoring in any forecasted load growth.
2. Minnesota Power typically includes the age of the asset, and in some cases also considers inspection records, reliability, maintenance records, historical loading, and performance as the analysis for asset replacement.
3. Minnesota Power does not factor in forecast uncertainty in its asset replacement methodology.

Response Date: 01/26/2026

Response by: Nicholas Boldt

Title: Lead Distribution Planning Engineer

Department: Delivery Support Operations

Email Address: nboldt@mnpower.com

Phone Number: (218) 355-2822



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Information Request

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☐ Nonpublic ☒ Public
Date of Request: 1/15/2026
Response Due: 1/26/2026

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Assigned Analyst(s): Ari Zwick, Bhavin Pradhan, Adway De, Krystal Binversie

Email Address(es): Ari.Zwick@state.mn.us, Bhavin.Pradhan@state.mn.us, Krystal.Binversie@state.mn.us

Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1025

ADDITIONAL INSTRUCTIONS:

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Request Number: 26
Topic: Value of Reliability
Reference(s): 2025 Integrated Distribution Plan

Request:

Please explain how MP quantifies the value of reliability. The response should:

1. Describe if MP uses a monetized value of customer minutes of outages (CMO) to compare to costs, or some other metric.
 - a. If MP uses a monetized CMO value, please outline how the value of different customer classes (i.e. residential vs commercial & industrial) factors into the quantification of value of individual projects. The response should include a breakdown of how the CMO value varies between classes.
2. Include a representative example how of the value of reliability is quantified.
3. Describe how the value of reliability is integrated into MP's existing decision making processes.

Response:

Minnesota Power (the "Company") does not assign a monetized value to quantify reliability or customer minutes of outage. The Company does not have an example of quantification, nor is a monetary value of reliability integrated into Minnesota Power's existing decision-making process.

Response Date: 01/26/2026
Response by: Eric Clement
Title: Manager – T&D Grid Modernization
Department: Distribution System Engineering
Email Address: eclement@mnpower.com
Phone Number: 218-471-4009



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E-015/M-25-140
Requested From: Minnesota Power
Type of Inquiry: General

☐ Nonpublic ☒ Public
Date of Request: 1/15/2026
Response Due: 1/26/2026

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Phone Number(s): 651-539-1675, 651-539-1724, 651-539-1025

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Request Number: 28
Topic: Age-Related Inspections and Failure Rates
Reference(s): 2025 Integrated Distribution Plan

Request:

Please describe:

1. Each age-related asset inspection program performed by MP.
2. Asset types that are not covered by 1, which therefore don't have regular inspections for age-related replacements.
3. Failure rates for each age-related inspection program, if known.

Response:

1. Minnesota Power (the "Company") conducts several age-related asset inspection programs including groundline inspections conducted by an external contractor on distribution poles throughout the service territory. Poles are inspected on a 10-year cycle. The Company conducts preventative maintenance activities on distribution equipment as follows: switches- every 5 years, hydraulic reclosers- every 7 years, electronic reclosers- every 2 years, intellirrupters- every 5 years, neutral isolators- every year, and plans to set maintenance cycles for capacitor banks and regulators in 2026. Minnesota Power also inspects distribution substation equipment quarterly, and pole attachments every 7 years. Minnesota Power employees utilize a tool that can capture deficiencies and issues on the system via requests from a desktop computer or mobile device. Those requests are routed to work management software and are tracked throughout the remedial process.

Regarding the transmission to distribution substations, there are also several asset inspection programs including typically bi-weekly substation inspections. Inspection and testing programs include battery

Response Date: 01/26/2026

Response by: Eric Clement

Title: Manager – T&D Grid Modernization

Department: Distribution System Engineering

Email Address: eclement@mnpower.com

Phone Number: 218-471-4009



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Information Request

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Date of Request: 1/15/2026
Response Due: 1/26/2026

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Ari Zwick, Bhavin Pradhan, Adway De, Krystal Binversie

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inspections, thermal inspections, oil sampling, electrical testing, breaker maintenance, switch maintenance, and breaker trip testing.

2. Asset types that do not currently fall under any program include primary and secondary cables, primary and secondary conductors, residential and commercial transformers, cutouts, crossarms, and streetlights.
3. The only asset failure rates that are currently tracked are from the Company's groundline inspection program. Failure rates vary by area, averaging 2%-6% yearly, system wide.

Response Date: 01/26/2026

Response by: Eric Clement

Title: Manager – T&D Grid Modernization

Department: Distribution System Engineering

Email Address: eclement@mnpower.com

Phone Number: 218-471-4009



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Request Number: 30
Topic: Power Pole Replacement Program Follow-up
Reference(s): IR 5, 6

Request:

In Information Request 5, MP presented data on the number of power poles replaced and the budget for the program. In Information Request 6, MP presented data on outage causes.

1. Please provide an estimate of how many power poles are in MP's Minnesota service territory.
2. Please provide the outage causes associated with failed power poles from the dataset presented in Information Request 6.

Response:

1. Minnesota Power is attached to 153,046 poles within our service territory. Of those, Minnesota Power owns 133,664 poles.
2. The dataset presented in Information Request 6 was a sorted summary of all outage events on Minnesota Power's Distribution system for 2023 and 2024. It was simplified to a more useful form in hopes to clearly present the requested information but is oversimplified when looking for pole related information. In DOC IR 0030.01 Attach, the same data was pulled in the same format, but the Company included the subcause and event comment fields. All events related to poles were colored. Minnesota Power recommends using the "filter by color" option in the Event Comment column to see the pole caused and pole related events.

Response Date: 01/26/2026
Response by: Lee Gustafson
Title: Distribution Engineer – Reliability
Department: Distribution Engineering
Email Address: lgustafson@mnpower.com
Phone Number: 218-355-2399



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

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Requested From: Minnesota Power
Type of Inquiry: General

☐ Nonpublic ☒ Public
Date of Request: 1/15/2026
Response Due: 1/26/2026

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Ari Zwick, Bhavin Pradhan, Adway De, Krystal Binversie

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Request Number: 32
Topic: Need for a Targeted Distribution Planning Study
Reference(s): Information Request 10

Request:

In Information Request 10, MP states:

Minnesota Power will calculate Head of Feeder rating for targeted distribution planning studies, which includes the substation equipment and the first span of feeder conductor outside that substation. Minnesota Power does not formally track that information outside of those studies.

(continued on next page)

Please explain:

1. How MP determines the need for a targeted distribution planning study.
2. What planning processes provide data on the need for a targeted distribution planning study.
3. How often MP conducts targeted distribution planning studies.

Response:

1. Minnesota Power studies the distribution system on a regular basis as needs arise from engineering and field, 10-year capital plans, or interconnection requests.
2. Area distribution engineering and field crews request distribution planning engineers to study certain feeders or substations to improve reliability and support ongoing field operations. Planning engineers will also perform targeted distribution planning studies for substation modernization and grid modernization projects in the 10-year plan to provide project scoping support and construction coordination. In some cases, planning engineers will perform targeted distribution planning studies based on historical loading

Response Date: 01/26/2026

Response by: Nicholas Boldt

Title: Lead Distribution Planning Engineer

Department: Delivery Support Operations

Email Address: nboldt@mnpower.com

Phone Number: 218-355-2822



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85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

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data and reliability results. Distributed Energy Resources and load interconnection requests will also drive targeted distribution planning studies to determine feasibility, system impacts, and interconnection project scope.

3. Minnesota Power performs studies on a needed basis, and there is no defined interval.

Response Date: 01/26/2026
Response by: Nicholas Boldt
Title: Lead Distribution Planning Engineer
Department: Delivery Support Operations
Email Address: nboldt@mnpower.com
Phone Number: 218-355-2822



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Request Number:	34
Topic:	Per-Mile Cost of New Build Overhead VS Underground Distribution Lines
Reference(s):	2025 IDP

Request:

Please provide generic, per-mile cost estimates to install a new build typical section of overhead and underground feeders and tap lines.

Response:

There are many variables that affect the per-mile cost of underground and overhead installations. Some of the variables that Minnesota Power considers include soil type, topography, vegetation, routing, construction, and internal resource availability.

To calculate these rough-cost estimates, Minnesota Power has provided example scenarios below assuming internal resources, no vegetation costs, straight-line construction, sandy soil type, and 250' structure spacing for the overhead scenarios.

Scenarios:

- 1 mile of 3-phase overhead feeder built on a 25kv system using 336 ACSR conductor: \$136,153.
- ***1 mile of 3-phase underground feeder built on a 25kv system using 750MCM AL cable: \$426,635.
- 1 mile of single-phase overhead tap line built on a 25kv system using 1/0 ACSR conductor: \$65,927.
- ***1 mile of single-phase underground tap line built on a 25kv system using 1/0 AL cable: \$43,071.

*** Conditions for underground construction vary significantly with locational, environmental, and soil conditions
- the target areas for existing underground tap projects are favorable conditions for underground construction.

Response Date: 01/26/2026

Response by: Eric Clement

Title: Manager – T&D Grid Modernization

Department: Distribution System Engineering

Email Address: eclement@mnpower.com

Phone Number: 218-471-4009



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Date of Request: 1/15/2026
Response Due: 1/26/2026

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Request Number: 35
Topic: Expanded List of Projects
Reference(s): 2025 IDP Table 16

Request:

Please provide an expanded Table 16, with the minimum project size changed to \$500,000.

Please provide the requested data in a DOC IR Excel executable format with all links and formulae intact. If any of these links target an outside file, please provide all such additional files.

Response:

The Microsoft Excel spreadsheet for expanding Table 16 of the Integrated Distribution Plan to all projects above \$500,000 is attached as DOC IR 0035.01 Attach.xlsx to this document. The distribution projects provided in the attached expanded version of Table 16 are reviewed and updated quarterly and are budgeted using high-level planning estimates.

Response Date: 01/26/2026
Response by: Beau Pocquette
Title: Supervising Engineer
Department: Distribution System Engineering
Email Address: bpocquette@mnpower.com
Phone Number: 218-355-6750

CERTIFICATE OF SERVICE

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of people by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

Minnesota Department of Commerce
Comments

Docket No. E015/M-25-140

Dated this **13th** day of **March 2026**

/s/Sharon Ferguson

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
1	Daniel	Abelson	daniel.abelson@metc.state.mn.us	Metropolitan Council		390 Robert Street N. St. Paul MN, 55101 United States	Electronic Service		No	M-25-140
2	Brian	Allen	brian.allen@allenergysolar.com	All Energy Solar, Inc		1642 Carroll Ave Saint Paul MN, 55104 United States	Electronic Service		No	M-25-140
3	Michael	Allen	michael.allen@allenergysolar.com	All Energy Solar		721 W 26th st Suite 211 Minneapolis MN, 55405 United States	Electronic Service		No	M-25-140
4	Ellen	Anderson	ellena@umn.edu	325 Learning and Environmental Sciences		1954 Buford Ave Saint Paul MN, 55108 United States	Electronic Service		No	M-25-140
5	Janet	Anderson	jcainstp@icloud.com	-		1799 Sargent St. Paul MN, 55105 United States	Electronic Service		No	M-25-140
6	Jay	Anderson	jaya@cmpas.org	CMPAS		7550 Corporate Way Suite 100 Eden Prairie MN, 55344 United States	Electronic Service		No	M-25-140
7	MK	Anderson	anderson@fresh-energy.org	Fresh Energy		408 St Peter Street Saint Paul MN, 55102 United States	Electronic Service		No	M-25-140
8	David	Assaf	daassaf@flaherty-hood.com	Flaherty & Hood, P.A.		525 Park Street Suite 470 St. Paul MN, 55102 United States	Electronic Service		No	M-25-140
9	Donna	Attanasio	dattanasio@gwu.edu	George Washington University		2000 H Street NW Washington DC, 20052 United States	Electronic Service		No	M-25-140
10	John	Bailey	bailey@ilsr.org	Institute For Local Self-Reliance		1313 5th St SE Ste 303 Minneapolis MN, 55414 United States	Electronic Service		No	M-25-140
11	Anjali	Bains	bains@fresh-energy.org	Fresh Energy		408 Saint Peter Ste 220 Saint Paul MN, 55102 United States	Electronic Service		No	M-25-140
12	Mark	Bakk	mbakk@lcp.coop	Lake Country Power		26039 Bear Ridge Drive Cohasset MN, 55721 United States	Electronic Service		No	M-25-140
13	Jared	Ballew	jared.ballew@ev.energy	EV.ENERGY CORP		726 18th St. Des Moines IA, 50314 United States	Electronic Service		No	M-25-140
14	Shay	Banton	shayb@irecusa.org	Interstate Renewable Energy Council		600 H Street NE Apt. 341 Washington DC, 20002 United States	Electronic Service		No	M-25-140
15	Laura	Beaton	beaton@smwlaw.com	Shute, Mihaly & Weinberger LLP		396 Hayes Street San Francisco CA, 94102 United States	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
16	Mathias	Bell	mathias@weavegrid.com	WeaveGrid		375 Alabama Street, Suite 325 San Francisco CA, 94110 United States	Electronic Service		No	M-25-140
17	Jeff	Benson	jbenson@southcentralelectric.com	South Central Electric Association		PO Box 150 71176 Tiell Drive St. James MN, 56081 United States	Electronic Service		No	M-25-140
18	Sasha	Bergman	sasha.bergman@state.mn.us		Public Utilities Commission	121 7th PI E Ste 350 St. Paul MN, 55101 United States	Electronic Service		Yes	M-25-140
19	Derek	Bertsch	derek.bertsch@mrenergy.com	Missouri River Energy Services		3724 West Avera Drive PO Box 88920 Sioux Falls SD, 57109-8920 United States	Electronic Service		No	M-25-140
20	Barb	Bischoff	barb.bischoff@nngco.com	Northern Natural Gas Co.		CORP HQ, 714 1111 So. 103rd Street Omaha NE, 68124-1000 United States	Electronic Service		No	M-25-140
21	Ingrid	Bjorklund	ibjorklund@avisenlegal.com	Avisen Legal		901 S. Marquette Ave. #1675 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
22	Ingrid	Bjorklund	ingrid@bjorklundlaw.com	Bjorklund Law, PLLC		855 Village Center Drive #256 North Oaks MN, 55127 United States	Electronic Service		No	M-25-140
23	William	Black	bblack@mmua.org	MMUA		Suite 200 3131 Fernbrook Lane North Plymouth MN, 55447 United States	Electronic Service		No	M-25-140
24	Kenneth	Bradley	kbradley@environmentminnesota.org			2837 Emerson Ave S Apt CW112 Minneapolis MN, 55408 United States	Electronic Service		No	M-25-140
25	Jon	Brekke	jbrekke@grenergy.com	Great River Energy		12300 Elm Creek Boulevard Maple Grove MN, 55369-4718 United States	Electronic Service		No	M-25-140
26	Kathleen	Brennan	kbrennan@spencerfane.com	Spencer Fane LLP		100 South Fifth Street, Suite 2500 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
27	Sydney R.	Briggs	sbriggs@swce.coop	Steele-Waseca Cooperative Electric		2411 W. Bridge St PO Box 485 Owatonna MN, 55060-0485 United States	Electronic Service		No	M-25-140
28	Mark B.	Bring	mbring@otpc.com	Otter Tail Power Company		215 South Cascade Street	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						PO Box 496 Fergus Falls MN, 56538-0496 United States				
29	Matthew	Brodin	mbrodin@allete.com	Minnesota Power		30 West Superior Street Duluth MN, 55802 United States	Electronic Service		Yes	M-25-140
30	Ed	Brolin	ed.brolin@rwe.com	RWE Clean Energy		100 Summit Lake Drive Suite 210 Valhalla NY, 10595 United States	Electronic Service		No	M-25-140
31	Christopher	Browning	christopher.browning@nexteraenergy.com			null null, null United States	Electronic Service		No	M-25-140
32	Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron		60 S 6th St Ste 1500 Minneapolis MN, 55402-4400 United States	Electronic Service		No	M-25-140
33	Mike	Bull	mike.bull@state.mn.us		Public Utilities Commission	121 7th Place East, Suite 350 St. Paul MN, 55101 United States	Electronic Service		Yes	M-25-140
34	Jerry	Byer	jbyer@itasca-mantrap.com	Itasca-Mantrap Electric Cooperative		PO Box 192 Park Rapids MN, 56470 United States	Electronic Service		No	M-25-140
35	Jennifer	Cady	jjcady@mnpower.com	Minnesota Power		30 W Superior St Duluth MN, 55802 United States	Electronic Service		No	M-25-140
36	Daniel T	Carlisle	todd-wad@toddwadana.coop	Todd-Wadana Electric Cooperative		550 Ash Ave NE PO Box 431 Wadena MN, 56482 United States	Electronic Service		No	M-25-140
37	Douglas M.	Carnival	dcarnival@carnivalberns.com	McGrann Shea Carnival Straughn & Lamb		800 Nicollet Mall Ste 2600 Minneapolis MN, 55402-7035 United States	Electronic Service		No	M-25-140
38	Pat	Carruth	pat@mnvalleyrec.com	Minnesota Valley Coop. Light & Power Assn.		501 S 1st St. PO Box 248 Montevideo MN, 56265 United States	Electronic Service		No	M-25-140
39	Gabriel	Chan	gabechan@umn.edu			130 Hubert H. Humphrey Center 301 19th Ave S Minneapolis MN, 55455 United States	Electronic Service		No	M-25-140
40	Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.		12700 West Dodge Road PO Box 2047 Omaha NE, 68103-2047 United States	Electronic Service		No	M-25-140
41	Eric	Clement	eclement@mnpower.com	Minnesota Power		null null, null United States	Electronic Service		No	M-25-140
42	City	Clerk	gregg.engdahl@ci.stcloud.mn.us	City of St. Cloud		400 Second St. S	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						St. Cloud MN, 56301 United States				
43	Joshua	Cohen	josh.cohen@swtchenergy.com	SWTCH Energy, Inc.		Greentown Labs 444 Somerville Avenue Somerville MA, 02143 United States	Electronic Service		No	M-25-140
44	Kenneth A.	Colburn	kcolburn@symbioticstrategies.com	Symbiotic Strategies, LLC		26 Winton Road Meredith NH, 32535413 United States	Electronic Service		No	M-25-140
45	Steve	Coleman	stevecolemanpuma@gmail.com			231 Winifred St W Saint Paul MN, 55107 United States	Electronic Service		No	M-25-140
46	Generic	Commerce Attorneys	commerce.attorneys@ag.state.mn.us		Office of the Attorney General - Department of Commerce	445 Minnesota Street Suite 1400 St. Paul MN, 55101 United States	Electronic Service		Yes	M-25-140
47	Kevin	Cray	kevin@communitysolaraccess.org	CCSA		1644 Platte St Denver CO, 80202 United States	Electronic Service		No	M-25-140
48	George	Crocker	gwillc@nawo.org	North American Water Office		5093 Keats Avenue Lake Elmo MN, 55042 United States	Electronic Service		No	M-25-140
49	Stacy	Dahl	sdahl@minnkota.com	Minnkota Power Cooperative, Inc.		5301 32nd Ave S Grand Forks ND, 58201 United States	Electronic Service		No	M-25-140
50	George	Damian	gdamian@cleanenergyeconomymn.org	Clean Energy Economy MN		13713 Washburn Ave S Burnsville MN, 55337 United States	Electronic Service		No	M-25-140
51	Lisa	Daniels	lisadaniels@windustry.org	Windustry		201 Ridgewood Ave Minneapolis MN, 55403 United States	Electronic Service		No	M-25-140
52	James	Darabi	james.darabi@solarfarm.com			2355 Fairview Ave #101 St. Paul MN, 55113 United States	Electronic Service		No	M-25-140
53	Cody	Davis	cdavis@epeconsulting.com	Electric Power Engineers (ELPC/VS)		null null, null United States	Electronic Service		No	M-25-140
54	Danielle	DeMarre	danielle.demarre@allenergysolar.com	All Energy Solar		1264 Energy Lane St Paul MN, 55108 United States	Electronic Service		No	M-25-140
55	Timothy	DenHerder Thomas	timothy@cooperativeenergyfutures.com	Cooperative Energy Futures		3500 Bloomington Ave. S Minneapolis MN, 55407 United States	Electronic Service		No	M-25-140
56	James	Denniston	james.r.denniston@xcelenergy.com	Xcel Energy Services, Inc.		414 Nicollet Mall, 401-8 Minneapolis MN, 55401 United States	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
57	Curt	Dieren	curt.dieren@dgr.com	L&O Power Cooperative		1302 S Union St Rock Rapids IA, 51246 United States	Electronic Service		No	M-25-140
58	Cheryl	Dietrich	cheryl.dietrich@nexteraenergy.com	NextEra Energy Resources, LLC		700 Universe Blvd E1W/JB Juno Beach FL, 33408 United States	Electronic Service		No	M-25-140
59	Diane	Dietz	diane.dietz@state.mn.us		Department of Commerce	Suite 280 85 Seventh Place East St. Paul MN, 55101-2198 United States	Electronic Service		No	M-25-140
60	Ian M.	Dobson	ian.m.dobson@xcelenergy.com	Xcel Energy		414 Nicollet Mall, 401-8 Minneapolis MN, 55401 United States	Electronic Service		No	M-25-140
61	Kristin	Dolan	kdolan@meeker.coop	Meeker Cooperative Light & Power Assn		1725 US Hwy 12 E. Ste 100 Litchfield MN, 55355 United States	Electronic Service		No	M-25-140
62	Renee	Doyle	guydoyleelectric@gmail.com	Doyle Electric Inc.		PO Box 295 Amboy MN, 56010 United States	Electronic Service		No	M-25-140
63	Carlton	Doyle Fontaine	carlton.doyle.fontaine@senate.mn	MN Senate		75 Rev Dr Martin Luther King Jr Blvd Room G-17 St Paul MN, 55155 United States	Electronic Service		No	M-25-140
64	Adam	Duininck	aduininck@ncsrcc.org	North Central States Regional Council of Carpenters		700 Olive Street St. Paul MN, 55130 United States	Electronic Service		No	M-25-140
65	Scott	Dunbar	sdunbar@kfwlaw.com	Keyes & Fox LLP		1580 Lincoln St Ste 880 Denver CO, 80203 United States	Electronic Service		No	M-25-140
66	John R.	Dunlop, P.E.	jdunlop@resminn.com	Renewable Energy Services		Suite 300 448 Morgan Ave. S. Minneapolis MN, 55405-2030 United States	Electronic Service		No	M-25-140
67	Hannah	Dunn	hannah.dunn@oakdalemn.gov	City of Oakdale		1584 Hadley Ave N Oakdale MN, 55104 United States	Electronic Service		No	M-25-140
68	Kelly	Dybdahl	kdybdahl@llec.coop	Lyon-Lincoln Electric Cooperative, Inc.		205 W. Hwy. 14 Tyler MN, 56178 United States	Electronic Service		No	M-25-140
69	Brian	Edstrom	briane@cubminnesota.org	Citizens Utility Board of Minnesota		332 Minnesota St Ste W1360 Saint Paul MN, 55101 United States	Electronic Service		No	M-25-140
70	Dick	Edwards	dedwards@ci.maple-grove.mn.us	City of Maple Grove		12800 Arbor Lakes Parkway P O Box 1180 Maple Grove MN, 55311-6180 United States	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
71	William	Ehrlich	wehrlich@tesla.com	Tesla, Inc.		3500 Deer Creek Rd Palo Alto CA, 94304 United States	Electronic Service		No	M-25-140
72	Kristen	Eide Tollefson	healingsystems69@gmail.com	R-CURE		28477 N Lake Ave Frontenac MN, 55026-1044 United States	Electronic Service		No	M-25-140
73	Bob	Eleff	bob.eleff@house.mn	Regulated Industries Cmte		100 Rev Dr Martin Luther King Jr Blvd Room 600 St. Paul MN, 55155 United States	Electronic Service		No	M-25-140
74	R. Neal	Elliot	rnelliott@aceee.org	American Council for an Energy-Efficient Economy		ACEEE 529 14th St NW Ste 600 Washington DC, 20045 United States	Electronic Service		No	M-25-140
75	Nadav	Enbar	nenbar@epri.com	EPRI		1117 Quince Ave Boulder CO, 80304 United States	Electronic Service		No	M-25-140
76	John	Farrell	jfarrell@ilsr.org	Institute for Local Self-Reliance		2720 E. 22nd St Institute for Local Self-Reliance Minneapolis MN, 55406 United States	Electronic Service		No	M-25-140
77	Christian	Fenstermacher	christian.fenstermacher@owatonnautilities.com	Owatonna Municipal Public Utilities		PO Box 800 208 S Walnut Ave Owatonna MN, 55060 United States	Electronic Service		No	M-25-140
78	Sharon	Ferguson	sharon.ferguson@state.mn.us		Department of Commerce	85 7th Place E Ste 280 Saint Paul MN, 55101-2198 United States	Electronic Service		No	M-25-140
79	Christine	Fox	cfox@itasca-mantrap.com	Itasca-Mantrap Coop. Electric Assn.		PO Box 192 Park Rapids MN, 56470 United States	Electronic Service		No	M-25-140
80	Kornbaum	Frank	fkornbaum@mnpower.com			null null, null United States	Electronic Service		No	M-25-140
81	Nathan	Franzen	nathan@nationalgridrenewables.com	Geronimo Energy, LLC		8400 Normandale Lake Blvd Ste 1200 Bloomington MN, 55437 United States	Electronic Service		No	M-25-140
82	David	Freestate	dfreestate@epri.com	EPRI		942 Corridor Park Blvd Knoxville TN, 37932 United States	Electronic Service		No	M-25-140
83	Katelyn	Frye	kfrye@mnpower.com	Minnesota Power		30 W Superiot St Duluth MN, 55802-2093 United States	Electronic Service		No	M-25-140
84	Jessica	Fyhrie	jfyhrie@otpc.com	Otter Tail Power Company		PO Box 496 Fergus Falls MN, 56538-0496 United States	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
85	Edward	Garvey	garveyed@aol.com	Residence		32 Lawton St Saint Paul MN, 55102 United States	Electronic Service		No	M-25-140
86	Allen	Gleckner	agleckner@elpc.org	Environmental Law & Policy Center		35 E. Wacker Drive, Suite 1600 Suite 1600 Chicago IL, 60601 United States	Electronic Service		No	M-25-140
87	Jenny	Glumack	jenny@mrea.org	Minnesota Rural Electric Association		11640 73rd Ave N Maple Grove MN, 55369 United States	Electronic Service		No	M-25-140
88	Sean	Gosiewski	sean@afors.org	Alliance for Sustainability		2801 21st Ave S Ste 100 Minneapolis MN, 55407 United States	Electronic Service		No	M-25-140
89	Scott	Greenbert	scott@nautilussolar.com	Nautilus Solar Energy, LLC		396 Springfield Aver, Ste 2 Summit NJ, 07901 United States	Electronic Service		No	M-25-140
90	Sarah	Groebner	sgroebner@redwoodelectric.com	Redwood Electric Cooperative		60 Pine St Clements MN, 56224 United States	Electronic Service		No	M-25-140
91	Tim	Gross	tgross@fuelingmn.com	Fueling Minnesota		3244 Rice Street St. Paul MN, 55126 United States	Electronic Service		No	M-25-140
92	Cody	Gustafson	cgustafson@mnpower.com			null null, null United States	Electronic Service		No	M-25-140
93	Tom	Guttormson	tom.guttormson@connexusenergy.com	Connexus Energy		14601 Ramsey Blvd Ramsey MN, 55303 United States	Electronic Service		No	M-25-140
94	Natalie	Haberman	townsend@fresh-energy.org	Fresh Energy		408 St Peter St # 350 St. Paul MN, 55102 United States	Electronic Service		No	M-25-140
95	Nicholas	Haeg	haeg@fresh-energy.org			12298 Bass Trail Sauk Centre MN, 56378 United States	Electronic Service		No	M-25-140
96	James	Haler	jhaler@southcentralelectric.com	South Central Electric Association		71176 Tiell Dr P. O. Box 150 St. James MN, 56081 United States	Electronic Service		No	M-25-140
97	Joe	Halso	joe.halso@sierraclub.org	Sierra Club		1536 Wynkoop St Ste 200 Denver CO, 80202 United States	Electronic Service		No	M-25-140
98	Donald	Hanson	dfhanson@ieee.org			P. O. Box 44579 Eden Prairie MN, 55344 United States	Electronic Service		No	M-25-140
99	John	Harlander	john.c.harlander@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-140
100	Kim	Havey	kim.havey@minneapolismn.gov	City of Minneapolis		350 South 5th Street, Suite 315M Minneapolis	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						MN, 55415 United States				
101	Todd	Headlee	theadlee@dvigridsolutions.com	Dominion Voltage, Inc.		701 E. Cary Street Richmond VA, 23219 United States	Electronic Service		No	M-25-140
102	Amber	Hedlund	amber.r.hedlund@xcelenergy.com	Northern States Power Company dba Xcel Energy-Elec		414 Nicollet Mall, 401-7 Minneapolis MN, 55401 United States	Electronic Service		No	M-25-140
103	Tiana	Heger	theher@mnpower.com	Minnesota Power		30 W. Superior Street Duluth MN, 55802 United States	Electronic Service		No	M-25-140
104	Adam	Heinen	aheinen@dakotaelectric.com	Dakota Electric Association		4300 220th St W Farmington MN, 55024 United States	Electronic Service		No	M-25-140
105	Annete	Henkel	mui@mnutilityinvestors.org	Minnesota Utility Investors		413 Wacouta Street #230 St.Paul MN, 55101 United States	Electronic Service		No	M-25-140
106	Jessy	Hennesy	jessy.hennesy@avantenergy.com	Avant Energy		220 S. Sixth St. Ste 1300 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
107	Mari	Hernandez	mari@irecusa.org	IREC		null null, null United States	Electronic Service		No	M-25-140
108	Katherine	Hinderlie	katherine.hinderlie@ag.state.mn.us		Office of the Attorney General - Residential Utilities Division	445 Minnesota St Suite 1400 St. Paul MN, 55101-2134 United States	Electronic Service		No	M-25-140
109	Joe	Hoffman	ja.hoffman@smpa.org	SMPA		500 First Ave SW Rochester MN, 55902-3303 United States	Electronic Service		No	M-25-140
110	Michael	Hoppe	lu23@ibew23.org	Local Union 23, I.B.E.W.		445 Etna Street Ste. 61 St. Paul MN, 55106 United States	Electronic Service		No	M-25-140
111	Casey	Horan	choran@edf.org	Environmental Defense Fund		123 Mission St San Francisco CA, 94105 United States	Electronic Service		No	M-25-140
112	Ronald	Horman	rhorman@redwoodelectric.com	Redwood Electric Cooperative		60 Pine Street Clements MN, 56224 United States	Electronic Service		No	M-25-140
113	Frank	Hornstein	frank.hornstein@minneapolismn.gov	City of Minneapolis		350 South 5th Street Minneapolis MN, 55415 United States	Electronic Service		No	M-25-140
114	Samantha	Houston	shouston@ucsusa.org	Union of Concerned Scientists		1825 K St. NW Ste 800 Washington DC, 20006 United States	Electronic Service		No	M-25-140
115	Lori	Hoyum	lhoyum@mnpower.com	Minnesota Power		30 West Superior Street Duluth MN,	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						55802 United States				
116	Jan	Hubbard	jan.hubbard@comcast.net			7730 Mississippi Lane Brooklyn Park MN, 55444 United States	Electronic Service		No	M-25- 140
117	Dean	Hunter	dean.hunter@state.mn.us		Minnesota Department of Labor & Industry	443 Lafayette Rd N St. Paul MN, 55155-4341 United States	Electronic Service		No	M-25- 140
118	Reuben	Hunter	bhunter@madisonei.com	Madison Energy Investments		8100 Boone Blvd Suite 430 Vienna VA, 22182 United States	Electronic Service		No	M-25- 140
119	Casey	Jacobson	cjacobson@bepc.com	Basin Electric Power Cooperative		1717 East Interstate Avenue Bismarck ND, 58501 United States	Electronic Service		No	M-25- 140
120	John S.	Jaffray	jjaffray@jjrpower.com	JJR Power		350 Highway 7 Suite 236 Excelsior MN, 55331 United States	Electronic Service		No	M-25- 140
121	Robert	Jagusch	rjagusch@mmua.org	MMUA		3025 Harbor Lane N Minneapolis MN, 55447 United States	Electronic Service		No	M-25- 140
122	Chris	Jarosch	chris@carrcreekelectricservice.com	Carr Creek Electric Service, LLC		209 Sommers Street North Hudson WI, 54016 United States	Electronic Service		No	M-25- 140
123	Alan	Jenkins	aj@jenkinsatlaw.com	Jenkins at Law		2950 Yellowtail Ave. Marathon FL, 33050 United States	Electronic Service		No	M-25- 140
124	Richard	Johnson	rickjohnson@cozen.com	Cozen O'Connor		150 S. 5th Street Suite 1200 Minneapolis MN, 55402 United States	Electronic Service		No	M-25- 140
125	Sarah	Johnson Phillips	sjphillips@stoel.com	Stoel Rives LLP		33 South Sixth Street Suite 4200 Minneapolis MN, 55402 United States	Electronic Service		No	M-25- 140
126	Nate	Jones	njones@hcpd.com	Heartland Consumers Power		PO Box 248 Madison SD, 57042 United States	Electronic Service		No	M-25- 140
127	Philip	Jones	phil@evtransportationalliance.org			1402 Third Ave Ste 1315 Seattle WA, 98101 United States	Electronic Service		No	M-25- 140
128	Julie	Jorgensen	julie@greenmark.us.com	Greenmark Solar		4630 Quebec Ave N New Hope MN, 55428- 4973 United States	Electronic Service		No	M-25- 140
129	Kevin	Joyce	kjoyce@tesla.com			null null, null United States	Electronic Service		No	M-25- 140
130	Mahmoud	Kabalan	mahmoud.kabalan@stthomas.edu	University of St Thomas		2115 Summit Ave. Mail OSS100	Electronic Service		No	M-25- 140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						School of Engineering Saint Paul MN, 55105 United States				
131	Camille	Kadoch	ckadoch@raponline.org	Regulatory Assistance Project		50 State Street Suite 3 Montpelier VT, 05602 United States	Electronic Service		No	M-25-140
132	Cliff	Kaehler	cliff.kaehler@novelenergy.biz	Novel Energy Solutions LLC		4710 Blaylock Way Inver Grove Heights MN, 55076 United States	Electronic Service		No	M-25-140
133	Ralph	Kaehler	ralph.kaehler@gmail.com			13700 Co. Rd. 9 Eyota MN, 55934 United States	Electronic Service		No	M-25-140
134	Michael	Kampmeyer	mkampmeyer@a-e-group.com	AEG Group, LLC		260 Salem Church Road Sunfish Lake MN, 55118 United States	Electronic Service		No	M-25-140
135	Nick	Kaneski	nick.kaneski@enbridge.com	Enbridge Energy Company, Inc.		11 East Superior St Ste 125 Duluth MN, 55802 United States	Electronic Service		No	M-25-140
136	Jack	Kegel	jkegel@mmua.org	MMUA		3025 Harbor Lane N Suite 400 Plymouth MN, 55447-5142 United States	Electronic Service		No	M-25-140
137	William	Kenworthy	will@votesolar.org			1 South Dearborn St Ste 2000 Chicago IL, 60603 United States	Electronic Service		No	M-25-140
138	Samuel B.	Ketchum	sketchum@kennedy-graven.com	Kennedy & Graven, Chartered		150 S 5th St Ste 700 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
139	Tom	Key	tkey@epri.com	EPRI		942 Corridor Park Blvd Knoxville TN, 37932 United States	Electronic Service		No	M-25-140
140	Bobby	King	bking@solarunitedneighbors.org	Solar United Neighbors		3140 43rd Ave S Minneapolis MN, 55406 United States	Electronic Service		No	M-25-140
141	Jack	Kluempke	jack.kluempke@state.mn.us		Department of Commerce	85 7th Place East Suite 600 St. Paul MN, 55101 United States	Electronic Service		No	M-25-140
142	Aaron	Knoll	aknoll@greeneespel.com	Greene Espel PLLP		222 South Ninth Street Suite 2200 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
143	Steve	Kosbab	skosbab@meeker.coop	Meeker Cooperative Light and Power		1725 US Hwy 12 E Litchfield MN, 55355 United States	Electronic Service		No	M-25-140
144	Nathan	Kostiuk	nathan.c.kostiuk@xcelenergy.com	Xcel Energy		414 Nicollet Mall, 401-07	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						Minneapolis MN, 55401 United States				
145	Brian	Krambeer	bkrambeer@mienergy.coop	MiEnergy Cooperative		PO Box 626 31110 Cooperative Way Rushford MN, 55971 United States	Electronic Service		No	M-25-140
146	Michael	Krause	michaelkrause61@yahoo.com			1200 Plymouth Avenue Minneapolis MN, 55411 United States	Electronic Service		No	M-25-140
147	Michael	Krikava	mkrikava@taftlaw.com	Taft Stettinius & Hollister LLP		2200 IDS Center 80 S 8th St Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
148	Corrina	Kumpe	ckumpe@mysunshare.com			null null, null United States	Electronic Service		No	M-25-140
149	Matthew	Lacey	mlacey@grenergy.com	Great River Energy		12300 Elm Creek Boulevard Maple Grove MN, 55369-4718 United States	Electronic Service		No	M-25-140
150	James D.	Larson	james.larson@avantenergy.com	Avant Energy Services		220 S 6th St Ste 1300 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
151	Mark	Larson	mlarson@meeker.coop	Meeker Coop Light & Power Assn		1725 Highway 12 E Ste 100 Litchfield MN, 55355 United States	Electronic Service		No	M-25-140
152	Burnell	Lauer	blauer.sundial@gmail.com	Sundial Solar		3209 W. 76th St #305 Edina MN, 55435 United States	Electronic Service		No	M-25-140
153	Dean	Leischow	dean@sunrisenrg.com	Sunrise Energy Ventures		315 Manitoba Ave Ste 200 Wayzata MN, 55391 United States	Electronic Service		No	M-25-140
154	Annie	Levenson Falk	annief@cupminnesota.org	Citizens Utility Board of Minnesota		332 Minnesota Street, Suite W1360 St. Paul MN, 55101 United States	Electronic Service		No	M-25-140
155	Benjamin	Levine	blevine@mnpower.com	Minnesota Power		30 West Superior Street Duluth MN, 55802 United States	Electronic Service		No	M-25-140
156	Becky	Li	bli@rmi.org			17 State St 25th floor unit 2500 New York NY, 10004 United States	Electronic Service		No	M-25-140
157	Amy	Liberkowski	amy.a.liberkowski@xcelenergy.com	Xcel Energy		414 Nicollet Mall 7th Floor Minneapolis MN, 55401-1993 United States	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
158	Carl	Linville	clinville@raponline.org			50 State Street Suite #3 Montpelier VT, 05602 United States	Electronic Service		No	M-25-140
159	Phillip	Lipetsky	greenenergyproductsllc@gmail.com	Green Energy Products		PO Box 108 Springfield MN, 56087 United States	Electronic Service		No	M-25-140
160	Jody	Londo	jody.l.londo@xcelenergy.com	Xcel Energy		414 Nicillet Mall 7th Floor Minneapolis MN, 55401-1993 United States	Electronic Service		No	M-25-140
161	Susan	Ludwig	sludwig@mnpower.com	Minnesota Power		30 West Superior Street Duluth MN, 55802 United States	Electronic Service		No	M-25-140
162	Brian	Lydic	brian@irecusa.org	Interstate Renewable Energy Council, Inc.		PO Box 1156 Latham NY, 12110-1156 United States	Electronic Service		No	M-25-140
163	Madeline	Lydon	madeline.k.lydon@xcelenergy.com	Xcel Energy		401 NICOLLET MALL Floor 7 Minneapolis MN, 55401 United States	Electronic Service		No	M-25-140
164	Richard	Macke	macker@powersystem.org	Power System Engineering, Inc.		10710 Town Square Dr NE Ste 201 Minneapolis MN, 55449 United States	Electronic Service		No	M-25-140
165	Alice	Madden	alice@communitypowermn.org	Community Power		2720 E 22nd St Minneapolis MN, 55406 United States	Electronic Service		No	M-25-140
166	Alex	Magerko	amagerko@epri.com	EPRI		942 Corridor Park Blvd Knoxville TN, 37932 United States	Electronic Service		No	M-25-140
167	Kavita	Maini	kmairi@wi.rr.com	KM Energy Consulting, LLC		961 N Lost Woods Rd Oconomowoc WI, 53066 United States	Electronic Service		No	M-25-140
168	Tom	Mammen	thomas.j.mammen@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-140
169	Discovery	Manager	discoverymanager@mnpower.com	Minnesota Power		30 W Superior St Duluth MN, 55802 United States	Electronic Service		No	M-25-140
170	Christine	Marquis	regulatory.records@xcelenergy.com	Xcel Energy		414 Nicollet Mall MN1180-07-MCA Minneapolis MN, 55401 United States	Electronic Service		No	M-25-140
171	Gregg	Mast	gmast@cleanenergyeconomy.com	Clean Energy Economy Minnesota		4808 10th Avenue S Minneapolis MN, 55417 United States	Electronic Service		No	M-25-140
172	Jason	Maur	jason.maur@renesolapower.com	Renesola Power Holdings, LLC		850 Canal Street 3rd Floor	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						Stamford CT, 06902 United States				
173	Erica	McConnell	emcconnell@elpc.org	Environmental Law & Policy Center		35 E. Wacker Drive, Suite 1600 Chicago IL, 60601 United States	Electronic Service		No	M-25-140
174	Jess	McCullough	jmccullough@mnpower.com	Minnesota Power		30 W Superior St Duluth MN, 55802 United States	Electronic Service		No	M-25-140
175	Sara G	McGrane	smcgrane@felhaber.com	Felhaber Larson		220 S 6th St Ste 2200 Minneapolis MN, 55420 United States	Electronic Service		No	M-25-140
176	Natalie	McIntire	natalie.mcintire@gmail.com	Wind on the Wires		570 Asbury St Ste 201 Saint Paul MN, 55104-1850 United States	Electronic Service		No	M-25-140
177	Matthew	Melewski	matthew@theboutiquefirm.com	Nokomis Energy LLC & Ole Solar LLC		2639 Nicollet Ave Ste 200 Minneapolis MN, 55408 United States	Electronic Service		No	M-25-140
178	Thomas	Melone	thomas.melone@allcous.com	Minnesota Go Solar LLC		222 South 9th Street Suite 1600 Minneapolis MN, 55120 United States	Electronic Service		No	M-25-140
179	Michael	Menzel	mike.m@sagiliti.com	Sagiliti		23505 Smithtown Rd. Suite 280 Excelsior MN, 55331 United States	Electronic Service		No	M-25-140
180	Tim	Mergen	tmergen@meeker.coop	Meeker Cooperative Light And Power		1725 US Hwy 12 E. Suite 100 PO Box 68 Litchfield MN, 55355 United States	Electronic Service		No	M-25-140
181	Pontius	Mike	mpontius@mnpower.com			null null, null United States	Electronic Service		No	M-25-140
182	Brian	Millberg	fwengineering@comcast.net			695 Grand Ave #222 Saint Paul MN, 55105 United States	Electronic Service		No	M-25-140
183	Luther	Miller	luther.c.miller@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-140
184	Marc	Miller	mmiller@soltage.com	Soltage, LLC		66 York Street, 5th Floor Jersey City NJ, 07302 United States	Electronic Service		No	M-25-140
185	Marcus	Mills	marcus@communitypowermn.org	Community Power		2720 E 22nd St Minneapolis MN, 55406 United States	Electronic Service		No	M-25-140
186	Darrick	Moe	darrick@mrea.org	Minnesota Rural Electric Association		11640 73rd Ave N Maple Grove MN, 55369 United States	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
187	Dalene	Monsebroten	dalene.monsebroten@nmpagency.com	Northern Municipal Power Agency		123 2nd St W Thief River Falls MN, 56701 United States	Electronic Service		No	M-25-140
188	Brian	Monson	brian.t.monson@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-140
189	Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP		33 South Sixth St Ste 4200 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
190	Susan	Mudd	smudd@elpc.org	Environmental Law and Policy Center		35 E. Wacker Drive, Suite 1600 Chicago IL, 60601 United States	Electronic Service		No	M-25-140
191	Pouya	Najmaie	najm0001@gmail.com	Cooperative Energy Futures		3416 16th Ave S Minneapolis MN, 55407 United States	Electronic Service		No	M-25-140
192	Alex	Nelson	anelson@dakotaelectric.com	Dakota Electric Association		4300 220nd St Farmington MN, 55024 United States	Electronic Service		No	M-25-140
193	Anthony	Nelson	amnelson@otpc.com	Ottertail Power		53233 Sunrise Ln Park Rapids MN, 56470 United States	Electronic Service		No	M-25-140
194	Ben	Nelson	benn@cmpasgroup.org	CMPMA		459 South Grove Street Blue Earth MN, 56013 United States	Electronic Service		No	M-25-140
195	Carl	Nelson	cnelson@mncee.org	Center for Energy and Environment		212 3rd Ave N Ste 560 Minneapolis MN, 55401 United States	Electronic Service		No	M-25-140
196	Darin	Nelson	dnelson@minnetonkamn.gov	City of Minnetonka		14600 Minnetonka Blvd Minnetonka MN, 55345 United States	Electronic Service		No	M-25-140
197	David	Niles	david.niles@avantenergy.com	Minnesota Municipal Power Agency		220 South Sixth Street Suite 1300 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
198	Sephra	Ninow	sephra.ninow@energycenter.org	Center for Sustainable Energy		426 17th Street, Suite 700 Oakland CA, 94612 United States	Electronic Service		No	M-25-140
199	Michael	Noble	noble@fresh-energy.org	Fresh Energy		408 Saint Peter St Ste 350 Saint Paul MN, 55102 United States	Electronic Service		No	M-25-140
200	Rolf	Nordstrom	rnordstrom@gpisd.net	Great Plains Institute		2801 21ST AVE S STE 220 Minneapolis MN, 55407-1229 United States	Electronic Service		No	M-25-140
201	Samantha	Norris	samanthanorris@alliantenergy.com	Interstate Power and Light		200 1st Street SE PO Box	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
				Company		351 Cedar Rapids IA, 52406-0351 United States				
202	David	O'Brien	david.obrien@navigant.com	Navigant Consulting		77 South Bedford St Ste 400 Burlington MA, 01803 United States	Electronic Service		No	M-25-140
203	Logan	O'Grady	logrady@mnseia.org	Minnesota Solar Energy Industries Association		2288 University Ave W St. Paul MN, 55114 United States	Electronic Service		No	M-25-140
204	Patty	O'Keefe	patty.okeefe@sierraclub.org			2525 Emerson Ave S Apt 2 Minneapolis MN, 55405 United States	Electronic Service		No	M-25-140
205	Timothy	O'Leary	toleary@llec.coop	Lyon-Lincoln Electric Cooperative, Inc		P.O. Box 639 Tyler MN, 56178-0639 United States	Electronic Service		No	M-25-140
206	Jeff	O'Neill	jeff.oneill@ci.monticello.mn.us	City of Monticello		505 Walnut Street Suite 1 Monticello MN, 55362 United States	Electronic Service		No	M-25-140
207	Matthew	Olsen	molsen@otpc.com	Otter Tail Power Company		215 South Cascade Street Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-140
208	Russell	Olson	rolson@hcpd.com	Heartland Consumers Power District		PO Box 248 Madison SD, 57042-0248 United States	Electronic Service		No	M-25-140
209	Wendi	Olson	wolson@otpc.com	Otter Tail Power Company		215 South Cascade Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-140
210	Carol A.	Overland	overland@legalelectric.org	Legalelectric - Overland Law Office		1110 West Avenue Red Wing MN, 55066 United States	Electronic Service		No	M-25-140
211	Bethany	Owen	bowen@mnpower.com	Minnesota Power		30 West Superior Street Duluth MN, 55802 United States	Electronic Service		No	M-25-140
212	Cezar	Panait	cezar.panait@state.mn.us		Public Utilities Commission	121 7th Place East Suite 350 St. Paul MN, 55101 United States	Electronic Service		No	M-25-140
213	Dan	Patry	dpatry@sunedison.com	SunEdison		600 Clipper Drive Belmont CA, 94002 United States	Electronic Service		No	M-25-140
214	Jeffrey C	Paulson	jeff.jcplaw@comcast.net	Paulson Law Office, Ltd.		4445 W 77th Street Suite 224 Edina MN, 55435 United States	Electronic Service		No	M-25-140
215	Dean	Pawlowski	dpawlowski@otpc.com	Otter Tail Power Company		PO Box 496 215 S.	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
230	Peter	Reese	preese@sundialsolarenergy.com	Sundial Energy, LLC		3363 Republic Ave Saint Louis Park MN, 55426 United States	Electronic Service		No	M-25-140
231	Generic Notice	Regulatory	regulatory_filing_coordinators@otpc.com	Otter Tail Power Company		215 S. Cascade Street Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-140
232	John C.	Reinhardt		Laura A. Reinhardt		3552 26th Ave S Minneapolis MN, 55406 United States	Paper Service		No	M-25-140
233	Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us		Office of the Attorney General - Residential Utilities Division	1400 BRM Tower 445 Minnesota St St. Paul MN, 55101-2131 United States	Electronic Service		Yes	M-25-140
234	Kevin	Reuther	kreuther@mncenter.org	MN Center for Environmental Advocacy		26 E Exchange St, Ste 206 St. Paul MN, 55101-1667 United States	Electronic Service		No	M-25-140
235	Micah	Revell	micah.revell@stinson.com	Stinson LLP		50 South Sixth St Ste 2600 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
236	Michael	Riewer	mriewer@otpc.com	Otter Tail Power Company		PO Box 4496 Fergus Falls MN, 56538-0496 United States	Electronic Service		No	M-25-140
237	Jonathan	Roberts	jroberts@soltage.com	Soltage		66 York St 5th Floor Jersey City NJ, 07302 United States	Electronic Service		No	M-25-140
238	Noah	Roberts	nroberts@cleanpower.org	Energy Storage Association		1155 15th St NW, Ste 500 Washington DC, 20005 United States	Electronic Service		No	M-25-140
239	Kristi	Robinson	krobinson@star-energy.com	STAR Energy Services, LLC		1401 South Broadway Pelican Rapids MN, 56572 United States	Electronic Service		No	M-25-140
240	Daniel	Rogers	dan@nokomispartners.com			2639 Nicollet Ave Ste 200 Minneapolis MN, 55408 United States	Electronic Service		No	M-25-140
241	Michael	Ruiz	michael.ruiz@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-140
242	Nathaniel	Runke	nrunke@local49.org			611 28th St. NW Rochester MN, 55901 United States	Electronic Service		No	M-25-140
243	Darla	Ruschen	d.ruschen@bcrea.coop	Brown County Rural Electrical Association		PO Box 529 24386 State Highway 4 Sleepy Eye MN, 56085 United States	Electronic Service		No	M-25-140
244	Delaney	Russell	delaney@mnipl.org	Just Solar Coalition		4407 E Lake Street	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						Minneapolis MN, 55407 United States				
245	Kwadwo	Safo	ksafo@dakotaelectric.com	Dakota Electric Association		null null, null United States	Electronic Service		No	M-25-140
246	Robert K.	Sahr	bsahr@eastriver.coop	East River Electric Power Cooperative		P.O. Box 227 Madison SD, 57042 United States	Electronic Service		No	M-25-140
247	Ian	SantosMeeker	ians@ips-solar.com	IPS Solar		null null, null United States	Electronic Service		No	M-25-140
248	Joseph L	Sathe	jsathe@kennedy-graven.com	Kennedy & Graven, Chartered		150 S 5th St Ste 700 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
249	Kenric	Scheevel	kjs@dairynet.com	Dairyland Power Cooperative		3200 East Ave S PO Box 817 La Crosse WI, 54602 United States	Electronic Service		No	M-25-140
250	Dean	Schiro	dean.e.schiro@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-140
251	Jacob J.	Schlesinger	jschlesinger@keyesfox.com	Keyes & Fox LLP		1580 Lincoln St Ste 880 Denver CO, 80203 United States	Electronic Service		No	M-25-140
252	Jeff	Schoenecker	jschoenecker@dakotaelectric.com	Dakota Electric Association		4300 220th Street W Farmington MN, 55024 United States	Electronic Service		No	M-25-140
253	Peter	Scholtz	peter.scholtz@ag.state.mn.us		Office of the Attorney General - Residential Utilities Division	Suite 1400 445 Minnesota Street St. Paul MN, 55101-2131 United States	Electronic Service		No	M-25-140
254	Kay	Schraeder	kschraeder@minnkota.com	Minnkota Power		5301 32nd Ave S Grand Forks ND, 58201 United States	Electronic Service		No	M-25-140
255	Matthew	Schuerger	matthew.schuerger@state.mn.us		Public Utilities Commission	121 7th Place East Suite 350 St. Paul MN, 55101 United States	Electronic Service		No	M-25-140
256	Ronald J.	Schwartau	rschwartau@noblesce.com	Nobles Electric Cooperative		22636 U.S. Hwy. 59 Worthington MN, 56187 United States	Electronic Service		No	M-25-140
257	Rob	Scott Hovland	rob.scott-hovland@mrenergy.com	Missouri River Energy Services		3724 W Avera Dr PO Box 88920 Sioux Falls SD, 57109- 8920 United States	Electronic Service		No	M-25-140
258	Emma	Searson	esearson@solarunitedneighbors.org	Solar United Neighbors		646 S Barrington Ave Apt 101 Los Angeles CA, 90049 United States	Electronic Service		No	M-25-140
259	Dean	Sedgwick	sedgwick@itascapower.com	Itasca Power Company		PO Box 455 Spring Lake	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						MN, 56680 United States				
260	Maria	Seidler	maria.seidler@dom.com	Dominion Energy Technology		120 Tredegar Street Richmond VA, 23219 United States	Electronic Service		No	M-25-140
261	David	Shaffer	david.shaffer@novelenergy.biz	Novel Energy Solutions		2303 Wycliff St Ste 300 St. Paul MN, 55114 United States	Electronic Service		No	M-25-140
262	Patricia	Sharkey	psharkey@environmentallawcounsel.com	Midwest Cogeneration Association.		180 N LaSalle St Ste 3700 Chicago IL, 60601 United States	Electronic Service		No	M-25-140
263	Christopher L.	Sherman	csherman@sherman-associates.com	Solar Holdings LLC		233 Park Ave S Ste 201 Minneapolis MN, 55415 United States	Electronic Service		No	M-25-140
264	Doug	Shoemaker	dougs@charter.net	Minnesota Renewable Energy		2928 5th Ave S Minneapolis MN, 55408 United States	Electronic Service		No	M-25-140
265	Felicia	Skaggs	fskaggs@meeker.coop	Meeker Cooperative Light & Power		1725 US Highway 12 E Suite 100 Litchfield MN, 55355 United States	Electronic Service		No	M-25-140
266	Glen	Skarbakka	glen@s-pllc.com	Skarbakka PLLC		5411 Bartlett Blvd Mound MN, 55364 United States	Electronic Service		No	M-25-140
267	Anne	Smart	anne.smart@chargepoint.com	ChargePoint, Inc.		254 E Hacienda Ave Campbell CA, 95008 United States	Electronic Service		No	M-25-140
268	Joshua	Smith	joshua.smith@sierraclub.org			85 Second St FL 2 San Francisco CA, 94105 United States	Electronic Service		No	M-25-140
269	Ken	Smith	ken.smith@districtenergy.com	District Energy St. Paul Inc.		76 W Kellogg Blvd St. Paul MN, 55102 United States	Electronic Service		No	M-25-140
270	Trevor	Smith	trevor.smith@avantenergy.com	Avant Energy, Inc.		220 South Sixth Street Suite 1300 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
271	Rafi	Sohail	rafi.sohail@centerpointenergy.com	CenterPoint Energy		800 LaSalle Avenue P.O. Box 59038 Minneapolis MN, 55459-0038 United States	Electronic Service		No	M-25-140
272	Beth	Soholt	bsoholt@cleangridalliance.org	Clean Grid Alliance		570 Asbury Street Suite 201 St. Paul MN, 55104 United States	Electronic Service		No	M-25-140
273	Marcia	Solie	m.solie@bcrea.coop	Brown County Rural Electrical Association		24386 State Hwy. 4, PO Box 529 Sleepy Eye	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						MN, 56085 United States				
274	Braden	Solum	braden.solum@idealenergies.com	iDEAL Energies		5810 Nicollet Ave Minneapolis MN, 55419 United States	Electronic Service		No	M-25-140
275	Karl	Sonneman	karl17@hbc.com	Law Office of Karl W. Sonneman		111 Riverfront Suite 202 Winona MN, 55987 United States	Electronic Service		No	M-25-140
276	Brandon	Stamp	brandon.j.stamp@xcelenergy.com	Xcel Energy		401 Nicollet Mall Minneapolis MN, 55401 United States	Electronic Service		No	M-25-140
277	Sky	Stanfield	stanfield@smwlaw.com	Shute, Mihaly & Weinberger		396 Hayes Street San Francisco CA, 94102 United States	Electronic Service		No	M-25-140
278	Russ	Stark	russ.stark@ci.stpaul.mn.us	City of St. Paul		Mayor's Office 15 W. Kellogg Blvd., Suite 390 Saint Paul MN, 55102 United States	Electronic Service		No	M-25-140
279	Byron E.	Starns	byron.starns@stinson.com	STINSON LLP		50 S 6th St Ste 2600 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
280	Kristin	Stastny	kstastny@taftlaw.com	Taft Stettinius & Hollister LLP		2200 IDS Center 80 South 8th Street Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
281	Lindsey	Stegall	lindsey.stegall@evgo.com	EVgo Services, LLC		11835 W Olympic Blvd Ste 900E Los Angeles CA, 90064 United States	Electronic Service		No	M-25-140
282	Cary	Stephenson	cstephenson@otpc.com	Otter Tail Power Company		215 South Cascade Street Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-140
283	Chad	Stevenson	chad.stevenson@ag.state.mn.us		Office of the Attorney General - Residential Utilities Division	445 Minnesota St. Suite 1400 St. Paul MN, 55101 United States	Electronic Service		No	M-25-140
284	Tammy	Sundbom	tsundbom@mnpower.com	Minnesota Power		null null, null United States	Electronic Service		No	M-25-140
285	Sherry	Swanson	sswanson@noblesce.com	Nobles Cooperative Electric		22636 US Highway 59 PO Box 788 Worthington MN, 56187 United States	Electronic Service		No	M-25-140
286	Boratha	Tan	btan@votesolar.org	Vote Solar		null null, null United States	Electronic Service		No	M-25-140
287	Bryant	Tauer	btauer@whe.org	Wright-Hennepin		6800 Electric Dr Rockford MN, 55373 United States	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
288	Dean	Taylor	dtaylor@pluginamerica.org	Plug In America		6380 Wilshire Blvd, Suite 1000 Los Angeles CA, 90048 United States	Electronic Service		No	M-25-140
289	Whitney	Terrill	whitney@mnipl.org	Minnesota Interfaith Power & Light		null null, null United States	Electronic Service		No	M-25-140
290	Daniel	Tikk	daniel.tikk@state.mn.us		Department of Commerce	85 7th Place East Suite 280 Saint Paul MN, 55101 United States	Electronic Service		No	M-25-140
291	Kate	Tohme	ktohme@newleafenergy.com	New Leaf Energy		null null, null United States	Electronic Service		No	M-25-140
292	Stuart	Tommerdahl	stommerdahl@otpc.com	Otter Tail Power Company		215 S Cascade St PO Box 496 Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-140
293	Taige	Tople	taige.d.tople@xcelenergy.com	Northern States Power Company dba Xcel Energy-Elec		414 Nicollet Mall 401 7th Floor Minneapolis MN, 55401 United States	Electronic Service		No	M-25-140
294	Jason	Topp	jason.topp@lumen.com	Qwest Communications Company, LLC.		200 S 5th St Ste 2200 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
295	Emma Marshall	Torres	emarshall-torres@convergentep.com			null null, null United States	Electronic Service		No	M-25-140
296	Zack	Townsend	zachary.townsend@brookfieldrenewable.com	Brookfield Renewable		200 Liberty St FL 14 New York NY, 10281 United States	Electronic Service		No	M-25-140
297	Pat	Treseler	pat.jcplaw@comcast.net	Paulson Law Office LTD		4445 W 77th Street Suite 224 Edina MN, 55435 United States	Electronic Service		No	M-25-140
298	Jeff	Triplett	triplettj@powersystem.org	MREA		10710 Town Square Dr NW St 201 Minneapolis MN, 55449 United States	Electronic Service		No	M-25-140
299	Adam	Tromblay	atromblay@noblesce.com	Nobles Cooperative Electric		P.O. Box 58 Slayton MN, 56127-0058 United States	Electronic Service		No	M-25-140
300	Lise	Trudeau	lise.trudeau@state.mn.us		Department of Commerce	85 7th Place East Suite 500 Saint Paul MN, 55101 United States	Electronic Service		No	M-25-140
301	Alan	Urban	alan.m.urban@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-140
302	Matt	Van Arkel	mvanarkel@newleafenergy.com			55 Technology Drive Suite 102 Lowell MA, 01851 United States	Electronic Service		No	M-25-140
303	Gary	Van Winkle	gvanwinkle@mylegalaid.org	Mid-Minnesota Legal Aid		111 N Fifth St Ste 100	Electronic Service		No	M-25-140

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						Minneapolis MN, 55403 United States				
304	John	Vaughn	nik@rreal.org	Rural Renewable Energy Alliance		3963 8th Street SW Backus MN, 55435 United States	Electronic Service		No	M-25-140
305	Ellen	Veazey	lveazey@solarunitedneighbors.org	Solar United Neighbors		1350 Connecticut Ave NW Ste 412 Washington DC, 20036 United States	Electronic Service		No	M-25-140
306	Sam	Villella	sdvillella@gmail.com			10534 Alamo Street NE Blaine MN, 55449 United States	Electronic Service		No	M-25-140
307	Curt	Volkman	curt@newenergy-advisors.com	Fresh Energy		408 St Peter St Saint Paul MN, 55102 United States	Electronic Service		No	M-25-140
308	Wendy	Vorasane	wendy.vorasane@idealenergies.com			null null, null United States	Electronic Service		No	M-25-140
309	Robert J.V.	Vose	rvose@kennedy-graven.com	Kennedy & Graven, Chartered		150 S 5th St Ste 700 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-140
310	Stacy	Wahlund	swahlund@otpc.com	Otter Tail Power Company		215 S. Cascade St Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-140
311	Sarah	Walinga	swalinga@solarcity.com	Energy Freedom Coalition		3055 Clearview Way San Mateo MN, 94402 United States	Electronic Service		No	M-25-140
312	Kevin	Walker	kwalker@beaconinterfaith.org	Beacon Interfaith Housing Collaborative		null null, null United States	Electronic Service		No	M-25-140
313	Roger	Warehime	roger.warehime@owatonnautilities.com	Owatonna Municipal Public Utilities - Gas		208 S Walnut Ave PO BOX 800 Owatonna MN, 55060 United States	Electronic Service		No	M-25-140
314	Jenna	Warmuth	jwarmuth@mnpower.com	Minnesota Power		30 W Superior St Duluth MN, 55802-2093 United States	Electronic Service		No	M-25-140
315	Samantha	Weaver	samantha@communitysolaraccess.org	Coalition for Community Solar Access		1380 Monroe St. Washington DC DC, 20010 United States	Electronic Service		No	M-25-140
316	Elizabeth	Wefel	eawefel@flaherty-hood.com	Missouri River Energy Services		525 Park St Ste 470 Saint Paul MN, 55103 United States	Electronic Service		No	M-25-140
317	Sarah	Whebbe	swhebbe@mnseia.org	MnSEIA		445 Minnesota Street Suite 730 St. Paul MN, 55101 United States	Electronic Service		No	M-25-140

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318	Joshua	Williams	joshua@highlandfleets.com	Highland Electric Fleets		200 Cummings Center Suite 273-D Beverly MA, 01915 United States	Electronic Service		No	M-25-140
319	Laurie	Williams	laurie.williams@sierraclub.org	Sierra Club		Environmental Law Program 1536 Wynkoop St Ste 200 Denver CO, 80202 United States	Electronic Service		No	M-25-140
320	John	Williamson	john.williamson@state.mn.us	Minnesota Department of Labor and Industry		443 Lafayette Rd N St. Paul MN, 55155-4341 United States	Electronic Service		No	M-25-140
321	Anthony	Willingham	anthony.willingham@electrifyamerica.com	Electrify America		1950 Opportunity Way Suite 1500 Reston VA, 20190 United States	Electronic Service		No	M-25-140
322	Danielle	Winner	danielle.winner@state.mn.us		Department of Commerce	85 7th Place East Suite 500 Saint Paul MN, 55101 United States	Electronic Service		No	M-25-140
323	Heidi	Winter	hwinter@co.murray.mn.us	Murray County		2500 28th Street PO Box 57 Slayton MN, 56172 United States	Electronic Service		No	M-25-140
324	Robyn	Woeste	robynwoeste@alliantenergy.com	Interstate Power and Light Company		200 First St SE Cedar Rapids IA, 52401 United States	Electronic Service		No	M-25-140
325	Terry	Wolf	terry.wolf@mrenergy.com	Missouri River Energy Services		3724 W Avera Dr PO Box Sioux Falls SD, 57109-8920 United States	Electronic Service		No	M-25-140
326	Curtis	Zaun	curtis@cpzlaw.com			3254 Rice Street Little Canada MN, 55126 United States	Electronic Service		No	M-25-140
327	Brian	Zavesky	brianz@mrenergy.com	Missouri River Energy Services		3724 West Avera Drive P.O. Box 88920 Sioux Falls SD, 57108-8920 United States	Electronic Service		No	M-25-140
328	Christopher	Zibart	czibart@atcllc.com	American Transmission Company LLC		W234 N2000 Ridgeview Pkwy Court Waukesha WI, 53188-1022 United States	Electronic Service		No	M-25-140
329	Kurt	Zimmerman	kwz@ibew160.org	Local Union #160, IBEW		2909 Anthony Ln St Anthony Village MN, 55418-3238 United States	Electronic Service		No	M-25-140
330	Emily	Ziring	eziring@stlouispark.org	City of St. Louis Park		5005 Minnetonka Blvd	Electronic Service		No	M-25-140

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						St. Louis Park MN, 55416 United States				
331	Ari	Zwick	ari.zwick@state.mn.us		Department of Commerce	85 7th Place East Suite 280 Saint Paul MN, 55101 United States	Electronic Service		No	M-25- 140