

April 23, 2026

PUBLIC DOCUMENT

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

RE: **PUBLIC** Reply Comments of the Minnesota Department of Commerce
Docket No. E002/M-25-142

Dear Ms. Bergman,

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

In the Matter of Xcel Energy's 2025 Integrated Distribution Plan.

The Petition was filed by Xcel Energy (Xcel or the Company) on October 31, 2025.

The Department submits these reply comments in response to Xcel's IDP. The Department recommends the Commission accept Xcel's IDP with modifications. The Department 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

Contents

ACRONYMS AND ABBREVIATIONS	V
I. INTRODUCTION.....	1
II. PROCEDURAL BACKGROUND.....	2
III. DEPARTMENT ANALYSIS	3
A. IDP Scope and Scale	3
A.1. Number of Recommendations	3
A.2. IDP Schedule.....	4
A.3. Final Recommendations.....	5
B. IDP Comparative Analysis	5
B.1. Final Recommendations.....	9
C. Strategies for Distribution System Optimization	9
C.1. Planning Standard Review.....	9
C.2. Cost Benefit Analysis	18
C.3. Expected VS Actuals	23
C.4. Final Recommendations.....	24
D. Value of Reliability	26
D.1. Final Recommendations.....	29
E. Forecasting Results and Methodology	29
E.1. Forecast Accuracy	29
E.2. Planning Divisions.....	33
E.3. Final Recommendations.....	34
F. Capacity	35
F.1. Final Recommendations.....	38
G. Wildfire	39
G.1. Contractual Services for WMP review.....	43
G.2. Final Recommendations.....	43
H. Targeted Undergrounding Proposal	45
H.1. Final Recommendations.....	47
I. Cost-Benefit Analysis	48
I.1. Discounting of Benefits	48
I.2. Undepreciated Asset Costs	50

I.3.	Marginal Benefits	50
I.4.	Final Recommendations.....	55
J.	Grid Modernization	56
J.1.	DERMS	56
J.2.	FLISR	60
J.3.	Customer Information System	61
J.4.	Recommendations From Other Commenters	62
J.5.	Final Recommendations.....	65
K.	Planned Net Load	66
K.1.	Final Recommendations.....	68
L.	Non-Wires Alternatives Analysis	68
L.1.	Final Recommendations.....	69
M.	Proactive Capacity Investments.....	69
M.1.	Final Recommendations:.....	70
N.	Equity Analysis	70
N.1.	Final Recommendations.....	73
O.	Data Requests for Geospatial Analysis	74
O.1.	Final Recommendations.....	76
P.	Other Issues	76
P.1.	Final Recommendations.....	77
IV.	DEPARTMENT RECOMMENDATIONS.....	77
A.	IDP Scope and Scale	77
C.	Strategies for Distribution System Optimization	77
D.	Value of Reliability	79
E.	Forecasting Results and Methodology	79
F.	Capacity	79
G.	Wildfire	79
H.	Targeted Undergrounding Proposal	81
I.	Cost-Benefit Analysis	81
J.	Grid Modernization	82
K.	Planned Net Load	82

L.	Non-Wires Alternatives	83
N.	Equity Analysis	83
O.	Other Issues	83
ATTACHMENTS.....		84

List of Tables

Table 1: OTP Analysis of the Marginal Cost of a 2/0 VS 4/0 Cable Upgrade Relative to 1/0 Cost	17
Table 2: Summary of 10-Year Maximum Temperature at the MSP Airport	31

List of Figures

Figure 1: Comparison of Normalized Capex Distribution Spending by Utility	6
Figure 2: Comparison of the System Average Duration Index by Utility”	7
Figure 3: Comparison of Reliability VS Underground Line Miles by Utility”	8
Figure 4: Histogram of Xcel Substation Transformer Capacity Utilization	37
Figure 5: Xcel ELR Breaker Replacement Program CMO VS Age Regression With 0 Y-Intercept.....	52
Figure 6: Xcel ELR Breaker Replacement Program CMO VS Age Regression With Y-Intercept Not Set.....	52
Figure 7: Relationship Between the Number of Meters and CMO From Overload Outages.....	53

Acronyms and Abbreviations

ADMS	Advanced Distribution Management System
AGIS	Advanced Grid Intelligence and Security
AMI	Advanced Metering Infrastructure
AOM	Advanced Outage Management
BESS	Battery Energy Storage System
BTM	Behind the Meter
CAIDI	Customer Average Interruption Duration Index
CBA/BCA	Cost-Benefit Analysis/Benefit Cost Analysis
CELI	Customers Experiencing Lengthy Interruptions
CEMI	Customers Experiencing Multiple Interruptions
CEE	Center for Energy and Environment
CIAC	Contributions in Aid of Construction
CIP	Conservation Improvement Program
DCP	Distributed Capacity Procurement
DER	Distributed Energy Resource
DERMS	Distributed Energy Resources Management System
DI	Distributed Intelligence
DG	Distributed Generation
DGWG	Distributed Generation Working Group
DR	Demand Response
DRMS	Demand Response Management Systems
DSM	Demand Side Management
ECO	Energy Conservation & Optimization
ELPC/CEF/VS	Environmental Law & Policy Center, Cooperative Energy Futures, and Vote Solar
EV	Electric Vehicle
FAN	Field Area Network
FERC	Federal Energy Regulatory Commission
FI	Flexible Interconnection
FLISR	Fault Location Isolation and Service Restoration
FLM	Feeder Load Monitoring
FTM	Front of the Meter
GIS	Geographic Information System
Grid Mod	Grid Modernization
HAN	Home Area Network
HCA	Hosting Capacity Analysis
IDP	Integrated Distribution Plan
IR	Information Request
IRP	Integrated Resource Plan
IVVO	Integrated Volt-Var Optimization
kV	Kilo Volt
kW	Kilowatt
LBNL	Lawrence Berkley National Laboratory
kWh	Kilowatt-Hour
MAIFI	Momentary Average Interruption Frequency Index
MISO	Midcontinent Independent System Operator
MN DIP	Minnesota Distributed Interconnection Procedures

Acronyms, Abbreviations and Definitions

MP	Minnesota Power
MW	Megawatt
NERC	North American Electric Reliability Corporation
NPV	Net Present Value
NSPM	Northern States Power Company
NWA	Non-Wire Alternative
O&M	Operations and Maintenance
OMS	Outage Management System
PNL	Planned Net Load
PUC	Public Utilities Commission
PUP	Proactive Upgrade Proposal
RFP	Request for Proposal
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisory Control and Data Acquisition
SRSQ	Safety, Reliability and Service Quality
TCR	Transmission Cost Recovery
TEP	Transportation Electrification Plan
TOD	Time of Day
TOU	Time of Use
WACC	Weighted Average Cost of Capital
Xcel	Xcel Energy



Before the Minnesota Public Utilities Commission

PUBLIC Reply Comments of the Minnesota Department of Commerce

Docket No. E002/M-25-142

I. INTRODUCTION

Every two years, the Northern States Power Company, doing business as Xcel Energy (Xcel or the Company) submits an Integrated Distribution Plan (IDP), established by the Minnesota Public Utilities Commission's (Commission's) August 30, 2018 *Order Approving Integrated Distribution Planning Filing Requirements for Xcel Energy*.¹ The primary mechanism by which IDPs operate is compliance with the Commission's established filing requirements. The Commission accepts the IDP if it finds that Xcel complies with its established filing requirements. Since the Commission's August 30, 2018 Order, the Commission has modified its filing process and/or requirements in every IDP.^{2,3,4,5} Throughout this process, the Commission has also ordered one-time compliance requirements to add additional analysis that enriches the depth of the IDP process. This history of IDPs reveals that the IDP process has consistently adapted to meet varying informational needs about distribution system planning.

In its initial comments, the Minnesota Department of Commerce (Department) made an argument to add enhanced optimization to Xcel's IDP with a key focus on affordability issues caused by increased distribution spending. The Department's main arguments relate to planning standard review⁶ and wildfire, but span Xcel's entire IDP. Since its initial comments were filed, the Department has engaged with stakeholders to focus the present comments on consensus items and priority items where utility planning should be evaluated to maintain affordability of the distribution system.

¹ *In the Matter of Distribution System Planning for Xcel Energy, Order Approving Integrated Distribution Planning Filing Requirements for Xcel Energy*, August 30, 2018, Docket No. E-002/CI-18-251, (eDockets) [20188-146119-01](#), (hereinafter "August 30, 2018 Order").

² *In the Matter of Xcel Energy's 2018 Integrated Distribution Plan, Order Accepting Report, and Amending Requirements*, July 16, 2019, Docket No. E002-CI-18-251, (eDockets) [20197-154416-01](#) (hereinafter "July 16, 2019 Order").

³ *In the Matter of Xcel Energy's Integrated Distribution Plan and Advanced Grid Intelligence and Security Certification Request, Order Accepting Integrated Distribution Plan and Modifying Filing Requirements*, November 2, 2020, Docket No. E002/M-19-666, (eDockets) [202011-167944-03](#).

⁴ *Order Accepting 2021 Integrated Distribution System Plan and Certifying the Resilient Minneapolis Project*, July 26, 2022, Docket No. E002/M-21-694, (eDockets) [20227-187764-01](#) (hereinafter "July 26, 2022 Order").

⁵ *In the Matter of Xcel Energy's 2023 Integrated Distribution Plan, Order Accepting 2023 Integrated Distribution Plan and Modifying Reporting Requirements*, September 16, 2024, Docket No. E002/M-23-452, (eDockets) [20249-210223-01](#) (hereinafter "2023 IDP Order").

⁶ Department, Comments, February 27, 2026, Docket No. E002/M-25-142, (eDockets) [20262-228738-02](#) at 2, (hereinafter "Department Initial Comments").

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

II. PROCEDURAL BACKGROUND

December 8, 2022	The Commission issued its Order in Docket Nos. E002/M-21-694, E999/CI-17-879. ⁷ The Order approved combining the filing requirements of electric utility IDPs and TEPs.
September 14, 2024	The Commission issued its Order Accepting Xcel's 2023 IDP and Modifying Reporting Requirements. ⁸
October 31, 2025	Xcel files its 2025 TEP and IDP. ⁹
November 13, 2025	The Commission issues its Notice of Comment Period in the present docket. ¹⁰
January 28, 2026	The Department files initial comments in response to Xcel's first Proactive Upgrade Proposal. ¹¹
February 26, 2026	The Department, ^{12,13} City of Minneapolis, ¹⁴ Center for Energy and Environment, ¹⁵ Fresh Energy, ¹⁶ Joint Solar Parties, ¹⁷ and Environmental Law & Policy Center, Cooperative Energy Futures, and Vote Solar ¹⁸ file initial comments in response to Xcel's 2025 IDP.
March 19, 2026	Xcel files reply comments for its 2025 IDP and Mobile Battery Certification Request in the present docket. ^{19,20}

⁷ *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](#).

⁸ 2023 IDP Order.

⁹ *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 IDP").

¹⁰ *In the Matter of Xcel Energy's 2025 Integrated Distribution Plan, Notice of Comment Period*, November 13, 2025, Docket No. E-002/M-25-142, (eDockets) [202511-224924-01](#), at 9-10 (hereinafter "Notice").

¹¹ Department, Comments, January 28, 2026, Docket No. E002-M-25-142, (eDockets) [20261-227533-02](#) (hereinafter "Department Initial Comments on Xcel's Proactive Upgrade Proposal").

¹² Department, Comments, February 27, 2026, Docket No. E002/M-25-142, (eDockets) [20262-228738-02](#) (hereinafter "Department Initial Comments").

¹³ Department, Comments, February 27, 2026, Docket No. E002/M-25-142, (eDockets) [20262-228738-01](#) (hereinafter "Department Trade Secret Initial Comments").

¹⁴ City of Minneapolis, Comments, February 26, 2026, Docket No. E002/M-25-142, (eDockets) [20262-228737-01](#) (hereinafter "City of Minneapolis Initial Comments").

¹⁵ Center for Energy and Environment, Comments, February 26, 2026, Docket No. E002/M-25-142, (eDockets) [20262-228735-01](#) (hereinafter "CEE Initial Comments").

¹⁶ Fresh Energy, Comments, February 26, 2026, Docket No. E002/M-25-142, (eDockets) [20262-228699-01](#) (hereinafter "Fresh Energy Initial Comments").

¹⁷ Joint Solar Parties, Comments, February 27, 2026, Docket No. E002/M-25-142, (eDockets) [20262-229740-01](#) (hereinafter "Joint Solar Parties Initial Comments").

¹⁸ Environmental Law & Policy Center, Cooperative Energy Futures, and Vote Solar, Comments, February 26, 2026, Docket No. E002/M-25-142, (eDockets) [20262-228733-01](#) (hereinafter "ELPC/CEF/VS Initial Comments").

¹⁹ Xcel Energy, Reply Comments, March 19, 2026, Docket No. E002/M-25-142, (eDockets) [20263-229461-01](#) (hereinafter "Xcel Reply Comments").

²⁰ Xcel Energy, Reply Comments, March 19, 2026, Docket No. E002/M-25-142, (eDockets) [20263-229462-01](#) (hereinafter "Xcel Certification Request Reply Comments").

Analyst(s) assigned: Ari Zwick, Rachel Wiedewitsch, Bhavin Pradhan,
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Topic(s) open for comment:

Xcel Energy 2025 Integrated Distribution System Plan

14. Should the Commission accept or reject Xcel's IDP?
15. Did Xcel adequately address the Commission's IDP filing requirements and prior Orders, as outlined in Attachment A to this notice?
16. Feedback, comments, and recommendations on the following areas of Xcel's IDP:
 - a. Forecasted distribution budget
 - b. Forecasting results and methodology
 - c. Proactive capacity investments
 - d. Updated Planned Net Load (PNL) methodology and risk analysis results
 - e. Targeted undergrounding proposal
 - f. Proposed cost-benefit analysis for discretionary distribution investments
 - g. Non-Wires Alternative Analysis
 - h. Distributed Energy Resource Management System (DERMS)
17. Other areas of Xcel's IDP not listed above, along with any other issues or concerns related to this matter.

III. DEPARTMENT ANALYSIS

A. IDP SCOPE AND SCALE

A.1. Number of Recommendations

In its reply comments, Xcel states a general concern about the scale of recommendations made by the Department and other stakeholder groups:

The IDP framework has enabled productive dialogue on a wide range of issues, and many stakeholders appropriately focused their comments on discrete topics that can enhance the informational value of future IDPs. However, as discussed in these Reply Comments, we received more than 70 recommendations and requests for additional analysis or reporting—spanning numerous subject areas and levels of detail—that in many cases go well beyond the scope of the IDP as established by the Commission.

While the Company appreciates the effort expended, the sheer number and scope of recommendations make it difficult to discern where stakeholders want the Company to prioritize its focus. The Company is concerned that an approach to planning emphasizing volume over prioritization risks diverting attention from the most material planning issues and constraining the Company's ability to advance timely,

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actionable, and necessary grid investments to ensure reliable and resilient service to customers.²¹

Xcel also expresses specific concerns regarding the scope of cost benefit analysis requests:

The Company's primary concern is the sheer number and breadth of new CBA recommendations suggested in this proceeding—fourteen in total. Collectively, these recommendations would require CBAs across nearly all planning areas, including programs that involve mandatory safety work, long-term reliability benefits, or emerging technologies where valuation methods are still evolving. The IDP is an informational planning filing and layering comprehensive CBAs onto every planning activity risks diverting limited analytical and engineering resources away from forward-looking system planning for our customers.²²

The Department acknowledges Xcel's core concerns about both the volume of the IDP in general as well as the volume of the recommendations brought forth by the Department and other parties to the proceeding. In light of Xcel's stated concerns, the Department withdraws some of its recommendations to focus on the highest priority recommendations, including the Department's recommendation for planning standard review. In addition, the Department met with stakeholders and coordinated joint recommendations to simplify the complexity and scope of its recommendations where possible.

A.2. IDP Schedule

The current biennial IDP schedule creates a significant barrier to participation for the Department and other stakeholder groups; the volume of the IDPs creates a highly concentrated workload for parties, which makes it difficult to manage staff time and interrelated or competing deadlines. The Department is concerned that the biennial IDP schedule especially limits participation in the IDPs by other parties. If the Department's recommendations are accepted, enhanced stakeholder participation will be necessary in the IDPs to create a fulsome record. To foster enhanced participation in the IDPs, the Department recommends a revised annual IDP schedule to allow commenters more time to participate in the IDP process.

The Department recommends the Commission order either A or B:

- A. Xcel file its IDP, TEP, and IDP-Related Ad Hoc filings in odd-numbered years. MP, DEA, and OTP file their IDP and TEP in even-numbered years, with the next filing due in 2028.**
- B. All IDPs are filed in odd-numbered years. All TEPs and IDP-Related Ad Hoc Filings are filed in even-numbered years, with the next filing due in 2028.**

²¹ Xcel Reply Comments – at 2.

²² *Id.*, at 5.

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

The Department's preference is A. However, B., or any modifications of A. or B. would be acceptable, so long as the workload is spread annually rather than biennially. The Department cross-files this recommendation in each of the rate-regulated utilities' IDPs.

A.3. Final Recommendations

The Department makes one new recommendation:

The Department recommends the Commission order either A or B:

- A. Xcel file its IDP, TEP, and IDP-Related Ad Hoc filings in odd-numbered years. MP, DEA, and OTP file their IDP and TEP in even-numbered years, with the next filing due in 2028.
- B. All IDPs are filed in odd-numbered years. All TEPs and IDP-Related Ad Hoc Filings are filed in even-numbered years, with the next filing due in 2028.

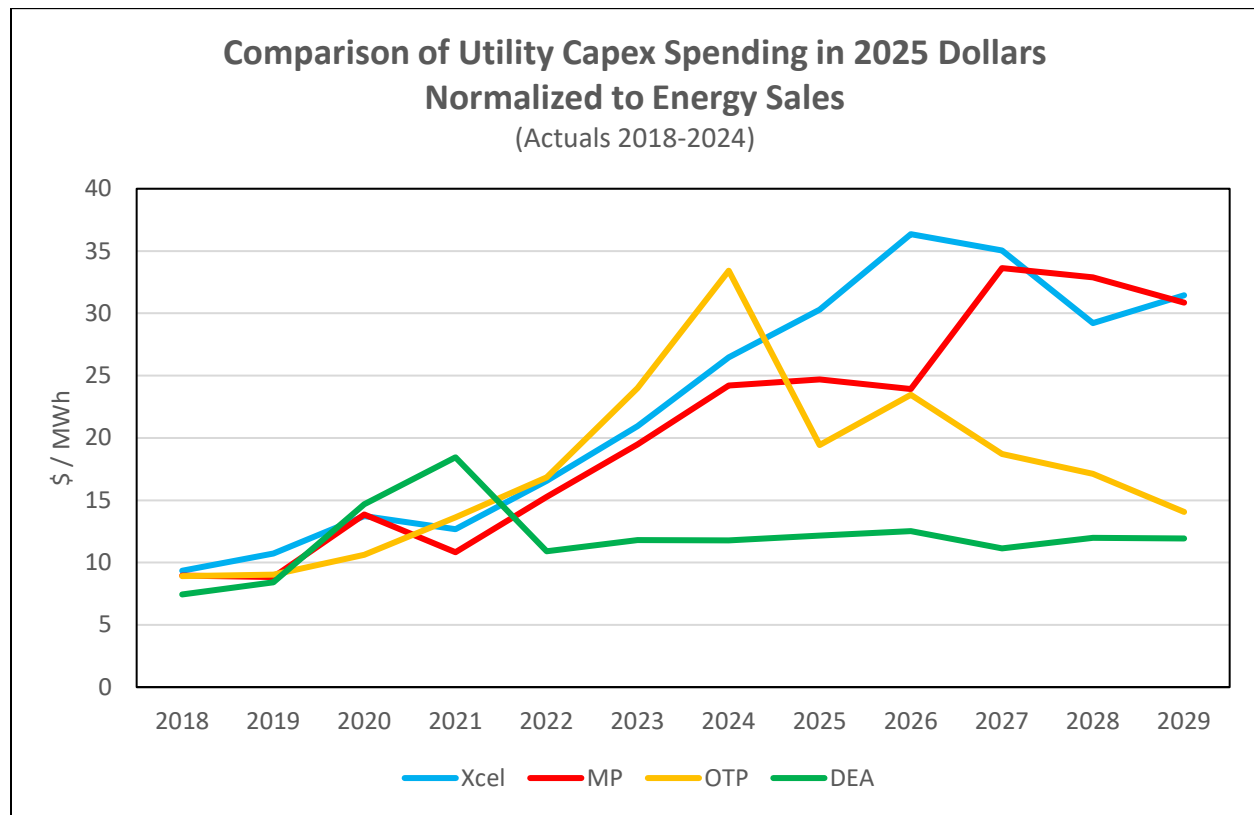
B. IDP COMPARATIVE ANALYSIS

To understand differences between utility budgets and system outcomes, the Department compares metrics across the rate-regulated utilities, which are all required to file IDPs—Xcel, Minnesota Power (MP), Otter Tail Power (OTP) and the Dakota Electric Association (DEA). The first metric the Department compares is normalized spending in 2025 dollars, which was reported in the Department's initial comments for each utility.²³ Figure 1 shows normalized distribution capex spending for all of the rate-regulated utilities. The figure shows spending increases above inflation for every utility over the 2018 to 2029 dataset. However, beginning in 2022, a stark divergence in spending emerges, where the three investor-owned utilities (IOU) each more than doubled their historical spending while DEA kept its capex spending relatively flat. Comparatively, DEA's planning processes seem to create budget stability, which is a preference of the Department whenever possible, assuming that the level of spending is prudent. Among the IOUs, OTP's spending meaningfully decreases by 2029, but is still approximately 50 percent higher than its 2018 to 2019 baseline.

²³ *In the Matter of Minnesota Power's 2025 Integrated Distribution Plan*, Department, Comments, March 13, 2026, Docket No. E015/M-25-140, (eDockets) [20263-229266-01](#), at 5 (hereinafter "Department Initial Comments on the 2025 MP IDP"); *In the Matter of Otter Tail Power Company's 2025 Integrated Distribution Plan*, Department, Comments, April 7, 2026, Docket No. E017/M-25-141, (eDockets) [20264-230104-02](#), at 5 (hereinafter "Department Initial Comments on the 2025 OTP IDP"); *In the Matter of Dakota Electric Association's 2025 Integrated Distribution Plan*, Department, Comments, March 24, 2026, Docket No. E111/M-25-139, (eDockets) [202511-229585-01](#), at 4 (hereinafter "Department Initials Comments on the 2025 DEA IDP").

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Figure 1: Comparison of Normalized Capex Distribution Spending by Utility

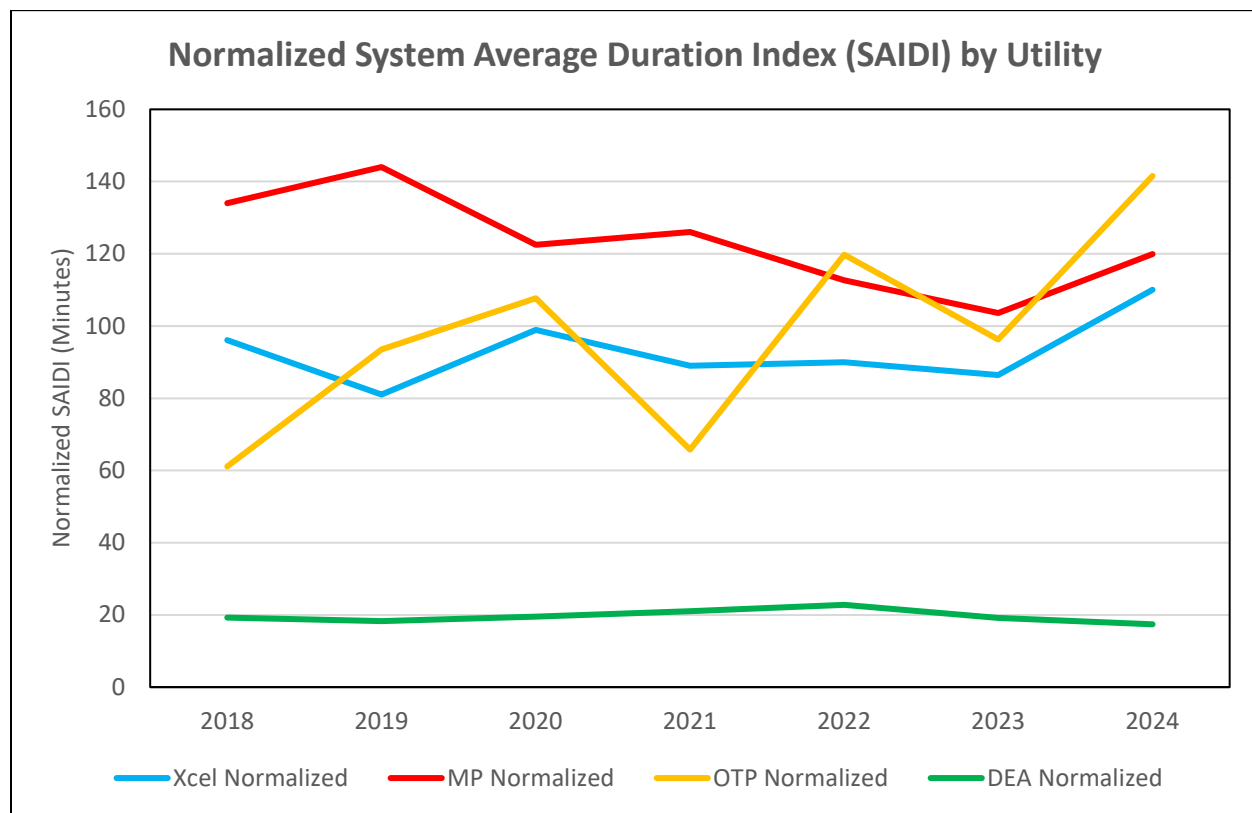


Source: Figure 1 in Department Initial Comments on the 2025 MP IDP, 2025 OTP IDP, and 2025 DEA IDP.

The Department compares reliability metrics among the rate-regulated utilities, as shown in Figure 2. DEA stands out with a 2018-2024 major-event-day, normalized System Average Duration Index (SAIDI) of 19.7, compared to 92.6 for Xcel, 121.5 for MP, and 104.1 for OTP. Despite having the lowest spending among the rate-regulated utilities, DEA achieves a system reliability metric roughly five times better than the IOUs.

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Figure 2: Comparison of the System Average Duration Index by Utility^{24,25,26,27}



To understand differences in reliability, the Department compares the percentage of underground line miles to total line miles as shown in Figure 3. There is almost a straight line from MP, through Xcel, to DEA, where the normalized SAIDI decreases linearly with the percentage of line miles, and OTP shows a similar trend. What clearly stands out is DEA's exceptional reliability performance, which is attributed to its significant percentage of underground line miles—72.7 percent over the 2019 to 2024 period.

²⁴ For Xcel Energy see Docket No. E002/M-25-27, (eDockets) [20254-217138-03](#).

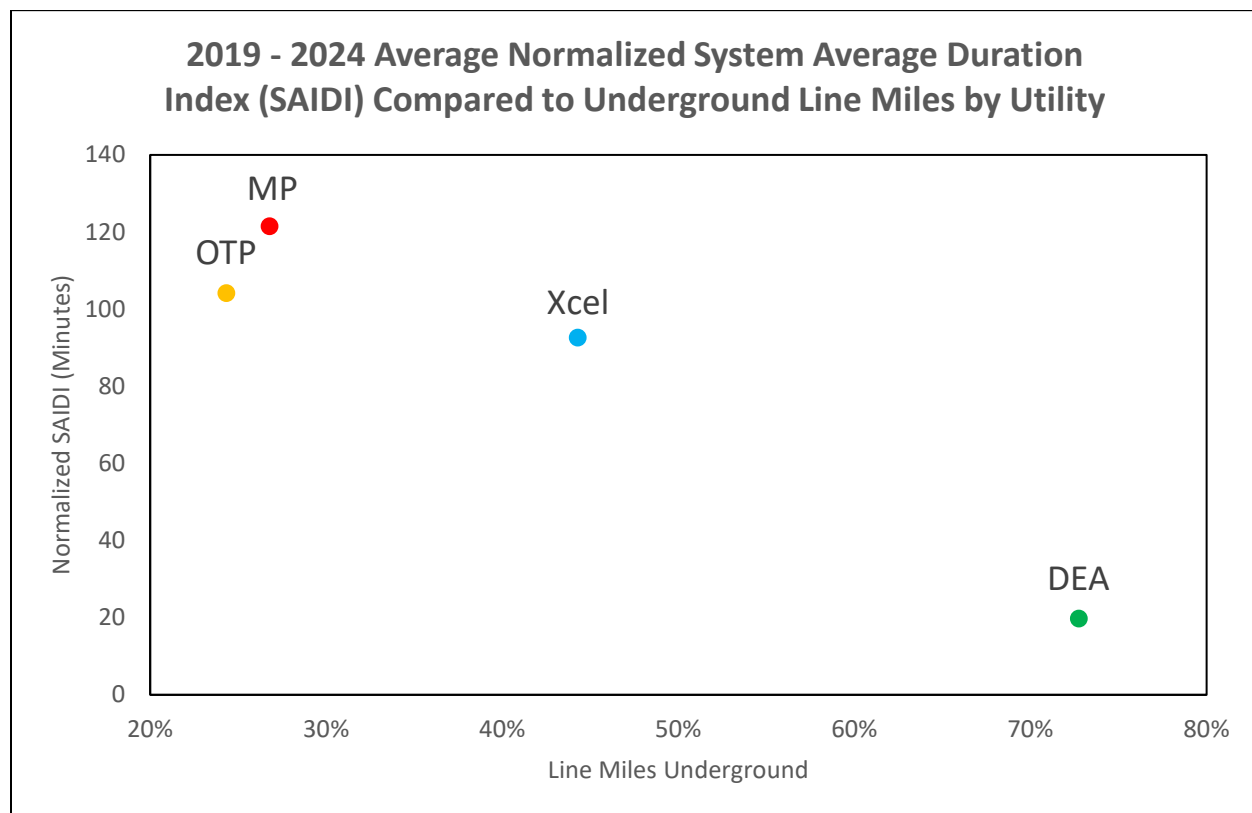
²⁵ For Minnesota Power Company see Docket No. E015/M-19-254, (eDockets) [20194-151926-01](#); Docket No. E015/M-20-404, (eDockets) [20204-161737-02](#); Docket No. E015/M-21-230, (eDockets) [20214-172481-02](#); Docket No. E015/M-22-163, (eDockets) [20224-184357-01](#); Docket No. E015/M-23-75, (eDockets) [20234-194444-01](#); Docket No. E015/M-24-29, (eDockets) [20244-204890-01](#); and Docket No. E015/M-25-29 (eDockets) [20254-217120-01](#).

²⁶ For Otter Tail Power Company see Docket No. E017/M-19-260, (eDockets) [20194-151593-01](#); Docket No. E017/M-20-401, (eDockets) [20204-161732-01](#); Docket No. E017/M-21-225, (eDockets) [20214-172454-01](#); Docket No. E017/M-22-159, (eDockets) [20224-184321-01](#); Docket No. E017/M-23-76, (eDockets) [20234-194475-01](#); Docket No. E017/M-24-30, (eDockets) [20244-204846-01](#); and Docket No. E017/M-25-30, (eDockets) [20254-217089-01](#).

²⁷ For Dakota Electric Association see Docket No. E111/M-19-288, (eDockets) [20194-152367-01](#); Docket No. E111/M-20-385, (eDockets) [20203-161501-01](#); Docket No. E111/M-21-202, (eDockets) [20213-172307-01](#); Docket No. E111/M-22-168, (eDockets) [20224-184414-01](#); Docket No. E111/M-23-74, (eDockets) [20234-195334-01](#); Docket No. E111/M-24-28, (eDockets) [20244-206005-01](#); and Docket No. E111/M-25-28, (eDockets) [20254-217082-02](#).

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Figure 3: Comparison of Reliability VS Underground Line Miles by Utility^{28,29,30,31}



However, these results should not be interpreted to suggest that undergrounding alone is the solution to increase reliability, particularly when considering cost. Paradoxically, DEA's low spending and high reliability is opposite to that of the IOUs. The IOUs would have to increase their reliability significantly, including Xcel, to achieve reliability metrics comparable to DEA's. Costs of such a transition are discussed later in these comments in Section III.D.

The Department acknowledges that differences between the IOUs can explain some of the differences in spending and outcomes. For example, MP and OTP have large rural service areas that make undergrounding large portions of their systems cost ineffective. Undergrounding in urban areas is also expensive compared to underground with fewer land constraints. Because Xcel and DEA both serve urbanized areas, how one utility is able to contain costs so consistently is worth exploring. For

²⁸ For Xcel Energy see Docket No. E002/M-19-666, (eDockets) [201911-157133-01](#); Docket No. E002/M-21-694, (eDockets) [202111-179737-01](#); Docket No. E002/M-23-452, (eDockets) [202311-200132-09](#); and 2025 IDP.

²⁹ For Minnesota Power Company see Docket No. E015/M-19-684, (eDockets) [201911-157110-01](#); Docket No. E015/M-21-390, (eDockets) [202110-179112-01](#); Docket No. E015/M-23-258, (eDockets) [202310-199614-01](#); and Docket No. E015/M-25-140, (eDockets) [202511-224624-01](#).

³⁰ For Otter Tail Power Company see Docket No. E017/M-19-693, (eDockets) [201911-157180-01](#); Docket No. E017/M-21-612, (eDockets) [202111-179391-02](#); Docket No. E017/M-23-380, (eDockets) [202311-200138-02](#); and Docket No. E017/M-25-141, (eDockets) [202511-224606-01](#).

³¹ For Dakota Electric Association see Docket No. E111/M-23-420, (eDockets) [202311-200124-01](#) and Docket No. E111/M-25-139, (eDockets) [202511-224614-03](#).

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

example, DEA has several planned large substation rejuvenation projects that do not appear spike its spending.³² The Department is interested in understanding how each utility plans its distribution system and if there are opportunities to employ the best practices therein to benefit all Minnesota ratepayers.²⁰

B.1. Final Recommendations

The Department does not make any recommendations in this section.

C. STRATEGIES FOR DISTRIBUTION SYSTEM OPTIMIZATION

This section responds to comments raised concerning Section III.C – *Strategies for Distribution System Optimization* in the Department’s Initial Comments. This section divides responses by general theme.

C.1. Planning Standard Review

C.1.1. Planning Standard Review Process

In its initial comments, the Department proposed a new planning standard review process. The Department’s central recommendation states:

The Department recommends the Commission create a planning standard review process that shall:

A. Identify the main system planning standards that Xcel uses for each Commission-approved review topic;

B. Select one or more planning standards, in agreement with intervenors, to review before the next IDP;

C. Set alternative system planning scenarios to analyze, in agreement with intervenors;

D. Perform a quantitative analysis of alternative system planning standards that measure estimated costs and benefits of alternative system planning standards;

E. Require Xcel to present the results of steps A-D in the next IDP cycle; and

F. Request comments to approve, modify, or reject the revised system planning standards for each Commission-approved review topic.³³

³² *In the Matter of Dakota Electric Association’s 2025 Integrated Distribution Plan*, Dakota Electric Association, November 3, 2025, Docket No. E-111/M-25-139, (eDockets) [202511-224614-03](#) at 92-94 (hereinafter “2025 DEA IDP”).

³³ Department Initial Comments – at 24.

Analyst(s) assigned: Ari Zwick, Rachel Wiedewitsch, Bhavin Pradhan,
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Xcel opposes the Department's recommendation and provides the following justification:

The Company's planning standards are engineering-based criteria used to ensure the safe, reliable, and cost-effective operation of the distribution system. These standards govern how the Company forecasts load, evaluates system risks, sizes assets, and prioritizes investments to meet its obligation to serve customers under a wide range of operating conditions. They are not policy preferences, aspirational targets, or discretionary guidelines. They are developed and applied through the Company's carefully refined and highly technical engineering processes.

The IDP is an informational planning filing that describes how the Company applies its planning standards to identify system needs and anticipated investments. It is not intended to redefine technical engineering criteria or shift responsibility for those criteria away from the utility. Several recommendations discussed in this section would move toward greater Commission or stakeholder-directed review of foundational engineering planning standards. The Company is concerned that such an approach could undermine the application of engineering judgment, introduce delays in addressing system needs, and blur the distinction between regulatory oversight and technical system design.³⁴

In addition, Xcel states:

The Company has the responsibility, authority, and technical expertise to establish and apply engineering and system planning standards necessary to ensure safe, reliable, and cost-effective service. The Company values stakeholder input and carefully considers concerns raised by intervenors regarding planning assumptions and outcomes—but decisions regarding the selection and application of planning standards are best informed by utility engineering expertise. Commission-mandated processes that direct the approval, modification, or replacement of those standards could shift core engineering judgments away from the Company and constrain the flexibility needed to respond to evolving system conditions, emerging technologies, and reliability needs. Planning standards must be able to evolve as circumstances change—and that evolution is most effectively guided by the Company's engineering expertise, grounded in data, engineering analysis, and operational experience.³⁵

The Department does not intend to replace or supersede established engineering standards to the detriment of the safety and reliability of Xcel's distribution system. The Department also has no intention of stripping away Xcel's engineering authority should the Department's recommendation be

³⁴ Xcel Reply Comments – Attachment A at 1.

³⁵ *Id.*, at Attachment A – 6.

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

accepted. While the Department does want to look “under the hood” of Xcel’s planning standard process, the Department proposes to work directly with Xcel engineers to understand if there are hypothetical alternative standards that Xcel engineers can identify as feasible. The proposed process is not intended to require Xcel to operate its system in a manner it believes could affect safety or system stability. For example, in initial comments, the Department asserted that planned net load (PNL) and Non-Wires Alternatives (NWA) analysis are already operationalizations of the Commission’s oversight of Xcel’s technical system design.³⁶ Both PNL and NWA rely on the risk-based decision making that is at the center of the Department’s list of standards for review, which Commission already accepts as reasonable.

The Department is concerned that Xcel’s planning standards, though intended to maximize reliability and minimize outage risk for customers, may be too risk averse and therefore lead to an overbuild of the distribution system. The Department’s recommendation for planning standard review is intended to review the assumptions Xcel utilizes to build its system and to ultimately strike a balance between utility investment and cost to ratepayers. Although Xcel is responsible for the ultimate engineering of its system, to the extent that its engineering standards impact rates and the affordability of the system for its ratepayers, there are opportunities for regulatory oversight. The Department appreciates the concerns of Xcel regarding the scope of IDP and the engineering judgement necessary to ensure the safe, reliable, and affordable operation of the distribution system. However, the Department is concerned that there is a level of discretion as to general system risk, as well as prioritization, costs, and right-sizing of system investments that is leading to an upward trend in distribution spending.

The Department addresses Xcel’s assertion that a planning standard review process would “constrain the flexibility needed to respond to evolving system conditions, emerging technologies, and reliability needs.”³⁷ The Minnesota Legislature accepted a delay in generation acquisition decisions when it passed Minn. Stat. § 216B.2422, which requires Integrated Resource Plans (IRP), because the legislature inferred that the extra process is worth the desired outcomes, which includes cost optimization. The Department contends that distribution should be treated similarly to generation.

Further, the Department acknowledges that cost benefit analysis is not appropriate for all of Xcel’s planning standards. Certain planning standards require mitigations regardless of their cost implications, and therefore a cost benefit analysis of these standards is not appropriate. It is the Department’s intent to review standards where risk and uncertainty are central themes, such as capacity sizing and overload risks, where the risk can be managed through one of multiple strategies.

Finally, the Department clarifies that its planning standard review process includes two components. The first component is a work group that would be composed of Xcel, the Department, and any interested stakeholder groups, which would be responsible for subparts A., B. and C. of the Department’s recommendation. The Department’s preference is for a Commission-led workgroup. Xcel would be solely responsible for the analysis delivered through subpart D. The second component would involve a new Commission process, which includes subparts E. and F., and extends beyond the

³⁶ Department Initial Comments– at 1-2.

³⁷ Xcel Reply Comments – Attachment A at 6.

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

responsibilities of the workgroup. Subparts E. and F. would not require workgroup participation, and are open to any stakeholder group. The Department modifies its recommendation as follows to clarify the two components of its recommendation:

The Department recommends the Commission create a formal workgroup and planning standard review process that shall:

- A. Identify the main system planning standards that Xcel uses for each Commission-approved review topic;**
- B. Select one or more planning standards, in agreement with intervenors, to review before the next IDP;**
- C. Set alternative system planning scenarios to analyze, in agreement with intervenors;**
- D. Perform a quantitative analysis of alternative system planning standards that measure estimated costs and benefits of alternative system planning standards;**
- E. Require Xcel to present the results of steps A-D in the next IDP cycle; and**
- F. Request comments to approve, modify, or reject the revised system planning standards for each Commission-approved review topic.**

C.1.2. Planning Standard Review Schedule

In its initial comments, the Department made the following recommendation:

The Department recommends the Commission establish the following system planning standard review schedule, with each phase to repeat every eight years:

- 2027: Capacity and Wildfire
- 2029: Reliability and Asset Health
- 2031: Grid Modernization, Distributed Energy Resources, and Operation and Maintenance
- 2033: Budgeting³⁸

After reviewing Xcel's reply comments, the Department concludes that separate filings in the IDP are better catered to the review of Xcel's Wildfire Management Plan (WMP) than an 8-year cyclical review of the WMP. In addition, the novelty of Xcel's WMP warrants a more thorough review. As discussed in Section III.G – *Wildfire*, Xcel agrees to the Department's recommendation for a separate filing in its IDP. Based on this development, the Department removes wildfire from the planning standard review schedule. The Department modifies its recommendation as follows:

³⁸ Department Initial Comments – at 24.

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

The Department recommends the Commission establish the following system planning standard review schedule, with each phase to repeat every eight years:

- A. 2027: Capacity~~and Wildfire~~**
- B. 2029: Reliability and Asset Health**
- C. 2031: Grid Modernization, Distributed Energy Resources, and Operation and Maintenance**
- D. 2033: Budgeting**

C.1.3. Support for Planning Standard Review

In its initial comments, the Department stated that it may seek additional support to review Xcel's planning standards. The Department stated:

To facilitate the modeling process, and to provide expert engineering review of Xcel's planning standards, [the Department] is currently considering a request for funding of contractual services. While the Department can request scenarios for economic analysis, there is value to verifying engineering practices from a third party. The Department may present a request for funding in supplemental comments.³⁹

The Department concludes that a contractor could add significant value to the planning standard review process. As currently recommended, the onus lies on the Department and stakeholder groups to develop potential planning standard alternative scenarios. While some scenarios have been presented in the Department's initial comments, an outside contractor could provide additional engineering insight that is not available to the Department and may not be available to stakeholder groups to fill in this gap. In addition, a contractor would put less strain on Xcel engineers to meaningfully engage with the Department on engineering concepts that a contractor could instead perform. While not essential to begin the planning standard review process, the Department believes an external subject matter expert would benefit the process.

The Department estimates that contractual services could cost up to \$1 million for the next planning cycle. The Department frames these costs in the context of Xcel's 2026 budget, which is estimated at \$1.11 billion with operation and maintenance (O&M) costs, which is less than one tenth of one percent of Xcel's distribution budget. The Department believes that the potential for long-term cost savings and the nominal proportion of the existing distribution budget justify consideration of this expense. **The Department recommends the Commission authorize the Department to spend up to \$1 million to obtain contractual services for planning standard review.**

³⁹ *Id.*, at 65.

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

C.1.4. Ad Hoc Planning Standard Review

In its initial comments, the Department made a second planning standard review recommendation that is not part of a planning standard review cycle:

The Department recommends the Commission establish an ad hoc system planning standard review process that shall:

- A. Allow any intervenor to request a planning standard review;
- B. Set the parameters that shall be reviewed;
- C. Require the Commission to approve, modify, or reject the request for a planning standard review;
- D. Require Xcel to present the results of the planning standard review in its next IDP; and
- E. Request comments to approve, modify, or reject Xcel's system planning standard.⁴⁰

Xcel opposes the Department's ad hoc review recommendation. Xcel states:

In addition, the proposed recurring and ad hoc review processes would introduce significant complexity and uncertainty into the planning framework. Allowing intervenors to initiate planning standard reviews, coupled with required quantitative analyses of alternative standards and Commission approval or rejection, would materially expand the scope of the IDP and associated stakeholder processes. This would increase administrative burden, divert resources from forward-looking system planning, and potentially delay necessary investments, without a clear showing of corresponding customer benefits.⁴¹

To address Xcel's concern that the Department's recommendation risks complicating a standard review process, the Department modifies its recommendation for ad hoc review, and limits the review to one ad hoc review per IDP. This modification provides a time-bound limit and should reduce the burden on Xcel and stakeholders. Furthermore, time bounding the opportunity for ad hoc review will require stakeholders to prioritize the most important ad hoc requests collectively. The Department modifies its recommendation as follows:

The Department recommends the Commission establish an ad hoc system planning standard review process that shall:

⁴⁰ *Id.*, at 25.

⁴¹ Xcel Reply Comments – Attachment A at 6.

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

- A. Allow any intervenor to request a planning standard review;**
- B. Set the parameters that shall be reviewed;**
- C. Require the Commission to approve, modify, or reject the request for a planning standard review, limited to one such planning standard review per IDP cycle;**
- D. Require Xcel to present the results of the planning standard review in its next IDP; and**
- E. Request comments to approve, modify, or reject Xcel's system planning standard.**

C.1.5. Notice of Changes to Planning Standards

In its initial comments, the Department recommended that Xcel disclose changes to its planning standards. The Department stated:

The Department recommends the Commission order Xcel to disclose all changes to its system planning standards in its IDP.⁴²

Xcel supports the Department's recommendation. Xcel states:

Separately, the Department recommends that the Commission require the Company to disclose all changes to its system planning standards in the IDP. The Company supports this recommendation, provided we are not required to release any proprietary or confidential information. Providing transparency regarding major changes to planning standards will help stakeholders understand how the Company's planning approach evolves over time and will facilitate more informed discussion of planning outcomes, while preserving the Company's ability to manage its system using sound engineering judgment.⁴³

The Department appreciates Xcel's support of its recommendation. The Department clarifies that it does not seek proprietary or confidential information in this recommended process. Should this information be desired, the Department would go through the information request process.

C.1.6. Stakeholder Workgroup to Reduce Filing Requirements

In its initial comments, the Department recommended the formation of a new work group to remove IDP filing requirements:

The Department recommends the Commission order the Executive Secretary to create a work group to identify IDP filing requirements that Xcel and intervenors agree can be removed.⁴⁴

Xcel is supportive of the Department's recommendation, but states that the recommendation appears to fall under the jurisdiction of the Distribution Data Reporting Workgroup. Xcel states:

⁴² *Id.*, at 25.

⁴³ Xcel Reply Comments – Attachment A at 6.

⁴⁴ Department Initial Comments – at 26.

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

The Company notes that this proposed effort appears to overlap, at least in part, with the ongoing work of the Distribution Data Reporting Workgroup, which is already examining opportunities to streamline and improve reporting requirements. To the extent an additional forum is needed to specifically address IDP filing requirements, the Company is open to participating in and working collaboratively with stakeholders to identify opportunities to reduce unnecessary or duplicative reporting.⁴⁵

While the Distribution Data Reporting Workgroup has been inactive for several months, the Department's request is within the intended scope of the workgroup. The Department modifies its recommendation:

The Department recommends the Commission order the ~~Executive Secretary to create a~~ Distribution Data Reporting work group to identify IDP filing requirements that Xcel and intervenors agree can be removed.

The Department maintains the recommendation for tracking purposes to ensure that the workgroup reconvenes to address additional filing requirements that could be removed. For example, the Department supports the removal of Xcel's IDP forecasting scenarios and NWA section. While hypothetical load growth scenarios are useful for planning purposes, these forecasts are not used for Xcel system planning. In addition, NWA has not produced meaningful cost savings for Xcel's ratepayers. The removal of these sections could free up resources for Xcel's distribution engineers to focus on broader planning standard review.

C.1.7. Analysis of Planning Standards

An example of the planning standard review process that the Department recommends can be found in OTP's IDP. In its 2025 IDP, OTP states:

It should be noted that design standards create system capacity "step changes." For example, underground feeder design standards are rated at either 200 or 600 ampacity, or substation transformer sizing which is standardized to future purchases of 1 MVA or 2.5 MVA. This helps maintain efficient installation, and stock inventory of replacement asset materials. In doing so, building of the distribution system can appear "overbuilt" in terms of capacity. However, the system was not overbuilt at all but rather efficiently planned, designed and constructed to handle future growth.⁴⁶

In its information request 22 to OTP, the Department asked OTP to justify its 200 to 600 amp jump in capacity standards. OTP replies in the IR with the following table:

⁴⁵ Xcel Reply Comments – Attachment A at 32.

⁴⁶ *In the Matter of the Distribution System Planning for Otter Tail Power Company*, Otter Tail Power Company, November 3, 2025, Docket No. E017/M-25-14, (eDockets) [202511-224606-01](#), at 10 (hereinafter "2025 OTP IDP").

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

Table 1: OTP Analysis of the Marginal Cost of a 2/0 VS 4/0 Cable Upgrade Relative to 1/0 Cost

Industry Standard MV Cable Sizes	Ampacity	DeadBreak Connections Ampacity	Relative Ampacity	Purchase Price \$/ft (Relative)	Install Cost low (1 Ph Primary - Lateral) \$/FT	Install Cost low (3 Ph Primary - Feeder) \$/FT	Install Cost High (Boring 1 Ph Primary Lateral) \$/FT	Install Cost High (Boring 3 Ph Primary Feeder) \$/FT	Relative Installed Total \$/FT Low Lateral	Relative Installed Total \$/FT High Lateral	Relative Installed Total \$/FT Low Feeder	Relative Installed Total \$/FT High Feeder
2 sol	168	200	0.77	0.82	0.75	1	3	5	0.90	2.18	N/A	N/A
2 str	168	200	0.77	0.84	0.75	1	3	5	0.91	2.19	N/A	N/A
1 sol	193	200	0.89	0.9	0.75	1	3	5	0.94	2.23	N/A	N/A
1 str	193	200	0.89	0.93	0.75	1	3	5	0.96	2.25	N/A	N/A
1/0 sol	218	200	1.00	1	0.75	1	3	5	1.00	2.29	2.29	4.57
1/0 str	218	200	1.00	1.03	0.75	1	3	5	1.02	2.30	2.34	4.62
2/0 str	248	200	1.14	1.18	0.75	1	3	5	1.10	2.39	2.59	4.88
3/0 str	284	200	1.30	1.23	0.75	1	3	5	1.13	2.42	2.68	4.97
4/0 str	324	600	1.49	1.33	0.75	1	3	5	1.19	2.47	2.85	5.14
250 str	360	600	1.65	1.36	0.75	1	3	5	1.21	2.49	2.90	5.19
350 str	389	600	1.78	1.4	0.75	1	3	5	1.23	2.51	2.97	5.26
500 str	468	600	2.15	1.46	N/A	1.2	N/A	5	N/A	N/A	3.19	5.36
750 str	569	600	2.61	1.63	N/A	1.2	N/A	5	N/A	N/A	3.48	5.65
1000 str	642	600	2.94	1.67	N/A	1.2	N/A	5	N/A	N/A	3.55	5.72
1250 str	688	600	3.16	1.78	N/A	1.2	N/A	5	N/A	N/A	3.74	5.91
1500 str	726	600	3.33	1.82	N/A	1.2	N/A	5	N/A	N/A	3.81	5.98
*OTP Standard MV UG Cable Sizes												
*Ampacity limited by Connections												
*Connection Ampacity not fully utilized												
*Base unit for calculation of costs												

Source: Department Initial Comments on the 2025 OTP IDP.⁴⁷

Based on the comparative analysis of different cable capacity options presented in Table 1, OTP draws the following conclusion:

In summary, if 1/0 sol cable capacity is exceeded by 10%, necessitating an increase step to next standard cable size of 4/0, installed cost increases to range of 1.19-2.47 for laterals and 2.85-5.14 for feeders.

Similarly, if 1/0 sol capacity is exceeded by 10% and an additional standard of 2/0 was added, total installed cost increase to a range of 1.10-2.39 for laterals and 2.59-4.88 for feeders.

By having a step change from 1/0 to 4/0 instead of 1/0 to 2/0 (non-OTP standard), corresponds to a 3-8% installed cost adder for laterals and a 5-10% cost adder for feeders. However, ampacity changes from a 200 amp limitation to 600 amp limitation. The other benefits of maintaining standards are discussed in the IDP in Section 4.⁴⁸

OTP's analysis of its capacity planning standard is exactly the type of analysis that the Department would like to see from all IOUs. OTP thoughtfully presents its costs in relative terms, which allows OTP

⁴⁷ See Appendix A – DOC IR 22. *In the Matter of Otter Tail Power Company's 2025 Integrated Distribution Plan*, Department, Information Request, February 25, 2026, Docket No. E017/M-25-141.

⁴⁸ *Ibid.*

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

to publish the results of its likely trade secret data in a public forum. OTP quantifies the marginal cost increase for the capacity step compared to a lower step increase, and provides justification for why its planning standard is appropriate. As the Department stated in its initial comments:

The most important aspect of alternatives analysis is proof. When Xcel makes generic claims about the efficacy of an alternative to avoid the quantitative analysis of the alternative, Xcel does not provide

proof. Without proof, there is no optimization. The Department recognizes that the level of effort to qualitatively describe an outcome compared to the quantification of its effects requires substantially less effort, and these tradeoffs should be considered, where appropriate. However, the default option should always be for Xcel to demonstrate, with evidence, why an alternative is appropriate or not. Only in cases where the outcome is obvious and indisputable, should Xcel forgo any type of quantitative analysis.⁴⁹

[...]

The Department does not know what the optimized capacity planning standards should be; but rather it demonstrates that these standards are not optimized for cost. The Department prefers a nuanced review of Xcel's planning standards, in coordination with Xcel engineers, to weigh the costs and benefits of Xcel's capacity planning standards regarding cost and the increased risk of outages.⁵⁰

Additionally, analysis like the above highlights that the risks of oversizing Xcel's system may be lower than anticipated. In the above example, if OTP creates significantly more capacity than it may use, the marginal cost increase is small. Therefore, at least with regard to Xcel, if the Company oversizes its conductor to account for uncertain future load growth, the risk of spending too much money on oversized equipment may be significantly lower than the risk of reconductoring if Xcel undersizes its equipment. This type of analysis is one element of the Department's plan to review Xcel's capacity planning standards.

C.2. *Cost Benefit Analysis*

This subsection addresses general cost benefit analysis recommendations. The Department addresses Xcel's targeted undergrounding cost benefit analysis in Section III.H – *Targeted Undergrounding Proposal* and Xcel's programmatic cost benefit analyses in Section III.I – *Cost Benefit Analysis*.

⁴⁹ Department Initial Comments – at 14.

⁵⁰ *Id.*, at 23.

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

C.2.1. New Project or Program Sensitivity Analysis

In its initial comments, the Department recommended a new filing requirement, which would require Xcel to perform sensitivity analysis for its new projects with a new or historical five-year budget of \$25 million or greater. The Department stated:

The Department recommends that the Commission create a new filing requirement which states: All new distribution spending projects and programs with an estimated historical or forecasted five-year budget of \$25 million or greater shall, at minimum, address the following:

- A. Estimated cost or range for the project/program;
- B. Consideration of feasible alternatives to the proposed spending;
- C. Quantitative estimation of expected outcomes; and
- D. Sensitivity analysis of cost and outcome assumptions.⁵¹

Xcel does not support the Department's recommendation. Xcel states:

The IDP is intended to be an informational planning document that describes system needs, planning assumptions, and anticipated investments. It is not a cost-recovery filing, and the Company does not seek approval of specific expenditures or recovery of costs through the IDP.

Requiring this expanded reporting within the IDP would blur the distinction between planning and ratemaking proceedings and would substantially increase the analytical burden associated with an otherwise informational filing. If the Commission were to require this level of detailed analysis for all qualifying projects and programs in the IDP, the Company would need to seek significant additional staffing resources to support the development, review, and maintenance of these analyses. Diverting resources to produce highly detailed project-level reporting in the IDP would reduce the Company's ability to focus on forward-looking system planning and near-term operational priorities. For these reasons, the Company does not support the Department's recommendation⁵²

The Department provided extensive justification initial comments to support this recommendation and why it believes this recommendation is necessary. The Department believes that sensitivity analysis is needed and that the IDP is the appropriate venue for such an analysis. While Xcel is not required to

⁵¹ Department Initial Comments – at 18.

⁵² Xcel Reply Comments – Attachment A at 19.

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

propose its investments within the IDP before seeking cost recovery, it is reasonable to request a prospective analysis of Xcel's large program or project investments to ensure that large new programmatic spending is optimized. Should the sensitivity analysis reveal that Xcel's programmatic spending is not cost effective, this analysis would be used for record development in future cost recovery proceedings, including the authorization of future program expenditures. Xcel's response does not address any of these concerns, and instead suggests that the Department's recommendation converts IDPs into rate cases.

The analysis requested in the Department's recommendation cannot take place in a rate case because sensitivity analysis and the evaluation of options require an iterative process. Firm cost recovery proposals are presented in a rate case with specific time bounds, whereas the process the Department envisions may require more time to produce new analysis than the confines of rate case testimony may allow. In some cases, it may take Xcel months or years to evaluate alternatives if these alternatives are not presented in Xcel's rate case. One such example is the quantification of benefits from increased vegetation management, which will likely require contractual services, but there are many other topics that could require more time than a rate case allows. While sensitivity analysis could be required for a rate case, these requirements are more difficult to make and track in rate cases as opposed to the IDP, and wouldn't allow for additional analysis described above.

Finally, the Department addresses a potential overlap with the IDP Filing Requirement D.2.c, which states:

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.⁵³

It may be appropriate to modify Filing Requirement D.2.c with the Department's enhanced requirements for a quantitative analysis, historical sensitivity analysis, and cost threshold requirement. The recommendation applies the same general theme at Filing Requirement D.2.c, but offers more prescriptive requirements that guarantee more robust analysis than is currently practiced.

C.2.2. Discretionary Program CBA

In its initial comments, the Department recommended a continuation of Xcel's cost benefit analysis of its existing programs. The Department stated:

⁵³ Notice – at 8.

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

The Department recommends the Commission order Xcel to provide a cost benefit analysis of at least three discretionary programs with a total five-year budget of at least \$250 million.⁵⁴

Xcel supports part of the Department's recommendation to provide three cost benefit analyses in its next IDP, but does not support a blanket \$250 million requirement:

We support conducting CBAs for three discretionary programs in the 2027 IDP. However, we do not support establishing a fixed dollar threshold. A pre-set minimum—such as \$250 million—presumes future budgets and could inadvertently incentivize selecting programs based on meeting an accounting target rather than addressing system needs. Such a requirement may distort prioritization and undermine the purpose of discretionary planning.

Instead, we propose identifying three discretionary programs that have:

- clear, quantifiable benefit streams (such as avoided Customer Minutes Out (CMOs) or targeted operations and maintenance (O&M) savings),
- stable and reliable data inputs, and
- no mandatory components triggered by inspection thresholds or safety requirements.

For each selected program, we will apply consistent, transparent methods—including common assumptions on unit costs, sequencing, and discounting where appropriate—and we will clearly note any limitations or qualitative co-benefits not captured in the model. This approach maintains analytical rigor without compromising operational flexibility or diverting resources away from essential reliability work.⁵⁵

The Department believes that budgets over \$250 million in discretionary spending should be reviewed for cost effectiveness. Given the affordability concerns raised in this proceeding, the size of the budget for review is more important to the Department than the perceived grid need stated by Xcel. The Department is willing to modify its recommendation to incorporate Xcel's feedback. The Department modifies its recommendation as follows:

The Department recommends the Commission order Xcel to provide a cost benefit analysis of at least three discretionary programs with a goal to review a total five-year budget of at least \$250

⁵⁴ *Id.*, at 15.

⁵⁵ Xcel Reply Comments – Attachment A at 13.

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

million. Xcel shall meet its \$250 million goal unless the Company can demonstrate that no portfolio of projects can meet the goal under the following screening criteria:

- A. clear, quantifiable benefit streams (such as avoided Customer Minutes Out (CMOs) or targeted operations and maintenance (O&M) savings),**
- B. stable and reliable data inputs, and**
- C. no mandatory components triggered by inspection thresholds or safety requirements.**

C.2.3. 10-Year Cost Benefit Analysis Review

In its initial comments, the Department recommended that cost benefit analyses be updated on a 10-year schedule to ensure that programs remain cost effective over time. The Department stated:

The Department recommends the Commission order Xcel to provide an update to each program cost benefit analysis ten years after the initial presentation of the cost benefit analysis.⁵⁶

Xcel does not support the Department's recommendation. Xcel states:

The Company's distribution planning and investment decisions are made within a five-year budgeting and planning horizon, which aligns with how programs are scoped, approved, and managed. Many programs are designed to address near to midterm system needs, evolving technologies, or specific policy objectives, and may be modified, replaced, or discontinued well before a ten-year mark. For example, pilot programs testing new grid technologies, targeted reliability initiatives addressing localized constraints, or programs responding to emerging DER adoption trends may conclude after several years or be folded into broader system planning efforts. Requiring CBA updates ten years after initial approval would therefore impose analysis obligations for programs that may no longer exist, have materially changed in scope, or no longer reflect current system conditions.

In addition, the Company must retain flexibility to reprioritize investments as emerging trends, operational experience, and changing customer and system needs arise. For instance, load growth patterns, electrification adoption, interconnection volumes, and technology costs can shift significantly over time, prompting the Company to redirect funding toward higher-priority reliability, resilience, or capacity needs. A prescriptive requirement to revisit decade-old CBAs could constrain that flexibility and divert limited analytical resources away from forward-looking planning activities, such as evaluating new system needs or optimizing near-term

⁵⁶ Department Initial Comments – at 15.

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

capital deployment, where those resources provide greater value to customers.⁵⁷

The goal of this recommendation is to acknowledge that some level of cost-benefit analyses of Xcel's programs is beneficial. The Department's concern is that removing the recommendation altogether allows Xcel to discard or otherwise not maintain its programmatic cost benefit analyses such that it would require potentially more effort to duplicate in the future. While the Department understands Xcel's concerns about future prioritization, the Department maintains that a periodic review of Xcel's programmatic cost-benefit analyses is in the ratepayer interest to ensure that money is spent on cost effective projects.

C.3. Expected VS Actuals

In its initial comments, the Department recommended that projects over \$25 million report five years of actual outcomes compared to forecasted outcomes:

The Department recommends the Commission order all new Xcel spending projects with a five-year budget over \$25 million, that were approved for cost recovery since 2021, report five years of actual outcomes compared to forecasted outcomes in the IDP.⁵⁸

Xcel does not support the Department's recommendation. Xcel states:

As an initial matter, the recommendation is unclear, particularly with respect to what the Department intends by the term "outcomes." The Department does not specify whether outcomes are intended to reflect actual project costs, operational performance metrics, reliability impacts, customer benefits, policy objectives, or some other measure. Without clarity regarding the scope of outcomes to be evaluated, the appropriate comparison methodology, or the purpose for which such comparisons would be used, the proposed requirement lacks sufficient definition to be implemented in a consistent and meaningful manner.

Absent a clearly defined framework, the recommendation risks imposing vague, duplicative, or inconsistent reporting obligations across projects with differing objectives, timelines, and performance metrics. It is also unclear how such retrospective comparisons would account for changes in system conditions, load growth, technology costs, or regulatory requirements that may materially affect project performance relative to original forecasts.⁵⁹

⁵⁷ Xcel Reply Comments – Attachment A at 17.

⁵⁸ Department Initial Comments – at 17.

⁵⁹ Xcel Reply Comments – Attachment A at 8.

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The Department accepts Xcel's critique that its recommendation is vague. The Department modifies its recommendation to provide greater clarity about which outcomes the Department would like to measure. The Department provides a general format to ensure that a variety of projects are covered by in the recommendation:

The Department recommends the Commission order all new Xcel spending projects with a five-year budget over \$25 million, that were approved for cost recovery since 2021, report five years of actual outcomes compared to forecasted outcomes in the IDP. Forecasted outcomes correspond to the data used to substantiate a cost recovery request, which may include, but is not limited to: capital cost savings, operational cost savings, reliability benefits, enhanced customer experience.

C.4. Final Recommendations

The Department makes the following new/modified recommendations:

The Department recommends the Commission create a formal workgroup and planning standard review process that shall:

- A. Identify the main system planning standards that Xcel uses for each Commission-approved review topic;
- B. Select one or more planning standards, in agreement with intervenors, to review before the next IDP;
- C. Set alternative system planning scenarios to analyze, in agreement with intervenors;
- D. Perform a quantitative analysis of alternative system planning standards that measure estimated costs and benefits of alternative system planning standards;
- E. Require Xcel to present the results of steps A-D in the next IDP cycle; and
- F. Request comments to approve, modify, or reject the revised system planning standards for each Commission-approved review topic.

The Department recommends the Commission establish the following system planning standard review schedule, with each phase to repeat every eight years:

- A. 2027: Capacity
- B. 2029: Reliability and Asset Health
- C. 2031: Grid Modernization, Distributed Energy Resources, and Operation and Maintenance
- D. 2033: Budgeting

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Krystal Binversie, Diane Dietz

The Department recommends the Commission authorize the Department to spend up to \$1 million to obtain contractual services for planning standard review.

The Department recommends the Commission establish an ad hoc system planning standard review process that shall:

- A. Allow any intervenor to request a planning standard review;
- B. Set the parameters that shall be reviewed;
- C. Require the Commission to approve, modify, or reject the request for a planning standard review, limited to one such planning standard review per IDP cycle;
- D. Require Xcel to present the results of the planning standard review in its next IDP; and
- E. Request comments to approve, modify, or reject Xcel's system planning standard.

The Department recommends the Commission order the Distribution Data Reporting work group to identify IDP filing requirements that Xcel and intervenors agree can be removed.

The Department recommends the Commission order Xcel to provide a cost benefit analysis of at least three discretionary programs with a goal to review a total five-year budget of at least \$250 million. Xcel shall meet its \$250 million goal unless the Company can demonstrate that no portfolio of projects can meet the goal under the following screening criteria: clear, quantifiable benefit streams (such as avoided Customer Minutes Out (CMOs) or targeted operations and maintenance (O&M) savings), stable and reliable data inputs, and no mandatory components triggered by inspection thresholds or safety requirements.

The Department recommends the Commission order all new Xcel spending projects with a five-year budget over \$25 million, that were approved for cost recovery since 2021, report five years of actual outcomes compared to forecasted outcomes in the IDP. Forecasted outcomes correspond to the data used to substantiate a cost recovery request, which may include, but is not limited to: capital cost savings, operational cost savings, reliability benefits, enhanced customer experience.

The Department maintains the following recommendations:

The Department recommends the Commission order Xcel to provide an update to each program cost benefit analysis ten years after the initial presentation of the cost benefit analysis.

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The Department recommends that the Commission create a new filing requirement which states:

All new distribution spending projects and programs with an estimated historical or forecasted five-year budget of \$25 million or greater shall, at minimum, address the following:

- A. Estimated cost or range for the project/program;
- B. Consideration of feasible alternatives to the proposed spending;
- C. Quantitative estimation of expected outcomes; and
- D. Sensitivity analysis of cost and outcome assumptions.

The Department recommends the Commission establish an ad hoc system planning standard review process that shall:

- A. Allow any intervenor to request a planning standard review;
- B. Set the parameters that shall be reviewed;
- C. Require the Commission to approve, modify, or reject the request for a planning standard review;
- D. Require Xcel to present the results of the planning standard review in its next IDP; and
- E. Request comments to approve, modify, or reject Xcel's system planning standard.

The Department recommends the Commission order Xcel to disclose all changes to its system planning standards in its IDP.

D. VALUE OF RELIABILITY

In its initial comments the Department made the following request regarding Xcel's value of lost load (VOLL) in relation to the Interruption Cost Estimate (ICE) Calculator:

The Department requests Xcel explain in reply comments why it is reasonable to assume reliability benefits that are higher than the MISO value of lost load.⁶⁰

Xcel partially answers the Department's request for information:

Regarding the company's value of lost load (VOLL) estimate, the Company's ICE 2.0 based calculation utilized the Company's actual residential load share. The resulting \$/CMO values closely align with

⁶⁰ Department Initial Comments – at 36.

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MISO's approved System VOLL of \$35,000/MWh, with slight differences due to inflation and customer-specific factors.⁶¹ [citation omitted]

Xcel does not provide a full justification for its value and does not provide the actual VOLL that represents its system, but states that the VOLL is near the \$35,000 / MWh Midcontinent Independent System Operator (MISO) VOLL. By referencing MISO's \$35,000 / MWh VOLL, the Department believes Xcel misunderstands the employment of the MISO VOLL. While MISO does use a \$35,000 system VOLL, this price is never paid because the VOLL is multiplied by a loss of load probability that significantly reduces the operating reserve demand curve (ORDC), which is capped at \$6,000 / MWh, with a 50 percent cleared operating reserve margin or lower. The probability adjustment reflects the increased risk of a load shed event, but the ORDC never exceeds \$6,000 / MWh.⁶² Combined with other price adding mechanisms, MISO never authorizes a locational marginal price (LMP) higher than the \$10,000 / MWh VOLL.⁶³ In addition, MISO has a circuit breaker mechanism that drops the VOLL to \$5,000 / MWh for load shed events that last between 4 to 36 hours.⁶⁴ This circuit breaker ensures that the \$10,000 VOLL will not be paid indefinitely, which reduces the cost burden for ratepayers within MISO.

As a thought experiment, there is a hypothetical cost-effective balance, wherein Xcel could eliminate outages on its system so long as the cost to mitigate outages does not exceed the reliability benefits. With 1,382,150 customers,⁶⁵ and a 2020-2025 non-normalized system average duration index (SAIDI) of 185.2 minutes,⁶⁶ Xcel experienced an average of 255,974,180 customer minutes of outage (CMO). If Xcel's \$3.05 / CMO value of reliability is applied, then the annual cost of reliability is \$780 million each year, or \$565 / customer / year. Therefore, Xcel could propose an additional \$780 million in annual revenue requirements each year to eliminate outages on its system.

It is important to put Xcel's VOLL in the context of other costs paid by Xcel. In 2024, the average LMP at Xcel's load zone NSP.NSP was \$27.1 / MWh.⁶⁷ With 27,722,191 MWh of sales in 2024, Xcel would have

⁶¹ Xcel Reply Comments – Attachment A at 28.

⁶² *Scarcity Pricing White Paper: Value of Lost Load and Operating Reserve Demand Curve*. Midcontinent Independent System Operator, (March 2024). Available at: <https://cdn.misoenergy.org/20240418%20MSC%20Item%2004d%20Scarcity%20Pricing%20White%20Paper%20VOLL%20and%20ORDC632355.pdf> (hereinafter "MISO VOLL Report") at 11-12.

⁶³ See Figure 3. *Id.*, at 6.

⁶⁴ See Figure 9. *Updated Shortage Pricing White Paper: Value of Lost Load, Operating Reserve Demand Curve, and pricing VOLL Circuit Breaker*, Midcontinent Independent System Operator, (November 2024). Available at: <https://cdn.misoenergy.org/MISO%20Updated%20Shortage%20Pricing%20White%20Paper%20-%20Nov%202024663437.pdf>.

⁶⁵ *MN Electric Utility Annual Report*, Xcel Energy, October 16, 2025, Docket No. E002/PR-25-11, (eDockets) [202510-224025-02](#) (hereinafter "2025 Annual Report").

⁶⁶ *In the Matter of Northern States Power Company d/b/a Xcel Energy – Electric's 2024 Annual Safety, Reliability, and Service Quality Report*, Xcel, Report, April 1, 2025, Docket No. E002/M-25-27, (eDockets) [20254-217138-03](#).

⁶⁷ *MISO Market Reports*. Midcontinent Independent System Operator, (2024-2025). Available at: [https://www.misoenergy.org/markets-and-operations/real-time--market-data/market-reports/#nt=%2FMarketReportType%3AHistorical%20LMP%2FMarketReportName%3AHistorical%20Annual%20Real-Time%20LMPs%20\(zip\)&t=10&p=0&s=MarketReportPublished&sd=desc](https://www.misoenergy.org/markets-and-operations/real-time--market-data/market-reports/#nt=%2FMarketReportType%3AHistorical%20LMP%2FMarketReportName%3AHistorical%20Annual%20Real-Time%20LMPs%20(zip)&t=10&p=0&s=MarketReportPublished&sd=desc) (hereinafter "MISO Market Reports").

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

paid around \$751 million in purchased energy from MISO.^{68,69} In 2024, Xcel's unserved energy is valued higher than Xcel's served energy. Assuming an Xcel average annual load of 3,166 MW, Xcel's estimated unserved energy is 9,751 MWh.⁷⁰ This value is equivalent to \$80,000 / MWh of unserved energy. For 2024 data, every MWh of unserved energy is equivalent to 2,950 hours of served energy. The Department notes that Xcel's 2025 average LMP was \$39.1 / MWh,⁷¹ which reduces the cost ratio of unserved to served energy from 104% to 72%.

To put this value into context, the Department provides a hypothetical example of how these costs would be incurred. If Xcel were to eliminate reliability on its system with projects that have a benefit cost ratio (BCR) of approximately 1.0, then Xcel could spend \$8.45 billion on a 30-year capital project, which is equivalent to \$282 million every year if the costs are divided over 30 years.⁷² This budget is larger than Xcel's 2018 and 2019 average budget of \$276 million in 2025 dollars, and is equivalent to 33.5% of Xcel's 2025-2030 budget in 2025 dollars. Importantly, any reliability project approved by the Commission with a BCR of 1.0 pays Xcel's full VOLL for every MWh of avoided outages over the lifetime of the asset. The numbers do not significantly improve if the BCR is 2.0 instead of 1.0, where the cost or reliability drops from \$80,000 / MWh to \$40,000 / MWh. For comparison, the highest one-hour average LMPs recorded at NSP.NSP in 2024 and 2025 were \$836.1 / MWh and \$1,754.4 / MWh, respectively, which were paid over the over a single hour.⁷³ With Xcel's value of reliability, it could conceivably implement the equivalent of a Targeted Undergrounding proposal every year for the next 30 years if Xcel can demonstrate a BCR of 1.0 for these projects. This spending level would effectively double Xcel's 2018-2019 average spending indefinitely.

The Department questions the reasonableness of such costs and welcomes more robust discussion from utilities and stakeholders about an appropriate value of reliability. The Department makes similar recommendations in the IDPs for MP, DEA, and OTP for the development of a value of reliability. While a uniform value is not strictly necessary, it is important to apply measurement and valuation concepts equally between utilities, when practicable. Questions remain regarding the appropriate cost of unserved energy, potential cost caps for reliability benefits, forecasting reliability benefits, appropriate use cases for the value of reliability, and the appropriate valuation of reliability by customer class.

The Department seeks to have this discussion in the IDP dockets, but as an ad-hoc discussion. The Department envisions the following recommendation as a new comment period (initial and reply periods as needed) noticed in each of the IDPs after the Order in the IDPs is filed, to be completed before the next IDP is filed. Each utility would respond to the notice topics in its individual IDP docket. The Department cross files the following recommendation in the reply comments for each rate-regulated utility's IDP:

⁶⁸ 2025 Annual Report.

⁶⁹ The price Xcel actually pays is a function of several other factors including actual load and LMPs, LMPs at generation nodes, operational costs, net imports/exports, and financial transmission rights (FTRs), among other factors. This example is provided only to give an approximate scale of energy costs.

⁷⁰ 2025 Annual Report.

⁷¹ MISO Market Reports.

⁷² This estimate includes depreciation, the cost of capital, and tax. The estimate does not include inflation.

⁷³ MISO Market Reports.

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

The Department recommends the Commission delegate authority to the Executive Secretary to issue a Notice of Comment Period in each IDP docket to discuss the appropriate value of reliability. The Department recommends the notice topics address:

- A. The valuation of the cost of unserved energy;**
- B. The use of price caps for the cost of unserved energy;**
- C. Forecasting methodologies for reliability benefits;**
- D. Appropriate uses cases for the value of reliability; and**
- E. The potential to employ different values of reliability by customer class.**

In light of this recommendation, the Department suggests that Xcel refrain from the implementation of its Targeted Undergrounding Proposal until the value of reliability comment process has concluded. With a BCR of 1.5, any material reduction of the value of reliability may render many projects within the proposal cost ineffective.

D.1. Final Recommendations

The Department makes one new recommendation:

The Department recommends the Commission delegate authority to the Executive Secretary to issue a Notice of Comment Period in each IDP docket to discuss the appropriate value of reliability. The Department recommends the notice topics address:

- A. The valuation of the cost of unserved energy;
- B. The use of price caps for the cost of unserved energy;
- C. Forecasting methodologies for reliability benefits;
- D. Appropriate uses cases for the value of reliability; and
- E. The potential to employ different values of reliability by customer class.

E. FORECASTING RESULTS AND METHODOLOGY

E.1. Forecast Accuracy

In its Initial Comments, the Department made a recommendation to create a new filing requirement for Xcel to report on its forecast accuracy.

The Department recommends the Commission create a new IDP filing requirement to provide a comparison of forecast accuracy for each vintage

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and scenario (IDP Low, Medium, High) in Xcel's LoadSEER forecasts compared to actuals.⁷⁴

Regarding the Department's concerns that Xcel's forecasts appear to skew towards overcapacity, Xcel replies:

As explained in Chapter 1 of our 2025 IDP, differences between forecasts and actuals are expected and do not indicate inaccuracies. Year-to-year peaks vary due to multiple factors—weather conditions (e.g., cooler-than-average summers), changes in customer behavior, timing mismatches when new customers energize, variations in expected customer load levels, and switching events that can temporarily redistribute load across feeders. These factors naturally produce variation between actual and forecasted peaks, especially when aggregated across the entire distribution system.

Further, the Department's suggestion misunderstands the purpose of the forecast used in the IDP. Our load forecast is a planning forecast, designed not to predict the most likely peak load for the upcoming year, but to identify how high peak demand could reasonably be under extreme but plausible conditions. This ensures that system assets are sized to reliably withstand potential peak events, not just average ones. A useful analogy is weather forecasting: operational forecasts predict tomorrow's most likely high temperature, while planning forecasts prepare for the highest temperature historically observed on that date. In the same way, our planning forecast relies on a multiyear window of peak load history, combined with known and simulated load growth, to capture the upper range of potential system stress—not to minimize error against a single future year's actual peak.⁷⁵

Xcel makes some valid points. Any positive skew (higher actual than expected) is problematic for reliability in average years, and therefore Xcel's forecast should have negative skew in average temperature years, which is reflected in Xcel's Table 1-11. Using the same 2015-2024 Minneapolis Saint Paul (MSP) dataset that was used in the Department's Initial Comments, the Department displays the maximum temperature by year, which is shown in Table 2. The 30-year highest recorded temperature was 103 degrees in 2011,⁷⁶ and therefore this temperature could be considered Xcel's worst-case planning temperature, however MSP recorded a temperature of 108 degrees in 1936, which could be an alternative worst-case planning day. At first glance, the temperature deviations from the 103-degree planning day appear to line up well with Xcel's 2023 and 2024 forecast deviations of 6.1% and 10.1%, with maximum temperature deviations of 4.9% and 11.7% in 2023 and 2024, respectively. This result is

⁷⁴ Department Initial Comments – at 39.

⁷⁵ Xcel Reply Comments – Attachment A at 7.

⁷⁶ *A History of 100 Degrees in the Twin Cities*. Minnesota Department of Natural Resources, (2013). Available at: <https://www.dnr.state.mn.us/climate/journal/100degreesmsp.html> (hereinafter "Minnesota DNR MSP Climate Records").

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

expected, given that 2024 had an atypically low maximum temperature that 2024 has the lowest recorded temperature between 2015 and 2024, which would therefore influence the peak load.

Table 2: Summary of 10-Year Maximum Temperature at the MSP Airport

Year	Max Temp	Deviation
2015	93	-9.7%
2016	96	-6.8%
2017	95	-7.8%
2018	100	-2.9%
2019	95	-7.8%
2020	95	-7.8%
2021	99	-3.9%
2022	101	-1.9%
2023	98	-4.9%
2024	91	-11.7%
Average	96.3	
30-Yr High	103	

Source: MSP Weather Data,⁷⁷ Minnesota DNR MSP Climate Records

The MSP temperature data follows Xcel’s forecast deviation trends, but as Xcel explains, there are additional factors that could affect actual vs planned capacity. While Xcel complies with Order Point 5 of the Commission’s 2023 IDP Order requiring a comparison of the LoadSEER forecast to actuals, Xcel provides little “evaluat[ion of] the accuracy of LoadSEER forecasts,” as required by Order Point 3.c in the same Commission order.⁷⁸ The Department asserts that a comparison of actual data to modeled worst case scenarios is insufficient to determine the accuracy of Xcel’s LoadSEER forecasts as required by the Commission’s Order. Further, although Xcel’s narrative description of why its forecast could deviate from actuals is appreciated, the Department asserts that the narrative does not constitute the evaluation of the accuracy of Xcel’s LoadSEER forecasts.

Xcel provides additional detail for how the Company evaluates its forecast accuracy:

To the extent the Department is concerned that distribution investments may reflect forecasts that ultimately prove higher than realized load growth, the Company emphasizes that forecasts are not static inputs used once and carried forward unchecked. Rather, the Company regularly updates its load forecasts as new data becomes available and routinely reassesses projected needs as part of its planning, budgeting, and project development processes. Forecast assumptions are revisited and refined prior to finalizing construction decisions, allowing the Company to adjust project scope, timing, or sequencing if warranted. This ongoing review

⁷⁷ See Report FM-15. *Data Tools: Local Climatological Data*. National Oceanic and Atmospheric Administration, (2026). Available at: <https://www.ncei.noaa.gov/cdo-web/datatools/lcd>

⁷⁸ 2023 IDP Order.

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

process serves as an important safeguard against overbuilding while still ensuring that the Company meets its obligation to plan for reliable service under a range of future conditions.⁷⁹

Xcel does not support the Department's request for a new filing requirement, and states:

The Department's request also overlooks important context: historical data for certain years is incomplete due to the transition to the LoadSEER forecasting platform, and LoadSEER's layer-based forecast categories are not available for historical actuals. Requiring a new forecast-accuracy filing requirement would therefore repeat work already done, rely on imperfect historical datasets, and add limited value to the planning process.

For these reasons, the Company does not support establishing a new filing requirement that would duplicate existing analysis without improving the accuracy or usefulness of the IDP forecasting framework.⁸⁰

It is important to examine Xcel's concerns in a broader context. LoadSEER is a brand new, black-box forecasting tool that Xcel uses to make budgetary decisions. The tool relies on "layer-based" bottom-up forecasts that could be subject to biases. Due to the black-box setup of LoadSEER, the Department cannot review Xcel's forecast methodology. The only tool the Department has to evaluate the reasonableness of Xcel's forecasts is the LoadSEER forecast accuracy. If, as Xcel asserts, that a forecast accuracy filing would "repeat work already done," it should not be a considerable effort to publish the results in the record.

The information provided by Xcel is not sufficient to determine the accuracy of the LoadSEER tool. Additionally, Xcel's forecasts will be used to justify proactive investments, but Xcel's energy forecast accuracy in forecast years 6-10 ranges from 5.2% - 12.6% positive skew.⁸¹ The only way to properly confirm Xcel's forecast accuracy is to adjust the model for other conditions such as actual weather, economic, adoption rate to determine if Xcel's model assumptions are accurate. For example, in 2024, the maximum temperature at MSP was 91 degrees, but Xcel's capacity model assumed the temperature would be 103 degrees. The model can be adjusted to predict capacity at 91 degrees and that result can be compared to actuals. The same process could be repeated for economic conditions and other factors that would affect forecast accuracy. A backward look will not accomplish the Department's goals because the model will fit to historical data. Instead, input model parameters should be adjusted from prior LoadSEER forecast vintage peak load conditions to actual conditions in the forecasted years.

The risk of Xcel's forecasts being wrong is significant; therefore, the Department believes Xcel should be required to demonstrate that its forecasts are accurate. In addition to the need to confirm Xcel's budget forecast accuracy, a filing requirement is appropriate because the Commission intends to use

⁷⁹ Xcel Reply Comments – Attachment A at 8.

⁸⁰ *Id.*, Attachment A – at 7.

⁸¹ Department Initial Comments on Xcel's Proactive Upgrade Proposal– at 5.

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

the 6 to 10-year forecast planning horizon for proactive upgrades, and there is not sufficient data at this point to demonstrate the accuracy of Xcel's forecasts for those planning years. The Department modifies its recommendation to clarify the goals of its forecast accuracy exercise, and removes the forecast scenario requirement:

The Department recommends the Commission create a new IDP filing requirement to provide a comparison of forecast accuracy for the forecast scenario or scenarios Xcel uses for budgeting each vintage and scenario (IDP Low, Medium, High) in Xcel's LoadSEER forecasts compared to actuals. Forecast accuracy should adjust model parameters to actual observed conditions to determine the accuracy of the forecast.

E.2. Planning Divisions

In its initial comments, the Department made the following request regarding Xcel's planning divisions (PD):

The Department requests that Xcel explain in reply comments:

- A. Why Planning Divisions encompass areas well beyond the Company's Minnesota service territory;
- B. Whether load, asset, or spending data from outside Xcel's service territory are embedded in PD-level forecasts used in the IDP; and
- C. How the Company ensures that Minnesota-specific planning and regulatory decisions are not influenced by non-jurisdictional conditions.⁸²

Xcel provides the following response to the Department's request for information:

The Department asks why Planning Divisions appear to extend beyond the Company's Minnesota service territory, whether any non-jurisdictional data influences Minnesota forecasts, and how Minnesota regulatory decisions are insulated from out-of-state conditions. The Company addresses these questions by clarifying what Planning Divisions are—and are not—and how they are used in the IDP.

What Planning Divisions are—and are not. Planning Divisions are internal geospatial groupings created to organize noncontiguous areas of the service territory for planning efficiency. They generally align with service center territories (with some overlap where assets cross boundaries) and use location codes to track certain categories of distribution spending. These constructs are administrative, not jurisdictional.

⁸² Department Initial Comments – at 42.

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

Planning Divisions are not forecasting units. Distribution planning and LoadSEER forecasting are performed at the feeder-circuit and substation-transformer levels based on system-wide forecasts developed at the state level; Planning Divisions serve only as an intermediate aggregation layer for internal management and reporting.

Consequently, Minnesota peak load forecasts, asset needs, and project prioritization are driven by feeder/substation conditions within Minnesota—not by the broader geography of a Planning Division polygon.

IDP uses Minnesota only inputs and decisions. Forecasting and planning activities in the IDP apply only to assets and customers within the Company's service territory in Minnesota. Where a Planning Division polygon encompasses areas served operationally from North Dakota or South Dakota service centers, or areas outside the Company's service territory, Minnesota IDP inputs and outputs still only include the Company's Minnesota assets and customers. No load, asset, or spending data from outside the Company's Minnesota service territory is embedded in Minnesota Planning Division forecasts; accordingly, Minnesota regulatory decisions are not influenced by out of state or other non-jurisdictional conditions.⁸³

The Department appreciates the Company's clarification. Planning Divisions provide a useful mechanism of disaggregating outcomes across the Company's service territory and evaluate the efficacy of the Company's investments. They also help compare different parts of Xcel's service territory and gain insights on what might be driving outcomes. The Department encourages Xcel to provide disaggregation of its cost categories and outcome metrics by Planning Divisions consistently in future filings. However, the Department does not make a formal recommendation and may seek additional analysis at the PD level in future comments.

E.3. Final Recommendations

The Department makes the following modified recommendation:

The Department recommends the Commission create a new IDP filing requirement to provide a comparison of forecast accuracy for the forecast scenario or scenarios Xcel uses for budgeting in Xcel's LoadSEER forecasts compared to actuals. Forecast accuracy should adjust model parameters to actual observed conditions to determine the accuracy of the forecast.

⁸³ Xcel Reply Comments – Attachment A at 2-3.

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F. CAPACITY

In its initial comments, the Department made one recommendation regarding capacity planning standards:

The Department recommends the Commission order a review of the following capacity planning standards, to be presented in Xcel's 2027 IDP:

- A. Capacity forecasting and accuracy
- B. N-0 forecast uncertainty margin and the use of AMI or other actual data
- C. N-1 probability of coincident peak load and N-1 contingencies
- D. N-1 screening based on cost effectiveness
- E. Sizing new assets for future load growth
- F. Capacity Risk Framework
- G. Project Prioritization⁸⁴

Xcel makes similar arguments about capacity planning standards as the Company makes regarding planning standards in general, which the Department discusses in Section III.C.

Taken together, these proposals would require the Company to reopen, reevaluate, and potentially modify foundational engineering-based planning standards through the IDP and associated stakeholder processes. This would require substantial effort across multiple engineering, operations, and forecasting teams, with uncertain benefit to the IDP process. Many of the requested topics reflect long-standing utility engineering and reliability standards that are applied system-wide and are not typically re-evaluated through regulatory filings. Redirecting resources to document these standards every IDP cycle would divert attention from ongoing planning work needed to reliably serve customers and connect new customers.

In addition, the proposal risks shifting responsibility for defining technical standards from the utility to the Commission. Engineering-based standards—such as N-1 criteria, probabilistic risk evaluations, and asset-sizing methodologies—are rooted in operational expertise, equipment capabilities, and safety requirements. Introducing a Commission-driven review of these standards could create uncertainty and blur the line between regulatory oversight and technical system-design decisions.

While the Company values stakeholder understanding of its planning frameworks and continues to provide transparency regarding how risk metrics are applied, the IDP is intended to explain how existing standards

⁸⁴ Department Initial Comments – at 64.

Analyst(s) assigned: Ari Zwick, Rachel Wiedewitsch, Bhavin Pradhan,
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are used—not to serve as a forum for stakeholder-directed redesign of core engineering methodologies. To the extent particular topics warrant further discussion, they are better addressed through focused technical dialogue rather than a blanket directive to rebuild foundational engineering criteria within a single filing.

The Department restates that the Commission ordered Xcel to modify its capacity planning standards with its PNL order, and NWA operates similarly to the Department’s recommendation as well. The Department simply advocates to expand the scope of analysis to additional subject areas. Xcel does not address these concerns in its reply comments.

To assess the reasonableness of Xcel’s N-0 and N-1 capacity planning standards, the Department sent IRs to MP, DEA, and OTP. Both DEA⁸⁵ and OTP⁸⁶ mitigate N-0 capacity risks at 90 percent of thermal capacity, and MP⁸⁷ mitigates capacity risks at 100 percent. In comparison, Xcel’s N-0 standard of 75 percent is significantly lower than all of the other utilities. All of the utilities mitigate N-1 risks regardless of their probability.⁸⁸

In its initial comments, the Department presented data about capacity overloads for Xcel’s feeders. The Department did not present capacity data for Xcel’s substation transformers, which is shown in Figure 4. Xcel’s median substation transformer capacity utilization is 58.4 percent. Similar to the feeder utilization data presented in the Department’s initial comments,⁸⁹ the transformer capacity data in Figure 4 shows that Xcel exceeds its standard equipment ratings, which furthers the Department’s recommendation that a discussion regarding how these decisions are made and how tradeoffs regarding risk and cost are factored into its capacity budgeting process is warranted.

⁸⁵ 2025 DEA IDP Initial Comments – at 12.

⁸⁶ 2025 OTP IDP Initial Comments – at 12-13.

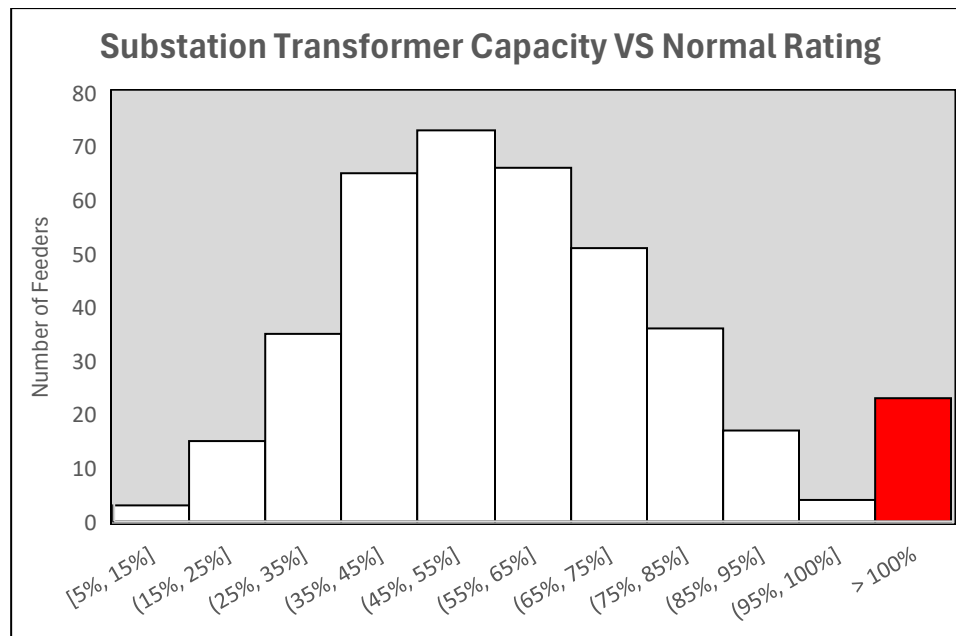
⁸⁷ Forthcoming MP IDP Reply Comments.

⁸⁸ 2025 MP IDP Initial Comments – at 11-12; 2025 DEA IDP Initial Comments – at 12; 2025 OTP IDP Initial Comments – at 13.

⁸⁹ See Figure 24. Department Initial Comments – at 53.

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Figure 4: Histogram of Xcel Substation Transformer Capacity Utilization



Source: Department IR 34⁹⁰

ELPC/CEF/VS provides a description of the discrepancy between Xcel's planning standards and its actual practice:

Moreover, Xcel's N-1 scenario planning may be overestimating the risk of customer outages. Xcel intentionally limits its planning criteria to using equipment normal capacity ratings, but during operations, Xcel allows their system operators to run equipment to (higher) emergency ratings. Using emergency ratings in operations is common for many different utilities and gives the system flexibility to respond to contingency events. The tradeoff is that the utility accepts minor decreases in equipment lifespans caused by temporarily running over the normal ratings and is thereby able to restore customers that would otherwise have to be disconnected and would have increased the Customer Minutes Out. But our understanding is that Xcel's system planning does not take emergency ratings into consideration for N-1 conditions, which leads to increased mitigation costs to resolve.⁹¹

The Department emphasizes that given the low probability of a peak load event with an N-1 contingency event,⁹² the use of emergency ratings for N-1 contingency planning should at least be

⁹⁰ Department Initial Comments – Attachment B.

⁹¹ ELPC/CEF/VS Initial Comments – at 31.

⁹² Department Initial Comments – at 56-57.

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considered. For almost all N-1 contingencies, there will be ample capacity on Xcel's system to handle switching events. In addition, the Department questions Xcel's scenario planning:

First, Xcel assumes a near-worst-case scenario that all feeders in its N-1 analysis are at 100 percent loading. Xcel states: "In the N-1 risk case, we scale the peak of the N-1 overload load curve up by 25 percent and assess the overload against 100 percent of the feeder limit, which also aligns with our planning criteria." As discussed previously, only 3.2 percent of Xcel's feeders are at or above their rated capacity. 9.4 percent of feeders are loaded at 95 percent, and 13.1 percent of feeders are loaded at 90 percent; approximately 9 out of 10 feeders in Xcel's N-1 analysis will assume grid conditions that are overly conservative and that Xcel will estimate more "load at risk" than actually exists.⁹³ [citation omitted]

Based on multiple analyses presented herein and in initial comments, the Department posits that there are discretionary elements of Xcel's planning standards, which suggests that there is room for review by stakeholders and regulators to evaluate the assumptions. The Department concludes that the Commission should continue its history of planning standard review in the IDPs.

Based on the discussion provided by ELPC/CEF/VS, the Department modifies its recommendation to include a review of emergency ratings for N-1 capacity risks.

The Department recommends the Commission order a review of the following capacity planning standards, to be presented in Xcel's 2027 IDP:

- A. Capacity forecasting and accuracy**
- B. N-0 forecast uncertainty margin and the use of AMI or other actual data**
- C. N-1 probability of coincident peak load and N-1 contingencies**
- D. N-1 screening based on cost effectiveness**
- E. Equipment ratings during N-1 emergencies**
- F. Sizing new assets for future load growth**
- G. Capacity Risk Framework**
- H. Project Prioritization**

F.1. Final Recommendations

The Department makes the following modified recommendation:

The Department recommends the Commission order a review of the following capacity planning standards, to be presented in Xcel's 2027 IDP:

- A. Capacity forecasting and accuracy**

⁹³ *Id.*, at 55.

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

- B. N-0 forecast uncertainty margin and the use of AMI or other actual data
- C. N-1 probability of coincident peak load and N-1 contingencies
- D. N-1 screening based on cost effectiveness
- E. Equipment ratings during N-1 emergencies
- F. Sizing new assets for future load growth
- G. Capacity Risk Framework
- H. Project Prioritization

G. WILDFIRE

In its initial comments, the Department made the following recommendations for enhanced analysis of Xcel's wildfire management plan (WMP):

The Department recommends Xcel integrate the locational information from its medically necessary equipment certification form into its wildfire mitigation plan.

The Department recommends that future (outside of the current rate case's test and planning years) wildfire mitigation proposals be filed with the Commission as a comprehensive Wildfire Mitigation Plan. The Department recommends the Company's Wildfire Mitigation Plan be filed as an attachment or supplement to its IDP.

The Department recommends the Commission require Xcel to include the following in its Wildfire Mitigation Plan:

Of the overall Wildfire Mitigation Planning process:

- 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 prioritization process within its Wildfire Mitigation Plan.
- 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.

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

- Reporting on the number and locations of wildfires experienced in its territory over the last ten years, the number of outages caused by wildfire, and the average length of wildfire-related outage.
- Reporting on the efficacy of its wildfire mitigation strategy in reducing wildfire-related outages (i.e. After deployment of the rate-case-approved wildfire mitigation measures, wildfire-related outages in Xcel's territory decreased 50 percent; the number of wildfires in Xcel's service territory decreased from 100 to 50 since the filing of the Company's last IDP resulting in approximately 10 fewer outages.) Discussion of its use of its Public Safety Power Shutoff Program, including the number of PSPS outages, cause of the PSPS outage, average length of a PSPS outage, if/how notice was provided to customers, and measures the Company employs to protect customers that are medically dependent on electric service.
- Provide the Wildfire Safety Operations Playbook, the PSPS Playbook, and the PSPS Communications Playbook as attachments or provide the location where the Playbooks can be accessed.
- A full cost benefit analysis.⁹⁴

The Department appreciates Xcel's support for its recommendations for additional assessment of wildfire risk and wildfire planning in its reply comments.⁹⁵ Xcel indicates in reply comments that it is supportive of including the total of the Department's wildfire recommendation, with the caveats that 10 years of wild-fire related data may not be available and that CBA's should be conducted "where appropriate."⁹⁶ Xcel states that it intends to file its comprehensive wildfire mitigation plan in 2027. The Department acknowledges that 10 years of wildfire-specific outage data may not be available, given the relatively recent focus on wildfire-related threats as the climate of Minnesota has changed.

The Department recommends the Commission require Xcel to discuss and provide the available years of wildfire-related outage data in its Wildfire Mitigation Plan to be filed with the Company's 2027 IDP.

The Department reiterates the importance of CBAs for wildfire mitigation measures. The Department acknowledges that wildfire mitigation projects are not solely developed based on cost-benefit analyses or cost-benefit ratios as Xcel mentioned in its reply comments.⁹⁷ There are important factors to consider in wildfire mitigation plans that will be difficult to quantify, such as protecting medically vulnerable customers.⁹⁸ The Department understands that a purely economic analysis may not capture

⁹⁴ Department Initial Comments – at 69, 77-78.

⁹⁵ Xcel Reply Comments – Attachment A, at 26-27.

⁹⁶ *Id.*, at 26-27.

⁹⁷ *Id.*, at 27.

⁹⁸ *Ibid.*

Analyst(s) assigned: Ari Zwick, Rachel Wiedewitsch, Bhavin Pradhan,
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all the benefits, or frankly, the costs of wildfire mitigation measures. However, the Department asserts that cost-benefit analyses or ratios are one tool of many in evaluating the appropriateness of utility spending. The Department reiterates its support for a full cost-benefit analysis to be completed in the Company's future wildfire mitigation plan.

In its reply comments, Xcel indicates support for filing wildfire mitigation proposals as an attachment to the IDP for wildfire proposals that occur outside of a rate case test year.⁹⁹ The Department notes that Xcel files multi-year electric rate cases relatively frequently. The Company's current rate case was filed in 2024 with the test year of 2025 and plans year of 2026.¹⁰⁰ The Company's previous rate case was filed in 2021 with the test year of 2022 and plans years of 2023 and 2024.¹⁰¹ Preceding the 2021 rate case, Xcel's multi-year rate plan covered years 2016-2019.¹⁰² The recent frequency of Xcel's rate cases provides very little opportunity for analysis of Xcel's spending in a year that is not either a test year or a planning year. If Xcel only intends to file wildfire proposals outside of a rate case test year, the Department is concerned that there will be very little, if any actual content to review in the IDP regarding wildfire expenditures. If wildfire expenditures are not reviewed in the IDP, the concern persists that the only opportunity to review wildfire-related expenditures will be in the rate case. The Department reiterates the importance of using the IDP's as the docketed location for initial review of the Company's proposed wildfire expenses. The distinction of including proposals only if the proposal is outside of a rate case test year is unnecessary and extremely limits the intent of a wildfire mitigation plan.

The Department also appreciates and supports the recommendations from Environmental Law and Policy Center, Cooperative Energy Futures, and Vote Solar (ELPC/CEF/VS) regarding wildfire mitigation plans,¹⁰³ and agrees with Xcel that ELPC/CEF/VS recommendation could be additive to the Department's recommendation and Xcel's planned 2027 wildfire mitigation plan.¹⁰⁴ The Department agrees with ELPC/CEF/VS that an evaluation of Xcel's risk of wildfire compared to its other jurisdictions as well as its wildfire risk compared to other reliability and safety risks would provide additional detail regarding the Company's relative wildfire risk.¹⁰⁵ The Department adds an additional bullet point to its wildfire recommendations from initial comments to incorporate the recommendation of ELPC/CEF/VS regarding relative wildfire risk.

⁹⁹ *Id.*, at 26.

¹⁰⁰ *In the Matter of Northern States Power Company d/b/a Xcel Energy's Application for Authority to Increase Electric Rates in Minnesota*, Notice of Change in Rates Interim Rates Petition, Xcel Energy, November 1, 2024, Docket No. E002/GR-24-320, (eDockets) [202411-211511-01](#), at pdf 2.

¹⁰¹ *In the Matter of Northern States Power Company d/b/a Xcel Energy's Application for Authority to Increase Electric Rates in Minnesota*, Notice of Change in Rates Interim Rates Petition, Xcel Energy, October 25, 2021, Docket No. E002/GR-21-630, (eDockets) [202110-179078-01](#), at 2.

¹⁰² *Ibid.*

¹⁰³ *In the Matter of Xcel Energy's 2025 Integrated Distribution Plan*, Initial Comments on Xcel's Integrated Distribution Plan of Environmental Law & Policy Center, Cooperative Energy Futures and Vote Solar, February 26, 2026, Docket No. E002/M-25-142, (eDockets) [20262-228733-01](#) (hereinafter: "ELPC/CEF/VS Initial Comments"), at 48.

¹⁰⁴ Xcel Reply Comments – Attachment A at 26.

¹⁰⁵ ELPC/CEF/VS Comments – at 48.

Analyst(s) assigned: Ari Zwick, Rachel Wiedewitsch, Bhavin Pradhan,
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The Department recommends the Commission require Xcel to include 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 prioritization process within its Wildfire Mitigation Plan.
- Quantification of actual wildfire risk in Xcel’s territory based on the probability and size of a fire, and land use.
 - Xcel’s Minnesota wildfire risk should be compared to other reliability and safety risks experienced by Xcel in Minnesota as well as the wildfire risk experienced in Xcel’s other jurisdictions.
- Quantification of wildfire damages by event size, including Xcel-owned and other property damage, applicable liability, and any other costs Xcel deems reasonable to include.
- 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 locations of wildfires experienced in its territory ~~over the last ten years~~, the number of outages caused by wildfire, and the average length of wildfire-related outage.¹⁰⁶
- Reporting on the efficacy of its wildfire mitigation strategy in reducing wildfire-related outages (i.e. After deployment of the rate-case-approved wildfire mitigation measures, wildfire-related outages in Xcel’s territory decreased 50 percent; the number of wildfires in Xcel’s service territory decreased from 100 to 50 since the filing of the Company’s last IDP resulting in approximately 10 fewer outages.¹⁰⁷)
- Discussion of its use of its Public Safety Power Shutoff Program, including the number of PSPS outages, cause of the PSPS outage, average length of a PSPS outage, if/how notice was provided to customers, and measures the Company employs to protect customers that are medically dependent on electric service.
 - Provide the Wildfire Safety Operations Playbook, the PSPS Playbook, and the PSPS Communications Playbook as attachments or provide the location where the Playbooks can be accessed.
- A full cost benefit analysis of any proposals.

¹⁰⁶ The Department strikes “over the last ten years” from its recommendation to allow for the discussion of available wildfire outage data in the Company’s 2027 wildfire mitigation plan.

¹⁰⁷ Values are arbitrary given as examples for how Xcel could demonstrate the efficacy of its Wildfire Mitigation Plan.

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G.1. Contractual Services for WMP review

As WMP are relevantly new for utility planning dockets as well as for regulator and stakeholder review, the Department anticipates that the review of each utility's WMP would be significantly improved by the addition of a contractor. An outside contractor would bring additional insight and WMP expertise that is not currently housed within the Department. The Department estimates that contractual services could cost up to \$300,000. The Department estimates these costs in the context of the costs incurred for contractual services in Xcel and OTP's ongoing rate cases to review proposed wildfire expenditures. The Department anticipates hiring one contractor for review of all the utilities' WMP in the next IDP cycle—resulting in approximately a two-year contract. The Department asserts that proper review of utility WMP could aid in balancing the risk of wildfire in each utility territory and the costs to Minnesota ratepayers. WMPs have the potential to be a significant spending category, raising important affordability questions for Minnesota ratepayers.

The Department recommends the Commission authorize the Department to spend up to \$300,000 to obtain contractual services for wildfire mitigation plan reviews.

G.2. Final Recommendations

The Department makes the following new/modified recommendations:

The Department recommends the Commission require Xcel to discuss and provide the available years of wildfire-related outage data in its Wildfire Mitigation Plan to be filed with the Company's 2027 IDP.

The Department recommends the Commission require Xcel to include 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 prioritization process within its Wildfire Mitigation Plan.
- Quantification of actual wildfire risk in Xcel's territory based on the probability and size of a fire, and land use.

Analyst(s) assigned: Ari Zwick, Rachel Wiedewitsch, Bhavin Pradhan,
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- Xcel's Minnesota wildfire risk should be compared to other reliability and safety risks experienced by Xcel in Minnesota as well as the wildfire risk experienced in Xcel's other jurisdictions.
- Quantification of wildfire damages by event size, including Xcel-owned and other property damage, applicable liability, and any other costs Xcel deems reasonable to include.
- 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 locations of wildfires experienced in its territory, the number of outages caused by wildfire, and the average length of wildfire-related outage.¹⁰⁸
- Reporting on the efficacy of its wildfire mitigation strategy in reducing wildfire-related outages (i.e. After deployment of the rate-case-approved wildfire mitigation measures, wildfire-related outages in Xcel's territory decreased 50 percent; the number of wildfires in Xcel's service territory decreased from 100 to 50 since the filing of the Company's last IDP resulting in approximately 10 fewer outages.¹⁰⁹)
- Discussion of its use of its Public Safety Power Shutoff Program, including the number of PSPS outages, cause of the PSPS outage, average length of a PSPS outage, if/how notice was provided to customers, and measures the Company employs to protect customers that are medically dependent on electric service.
- Provide the Wildfire Safety Operations Playbook, the PSPS Playbook, and the PSPS Communications Playbook as attachments or provide the location where the Playbooks can be accessed.
- A full cost benefit analysis of any proposals.

The Department recommends the Commission authorize the Department to spend up to \$300,000 to obtain contractual services for wildfire mitigation plan reviews.

The Department maintains the following recommendations:

¹⁰⁸ The Department strikes "over the last ten years" from its recommendation to allow for the discussion of available wildfire outage data in the Company's 2027 wildfire mitigation plan.

¹⁰⁹ Values are arbitrary given as examples for how Xcel could demonstrate the efficacy of its Wildfire Mitigation Plan.

Analyst(s) assigned: Ari Zwick, Rachel Wiedewitsch, Bhavin Pradhan,
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The Department recommends Xcel integrate the locational information from its medically necessary equipment certification form into its wildfire mitigation plan.

The Department recommends that future (outside of the current rate case's test and planning years) wildfire mitigation proposals be filed with the Commission as a comprehensive Wildfire Mitigation Plan. The Department recommends the Company's Wildfire Mitigation Plan be filed as an attachment or supplement to its IDP.

H. TARGETED UNDERGROUNDING PROPOSAL

This section addresses the Department's recommendations and Xcel's subsequent opposition regarding the economic evaluation and site-selection criteria for Xcel Energy's Targeted Undergrounding Proposal.

In its initial comments, the Department recommended that Xcel provide a full CBA for the wildfire-mitigation budget and for all post-2026 targeted undergrounding projects, specifically incorporating O&M savings and site-specific costs. In its reply comments, Xcel provides the following justification for opposing project-level CBAs:

The Company opposes project-level BCAs because they are administratively burdensome for small distribution projects and are not well suited to situations where the Company has a service-quality obligation. Instead, the Company already applies a least-cost, highest-benefit approach, prioritizing sites with the highest CMOs and strong technical and financial feasibility.¹¹⁰

The Department is not persuaded by the Company's characterization of these projects as too small for rigorous economic review. While an individual feeder segment might represent a discrete portion of the grid, the Department's concern lies with the cumulative impact of programmatic spending. When individual projects are aggregated into a multi-million-dollar proposal, the administrative burden of ensuring ratepayer funds are spent effectively becomes a necessary regulatory safeguard.

Xcel further objects to the Department's proposed-site selection requirements, which included a minimum BCR of 1.25 and limits tied to asset depreciation:

The Company opposes these changes, as strict BCR thresholds and depreciation-based screening could prevent focus on the feeders with the most significant outage impacts. Alternatives are already considered, but undergrounding remains necessary in areas where service-quality

¹¹⁰ Xcel Reply Comments– at 36.

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obligations require a durable solution regardless of strict cost-benefit ratios.¹¹¹

The Department recognizes that while reliability is a core utility responsibility, it should be integrated with a standard framework of economic analysis for capital-intensive projects. The Department suggests that the current process for weighing reliability improvements against project costs would benefit from greater transparency for ratepayers. By utilizing a formal BCR threshold and providing a quantitative comparison of alternatives, such as enhanced vegetation management or FLISR, the Company can more clearly demonstrate that its proposed undergrounding projects are the most cost-effective means of meeting its service-quality obligations.

Vegetation management, in particular, represents a critical alternative that can achieve significant reliability gains with lower capital intensity than full undergrounding. While Xcel states that it evaluates potential mitigation strategies including vegetation management, the Department notes that other utilities have used independent, specialized expertise to refine these programs. For example, Dakota Electric Association (DEA) has previously contracted a specialized consulting firm to evaluate its vegetation management strategy. In addition, a vegetation management optimization strategy could be used to determine reliability benefits in a number of contexts including the targeted undergrounding program, the wildfire mitigation plan, and Xcel's general vegetation management budget.

In 2018, Dakota Electric contracted a consulting firm specializing in vegetation management to perform an evaluation of our vegetation management strategy. In 2019, Dakota Electric updated our vegetation right-of-way policy, updated trimming guidelines and clearance diagrams, and aligned our tree contractor agreements with industry best practices. We also updated our internal and external communications, increased our overall vegetation management funding level, and developed a strategic plan to work through member tree concerns and the distribution system trimming to promote safety and resilience to the entire membership.¹¹²

The Department recommends the Commission order Xcel contract with an independent consulting firm that specializes in vegetation management to perform a comprehensive optimization of the Company's current vegetation management strategy.

Furthermore, the Company's reliance on its own VOLL estimate to justify these projects, citing an alignment with MISO's \$35,000/MWh, is premature. As discussed in Section III.D, Xcel's reliability benefits may be overstated, with every MWh of unserved energy valued significantly higher than served energy in certain contexts. Until the Commission establishes a settled value of reliability through a singular proceeding noticed in the IDP dockets, the Department maintains that discretionary

¹¹¹ *Ibid.*

¹¹² 2025 DEA IDP.

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

reliability spending must be closely monitored to prevent the authorization of projects that appear cost-effective only through the lens of a potentially inflated VOLL.

While Xcel believes its current prioritization process strikes an appropriate balance, the Department maintains that incorporating site-specific BCAs and a standardized value of reliability would enhance the long-term transparency of the program.

In addition, the Department agrees with recommendations made by ELPC/CEF/VS to integrate equity planning into Xcel's targeting undergrounding program. The Department understands that Xcel's targeted undergrounding program originated in the SRSQ docket to address equity issues, but ELPC/CEF/VS identify that Xcel does not plan to integrate equity considerations within its site selection criteria.¹¹³ While Xcel's subset of projects is aimed to address some of these concerns, the Department agrees with ELPC/CEF/VS that Xcel should explicitly incorporate equity into its decision criteria. After crossing the cost effectiveness threshold, it is appropriate to consider equity for site selection. The Department also agrees that reporting on the program is important to ensure transparency and accountability. The Department adopts ELPC/CEF/VS's recommendations, with the exception of ICE 2.0 Calculator equity methodologies, which the Department has not reviewed:¹¹⁴

The Department recommends the Commission order Xcel to integrate equity considerations explicitly and transparently into its targeted underground program from the start to ensure that communities facing disparities in reliability appropriately benefit in a timely manner.

The Department recommends the Commission order Xcel to report annually on its targeted undergrounding program. The Department suggests these reports should include the following data: number of undergrounding projects; number of projects in Environmental Justice areas; actual undergrounding project costs; drivers for projects (engineering, equity, other); and description of community engagement efforts.

H.1. Final Recommendations

The Department makes the following new recommendations:

The Department recommends the Commission order Xcel contract with an independent consulting firm that specializes in vegetation management to perform a comprehensive optimization of the Company's current vegetation management strategy.

The Department recommends the Commission order Xcel to integrate equity considerations explicitly and transparently into its targeted

¹¹³ ELPC/CEF/VS Initial Comments— at 32-35.

¹¹⁴ *Id.*, at 49.

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

underground program from the start to ensure that communities facing disparities in reliability appropriately benefit in a timely manner.

The Department recommends the Commission order Xcel to report annually on its targeted undergrounding program. The Department suggests these reports should include the following data: number of undergrounding projects; number of projects in Environmental Justice areas; actual undergrounding project costs; drivers for projects (engineering, equity, other); and description of community engagement efforts.

The Department maintains the following recommendations:

The Department recommends the Commission require Xcel to perform full BCA for all projects scheduled beyond the 2026 pilot phase, which must incorporate O&M savings (including avoided vegetation management and storm restoration costs), and use site-specific construction estimates and benefit calculations.

The Department recommends the Commission approve the site selection criteria with the following modifications:

- A. Require Xcel to demonstrate a minimum BCR of 1.25, using tools like the ICE, to financially justify each individual project prior to approval.
- B. Limit or strictly prioritize undergrounding to sites where existing overhead infrastructure is fully depreciated to prevent stranded costs from premature retirements.
- C. Require the formal quantification of alternatives, specifically enhanced vegetation management, FLISR deployment, and backlot O&M expenses, during site selection to ensure undergrounding is the most economical choice.

I. COST-BENEFIT ANALYSIS

In its initial comments, the Department made several requests for information and recommendations. The Department addresses each of these requests for information separately.

I.1. Discounting of Benefits

The Department recommended that Xcel discount of all its benefits for programmatic CBA. The Department stated:

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

The Department recommends Xcel discount all benefit calculations used in programmatic cost benefit analysis.¹¹⁵

Xcel supports the Department's recommendation, and responds:

The Department also recommends discounting all benefit calculations used in programmatic CBAs. The Company supports this recommendation. Applying discounting promotes consistency with standard utility and regulatory financial practices by recognizing the time value of money when comparing costs and benefits that occur over different periods. The Company will incorporate appropriate discounting methodologies in future programmatic CBAs, consistent with the scope and purpose of those analyses and in the appropriate regulatory context.¹¹⁶

In order to simplify its recommendations, the Department withdraws this recommendation with the understanding that Xcel will discount its future benefits.

The Department asked Xcel to explain whether operation and maintenance (O&M) costs were included in Xcel's CBA model. Xcel responds:

The Department asks Xcel to clarify whether O&M costs are included in the total cost calculations in Attachments M and N and, if not, to explain why those costs were excluded.

The Company confirms that O&M costs are included in the total cost calculations presented in Attachments M and N. These costs are incorporated within the emergent cost component of the analysis, which reflects the additional labor and related expenses associated with responding to unplanned equipment failures or emergent work. While O&M costs are not separately itemized in these attachments, they are captured as part of the emergent cost calculation used to compare proactive and reactive investment approaches.¹¹⁷

The Department confirms that O&M cost savings are included as benefits under "Emergent Cost" savings benefit category. The Department's previous calculations that added O&M costs in its initial comments were incorrect.¹¹⁸ The Department provides a revised estimate of programmatic benefits at the end of this section.

¹¹⁵ Department Trade Secret Initial Comments – at 89.

¹¹⁶ Xcel Reply Comments – Attachment A at 15.

¹¹⁷ *Id.*, Attachment A– at 16.

¹¹⁸ Department Trade Secret Initial Comments– at 90.

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

1.2. Undepreciated Asset Costs

In its initial comments, the Department made the following recommendation regarding undepreciated asset costs:

The Department recommends that Xcel provide an estimation of undepreciated asset costs used in programmatic cost benefit analysis.¹¹⁹

Xcel provides the following response:

The Department recommends that we provide estimates of undepreciated asset costs within programmatic CBAs. The Company does not support this recommendation. Tying undepreciated asset costs to individual capital programs does not align with how the Company manages its capital portfolio or how assets are depreciated for accounting purposes. The Company applies a group depreciation approach, under which assets are depreciated collectively rather than tracked and retired on a program specific basis. As a result, attempting to attribute undepreciated asset values to individual programs would require significant additional analysis and manual effort, without producing information that meaningfully improves the accuracy or usefulness of programmatic CBAs. Given the limited incremental value of this information relative to the substantial time and resource investment required, the Company does not believe this requirement is appropriate for inclusion in programmatic CBA analysis.¹²⁰

The Department withdraws its recommendation because it makes a recommendation in this section that appropriately covers the Department's concerns regarding undepreciated asset costs. So long as undepreciated asset costs are represented by the marginal cost savings of delayed utility investment, the Department is satisfied with this methodology, and makes a recommendation for this methodology below.

1.3. Marginal Benefits

In its initial comments, the Department asked Xcel to explain why it does not calculate marginal benefits. The Department made the following request:

The Department requests that Xcel explain why Xcel does not calculate the marginal benefit of its substation outages benefit of Overload Outages (Customer Minutes Out) in Attachment M. If Xcel revises its calculation of benefits, the Department requests that Xcel explain why its two methodologies have significant divergence.¹²¹

¹¹⁹ *Id.*, at 89.

¹²⁰ Xcel Reply Comments – Attachment A at 15.

¹²¹ Department Trade Secret Initial Comments – at 87-88.

Analyst(s) assigned: Ari Zwick, Rachel Wiedewitsch, Bhavin Pradhan,
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Xcel provides the following response to the Department's request for information:

The Department asks the Company to explain why Attachment M does not calculate the marginal reliability benefit of substation overload outages (Customer Minutes Out) and, if the calculation is revised, to explain why the resulting benefits differ significantly from the Company's existing approach.

The Department's request is unclear with respect to what is meant by the "marginal" reliability benefit of substation overload outages. Attachment M does not apply a marginal or incremental benefit calculation for overload related CMO; rather, it presents multiple analyses intended to illustrate the reliability risks and customer impacts associated with substation overload conditions and the benefits of mitigating those risks.

Specifically, Attachment M evaluates reliability benefits through three complementary lenses: (1) historical substation equipment outage performance and associated CMOs, (2) the cost and reliability implications of emergent versus proactive replacement of substation breakers, and (3) the relationship between transformer age and the occurrence of overload conditions. Together, these analyses are intended to demonstrate the reliability value of substation investments and to contextualize overload-related risk, rather than to isolate a separate marginal benefit metric.

The Company is therefore unsure what additional information or alternative calculation the Department is seeking to better demonstrate the reliability benefits of mitigating substation overload outages. The analyses provided in Attachment M reflect the Company's established planning and risk assessment approaches and are designed to inform system-level investment decisions.

Absent additional clarity regarding the specific information or methodology the Department believes is missing, the Company does not support this recommendation.¹²²

The Department provides further analysis on two of Xcel's benefit categories and clarifies its request of Xcel.

1.3.1. Equipment Outages

Xcel assumes two methodologies for the calculation of equipment outage benefits. The first methodology is a regression of substation minutes of outage on age of transformers and breakers. The second methodology is a derivation of the minutes of outage growth rate at each of Xcel's

¹²² Xcel Reply Comments – Attachment A 15-16.

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Krystal Binversie, Diane Dietz

substations.¹²³ Both of Xcel's methodologies are fundamentally flawed. The central problem inherent with both of Xcel's methodologies is attribution. [TRADE SECRET DATA HAS BEEN EXCISED] When the Department refers to marginality, it refers to the marginal increase in outages of new equipment compared to old equipment.

The Department demonstrates how Xcel calculates the equipment outage benefit with its regression methodology in Figure 5:

Figure 5: Xcel ELR Breaker Replacement Program CMO VS Age Regression With 0 Y-Intercept [TRADE SECRET DATA HAS BEEN EXCISED]

[TRADE SECRET DATA HAS BEEN EXCISED] While it may seem intuitive for brand new equipment not to experience outages, this assumption essentially means that because the equipment is new, it is almost impossible for the substation to experience an outage until it gets older, and that all other factors beyond the age of the infrastructure are irrelevant. [TRADE SECRET DATA HAS BEEN EXCISED]. Therefore, there is no marginal effect of age and therefore no marginal benefit to early asset replacement.

Figure 6: Xcel ELR Breaker Replacement Program CMO VS Age Regression With Y-Intercept Not Set [TRADE SECRET DATA HAS BEEN EXCISED]

The Department does not, however, conclude that there is no marginal effect of early asset replacement. Rather, the Department considers Xcel's regression exercise to be flawed. It is inappropriate to attribute all of the outages to age. There are other factors that can lead to substation equipment outages beyond simply how old they are, which could include weather, animals, or improper installation/maintenance, for example. Xcel's regression does not control for other outage causes and assumes these outages cannot happen with brand new equipment. The model must be free to set a y-intercept to set a base rate for outages that happen regardless of age.

Xcel's model also inappropriately averages outage and age data over a five-year period, which converges the model to the mean. To control for these factors, the Department performed a Negative Binomial Regression for every year instead of the five-year average, and controls for effects between substations and the year of data. By controlling for the substation and the year of the data, the model can attribute outages to effects such as weather, or conditions that are endemic to specific substations instead of attributing these outages only to age. After controlling for these effects, the Department finds the base rate of outages at year 0 to be [TRADE SECRET DATA HAS BEEN EXCISED] CMO / Meter / Yr, and at year 35, the base rate is [TRADE SECRET DATA HAS BEEN EXCISED] CMO / Meter / Yr. These results are statistically significant (P-value < 0.01) and show that breaker age does predict outages.

¹²³ 2025 IDP at 22-23.

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

Regarding Xcel's second methodology that calculates an annual growth rate from substation outage data, the Department finds this methodology to be inaccurate for determining the effect of age on outages. Most importantly, this methodology suffers from the same flaw as Xcel's regression, **[TRADE SECRET DATA HAS BEEN EXCISED]** The Department concludes that a statistical analysis is a more appropriate means of determining the effect of age on customer minutes of outages, and therefore this benefit calculation should not be used.

1.3.2. Overload Outages

The Department finds similar problems in Xcel's regression of overload outages on age, which is used for the Overload Outages benefit calculations for both the ELR – Breakers and Grid Reinforcement programs. This dataset is much smaller compared to the equipment outage dataset, but conclusions can still be drawn from the dataset. In contrast with Xcel's equipment outage regression, **[TRADE SECRET DATA HAS BEEN EXCISED]** This step eliminates a key normalization step that skews the results of the regression. **[TRADE SECRET DATA HAS BEEN EXCISED]** at each substation, the regression only counts total customer minutes of outages and therefore ignores the magnitude of an outage. **[TRADE SECRET DATA HAS BEEN EXCISED]** For this reason, outages must be normalized by the number of customers to determine the appropriate magnitude of the outages.

It could be appropriate for Xcel to **[TRADE SECRET DATA HAS BEEN EXCISED]** from its regression if there is not statistically significant relationship between **[TRADE SECRET DATA HAS BEEN EXCISED]** and outages, but the default assumption should be that **[TRADE SECRET DATA HAS BEEN EXCISED]**. The Department performs a regression of **[TRADE SECRET DATA HAS BEEN EXCISED]**, which is shown in Figure 7.

Figure 7: Relationship Between the Number of Meters and CMO From Overload Outages [DATA HAS BEEN EXCISED]

Xcel's ELR Overload Outage model without the **[TRADE SECRET DATA HAS BEEN EXCISED]** is statistically significant **[TRADE SECRET DATA HAS BEEN EXCISED]**, however when the data is normalized by the **[TRADE SECRET DATA HAS BEEN EXCISED]**, the regression is no longer significant **[TRADE SECRET DATA HAS BEEN EXCISED]**. In this case, the relationship between **[TRADE SECRET DATA HAS BEEN EXCISED]** and CMO has higher statistical significance than the relationship between age and CMO, and therefore the **[TRADE SECRET DATA HAS BEEN EXCISED]** must be accounted for in Xcel's model. If the relationship between age and CMO is robust, then it should not be affected by the **[TRADE SECRET DATA HAS BEEN EXCISED]** normalization, but the relationship is affected by the normalization, which suggests that age is not the only factor that contributes to overload outages.

There are legitimate reasons to believe why age should contribute to overload outages. For example, overloads increase the temperature of distribution equipment, and temperatures that exceed operating limits can degrade the condition of equipment. In addition, Xcel engineers should size new equipment such that it should not experience overloads at the time of replacement. For both of these reasons, time should increase the likelihood of an overload outage as more overloads are experienced

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

over time and the original forecast deviates over time. However, Xcel could face multiple contingency conditions or experience unanticipated load growth at any time such that its equipment could experience an overload condition of sufficient magnitude to make brand new equipment fail. Therefore, it should not be assumed that age is the only contributing factor to overload outages.

As discussed previously, Xcel's model also inappropriately averages outage and age data over a five-year period, which converges the model to the mean. To control for these factors, the Department performed a Negative Binomial Regression for every year instead of the five-year average, and controls for effects between substations and the year of data. This approach allows the model to account for differences across substations and across years, including factors such as local operating conditions, weather, and systemwide trends, rather than attributing variations in overload-related outages solely to equipment age. Under this specification, the Department finds no statistically significant relationship between age and overload-related CMO, and therefore the analysis does provide evidence that age is an independent predictor of overload-related outages after controlling for substation and year effects.

1.3.3. Marginal Benefits and Marginal Costs

With the discussion provided in the previous subsection, the Department can now reply to Xcel's response regarding the marginality of Xcel's benefit calculations. Even if Xcel's **[TRADE SECRET DATA HAS BEEN EXCISED]** assumption is maintained, there is an average CMO value between 0 and 5 years that represents outages for brand new equipment. Xcel only counts outages for old equipment in its benefits calculations, but not outages for brand new equipment. With the **[TRADE SECRET DATA HAS BEEN EXCISED]**, the marginal decrease in benefits would be relatively small, but without a **[TRADE SECRET DATA HAS BEEN EXCISED]**, the marginal decrease in benefits would be more impactful. The base rate of outages that occur regardless of age is represented **[TRADE SECRET DATA HAS BEEN EXCISED]**. The Department's revised model accounts for CMO that is explained by effects other than age such as factors unique to the substation or year, which reduces the slope of the age component and therefore sets a base rate of outages that can be expected to occur regardless of the age of the equipment. Xcel's benefit calculations must account for only the marginal benefits and not ignore outages that will occur regardless of age.

Xcel's cost benefit analysis must also account for marginal costs. Xcel's model only calculates program costs, but does not calculate costs that would be incurred later if the programs did not exist. A marginal cost calculation would embody the deferral benefit the Department seeks to add to Xcel's analysis. In addition, marginal costs would reduce the denominator of the benefit cost ratio (BCR) calculation and would therefore improve the BCR for the program. For example, a five-year delay of capital expenditures results in a marginal cost of approximately **[TRADE SECRET DATA HAS BEEN EXCISED]** percent. Further, these cost estimates should account for the full lifecycle costs over the expected 50-year depreciation window instead of **[TRADE SECRET DATA HAS BEEN EXCISED]** years that Xcel's cost benefit analysis uses, which ignores real costs.

Finally, Xcel does not provide justification for why Xcel chooses a five-year deferral window in its cost benefit analysis calculations. The Department asserts that Xcel should present a range that could represent possible deferral windows, rather than present a single five-year benefit window; a range

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

provides for sensitivity analysis to determine how uncertainty in benefit calculations affects program outcomes.

In order to draw meaningful conclusions from Xcel's cost benefit analyses, Xcel's analysis must weigh marginal benefits against marginal costs. The analysis that Xcel presents does not provide useful information for the evaluation of program effectiveness. In addition, the BCR will be substantially affected if a lower value of reliability is used to calculate benefits. The Department highlights its analysis in this section as one of several methodologies the Department intends to use to optimize Xcel's distribution planning. The Department highlights its iterative process recommendation below for why this analysis is more appropriate for distribution plans compared to rate cases.

Based on the analysis provided in this section, the Department makes the following new recommendations:

The Department recommends the Commission order all programmatic cost benefit analyses to calculate costs and benefits as follows:

- A. All benefits and costs should use only marginal calculations;**
- B. All benefits and costs should be calculated in the present value of costs;**
- C. All cost calculations should be quantified over the full lifecycle of the program and its alternative case with no program expenditures;**
- D. All benefit calculations should avoid averaging and should be appropriately normalized unless Xcel can demonstrate why a normalization is not necessary; and**
- E. Where statistical analysis is used, Xcel's models should account for variance that can be explained by other factors than the primary variable of interest.**

The Department recommends the Commission order Xcel to re-file the cost benefit analyses for the ELR-Breakers and Grid Reinforcement programs that adhere to the Department's reply comment recommendation for cost benefit analysis.

1.4. Final Recommendations

The Department withdraws the following recommendation:

The Department recommends Xcel discount all benefit calculations used in programmatic cost benefit analysis.

The Department makes the following new recommendations:

The Department recommends the Commission order all programmatic cost benefit analyses to calculate costs and benefits as follows:

- A. All benefits and costs should use only marginal calculations;**
- B. All benefits and costs should be calculated in the present value of costs;**

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

- C. All cost calculations should be quantified over the full lifecycle of the program and its alternative case with no program expenditures;
- D. All benefit calculations should avoid averaging and should be appropriated normalized unless Xcel can demonstrate why a normalization is not necessary; and
- E. Where statistical analysis is used, Xcel's models should account for variance that can be explained by other factors than the primary variable of interest.

The Department recommends the Commission order Xcel to re-file the cost benefit analyses for the ELR-Breakers and Grid Reinforcement programs that adhere to the Department's reply comment recommendation for cost benefit analysis.

J. GRID MODERNIZATION

J.1. DERMS

J.1.1. Multiple Vendors

In its initial comments, the Department requested that Xcel explain if it plans to utilize multiple vendors for its Grid distributed energy resource management system (DERMS) and Aggregator DERMS systems, which could potentially add costs if/when vendors are later dropped in a consolidated DERMS. Xcel provides the following response:

The Department also requests clarification regarding whether the Company intends to contract with a single vendor for Aggregator DERMS and Grid DERMS solutions, or whether it anticipates engaging multiple vendors. As discussed in Chapter 11 and Table 11-1 of the IDP, the Company has intentionally adopted a phased, parallel deployment strategy.

For the upcoming limited DERMS deployment, the Company is utilizing one vendor for Grid DERMS and one vendor for Aggregator DERMS. This approach allows the Company to evaluate functionality, interoperability, performance, and integration risks before committing to a broader enterprise-level solution. Looking ahead, the Company's long-term objective is to integrate both platforms into an Enterprise DERMS solution.¹²⁴

¹²⁴ Xcel Reply Comments – Attachment A at 30.

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

Xcel's response addresses the Department's concern about sunk costs for DERMS systems that may later be dropped.

J.1.2. Cost Benefit Analysis

In its initial comments, the Department made the following recommendation to require a cost benefit analysis of Xcel's DERMS:

The Department recommends the Commission order Xcel to provide a cost benefit analysis for all planned use cases of Aggregator DERMS, Grid DERMS, and Enterprise DERMS between 2027 and 2032 in Xcel's next IDP.¹²⁵

Xcel responds as follows:

The Department recommends providing a CBA in the next IDP for all planned use cases of Aggregator DERMS, Grid DERMS, and Enterprise DERMS for 2027–2032. The Company does not support this requirement for several reasons:

- Use-case definition is incomplete. Enterprise DERMS has not been fully specified, and the set of applicable use cases, data integrations, and operational guardrails remains under development. Preparing CBAs for “all planned use cases” presumes stable scope, inputs, and dispatch logic that do not yet exist.
- Limited rollout by design. Grid DERMS is being deployed on a limited basis to test practical functionality (e.g., telemetry, device registration, operator workflows) before scaling. A comprehensive, multi-year CBA is not methodologically fit in a pilot/validation phase where results are meant to inform the eventual business case.
- Avoiding double-counting and misallocation. DERMS value can overlap with other portfolios (e.g., Non-wires alternatives (NWA screening), flexible interconnection (FI) enablement, DR enablement). Without settled measurement boundaries, a multi-use-case CBA risks double-counting or attributing benefits that belong to other programs, producing misleading signals for investment prioritization.¹²⁶

¹²⁵ Department Initial Comments— at 93.

¹²⁶ Xcel Reply Comments – Attachment A at 18.

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

The Department maintains that cost benefit analysis is a requirement of IDP Filing Requirement D.2.k, however given the maturity of Xcel's DERMS system and the Department's priority to pursue planning standard review, the Department withdraws its recommendation.

The Department intends to review Xcel's DERMS plan in the 2027 IDP and will evaluate the need for cost benefit analysis at that time. The Department also emphasizes that a sensitivity analysis of a preliminary DERMS program is beneficial before Xcel seeks cost recovery for its DERMS system in order to determine the appropriate scope of a DERMS system.

J.1.3. Localized Grid Benefits

In its initial comments, the Department requested Xcel to explain how the Company plans to incorporate localized grid benefits into its capacity planning assumptions, which could reduce the need for grid capacity upgrades. The Department stated:

The Department requests that Xcel explain in reply comments if and how Xcel intends to incorporate localized grid benefits from DERMS into its standard load and DER hosting capacity planning assumptions and non-wires alternatives processes.¹²⁷

Xcel provides the following response to the Department's request:

As described in the IDP, the Company has developed a phased DERMS roadmap and is currently in the early stages of limited DERMS deployment. At this stage, the Company is still evaluating how DERMS capabilities—particularly with respect to FI, DER behavior, telemetry, and operational integration—will perform in practice. DERMS functionality, use cases, and data availability are still evolving. The Company seeks to better quantify localized DERMS driven grid benefits before considering their potential incorporation into standard planning assumptions or NWA screening processes.

The Company expects that lessons learned from its limited DERMS deployment will inform future planning integration as capabilities mature and performance becomes better understood. The Company will continue to evaluate opportunities to reflect DERMS benefits in distribution planning over time, consistent with system needs, operational experience, and regulatory developments.¹²⁸

Xcel's process to integrate potential local grid benefits into its standard planning assumptions is reasonable. The Department seeks long term changes to Xcel's planning standards that are supported

¹²⁷ Department Initial Comments— at 89.

¹²⁸ Xcel Reply Comments – Attachment A at 29-30.

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

by sufficient data. This effort will take years and deliberate planning efforts on behalf of Xcel to ensure that localized grid benefits are studied and later incorporated into Xcel's planning standard process.

Without a clear framework in place to study these benefits, the Department made a pilot recommendation to begin this study effort. The Department stated:

The Department recommends the Commission order Xcel to begin a pilot program to test localized distribution grid benefits from its Aggregator Distributed Energy Resource Management System. At minimum the pilot should:

- A. Test different incentive levels to determine the optimal incentive structure;
- B. Test at least two controllable load types; and
- C. Provide a cost-benefit analysis of localized distribution grid benefits compared to standard distribution grid upgrades.¹²⁹

Xcel objects to the Department's recommendation for a new pilot program on the basis of venue. Xcel states:

The Company does not believe this recommendation is appropriately addressed in the IDP. The IDP is an informational planning filing focused on distribution system needs, planning standards, and anticipated investments—not the design or implementation of customer incentive programs or DER pilot structures. Issues related to incentive design, participation levels, and program-specific cost-benefit analyses are more appropriately considered within the Company's existing energy efficiency and demand response regulatory framework.

Accordingly, any consideration of an Aggregator DERMS pilot program should occur in the Company's ECO Triennial Plan, where pilots, customer programs, and demand-side initiatives are developed and evaluated.¹³⁰

Notably, Xcel does not oppose the Department's recommendation on the basis of its merits. The Department contends that while the IDP is not the appropriate venue to enact a pilot, it is the appropriate venue to request a pilot. The IDP is the appropriate venue to identify grid needs that could be served by pilot recommendations. As the Department demonstrated in its initial comments, the timing of this pilot is essential.¹³¹ Waiting one or two additional years to start the program could result significant cost increases compared to a case where Xcel can accelerate its grid upgrade deferrals with

¹²⁹ Department Initial Comments – at 91.

¹³⁰ Xcel Reply Comments – Attachment A at 36.

¹³¹ Department Initial Comments – at 90-91.

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

a well-researched DERMS pilot. The Department maintains its recommendation. Should Xcel seek to file a pilot through ECO, the jurisdiction for review of an ECO modification and triennial plan lies with the Department. If approved for inclusion in Xcel's ECO portfolio, the pilot will be subject to the reporting requirements of ECO.

*J.1.4. Capacity*Connect*

The Department clarifies for Xcel that a statement made by the Company regarding its Capacity*Connect Distributed Capacity Procurement (DCP) is erroneous. Xcel states:

The Department recommends that the Commission require the Company to prioritize distribution-system objectives in Capacity*Connect dispatch, report on trade-offs when DERMS serves bulk-system needs over local needs, and develop a separate Distributed Power Plant/Virtual Power Plant (DPP/VPP) program.

These recommendations fall outside the scope of the IDP. Capacity*Connect is already being developed—and its design, dispatch rules, and value-stacking considerations are being addressed—in its own dedicated docket, which is the appropriate venue for programmatic and tariff-based decisions. The IDP is not intended to modify customer-program design or mandate VPP constructs.¹³²

While the Department discusses the DCP program in its initial comments regarding the localized grid benefits discussed in the previous subsection, it does not make any recommendations in its IDP comments.¹³³

J.2. FLISR

In its initial comments, the Department made a recommendation for Xcel to link its Fault Location Isolation and Service Restoration (FLISR) data to feeder data to examine the effect of FLISR at the circuit level:

The Department recommends the Commission order Xcel to include data on all individual FLISR installations in a single dataset, which reports on the Xcel Circuit ID, installation year, installation cost, and reliability savings, consistent with data reported in Attachment D of IR 49 in its next IDP.¹³⁴

Xcel opposes the Department's recommendation:

¹³² Xcel Reply Comments – Attachment A at 34.

¹³³ Department Initial Comments– at 88-89.

¹³⁴ *Id.*, at 94.

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

The Company does not support this recommendation. The reporting provided in Attachment D of IR 49 was prepared in response to a discrete information request and served a specific, limited purpose. As reflected in the Company's response to IR 49, even where circuit- or device-level information is provided to respond to such a request, that information necessarily relies on simplified definitions and assumptions that do not reflect how FLISR is planned, deployed, or delivers value as an integrated system. For that reason, this level of granularity is not appropriate for ongoing IDP reporting or circuit-level cost-benefit analysis.

FLISR is deployed and operated as an integrated system. Installations are planned, programmed, and commissioned in coordinated groups across multiple feeders, with reliability benefits that are inherently shared and system-wide. As a result, attempting to disaggregate installation costs or assign reliability savings to individual FLISR components or circuits for IDP reporting would not accurately reflect how the system functions or delivers value.

Because FLISR benefits arise from the performance of the system as a whole, conducting circuit-level cost-benefit analysis or reporting reliability impacts at the level of individual installations would be analytically unsound and potentially misleading. The Company therefore believes that system-level reporting, rather than asset-level disaggregation, remains the appropriate approach for the IDP and does not support expanding Attachment D-style reporting into a standing IDP requirement.¹³⁵

The Department clarifies that it seeks to correlate costs with reliability benefits to determine differences in realized cost effectiveness with individual FLISR installations. The Department agrees that an analysis of individual costs and benefits can obscure system-wide benefits of the FLISR system. However, with a finer granularity of data, the Department could ascertain trends in costs and reliability benefits that would not be available with system averages. Despite the potential benefits of higher granularity data, the Department withdraws this recommendation to support its central planning standard review recommendations.

J.3. Customer Information System

In Xcel's recent/current electric rate case (Docket No. G-002/GR-25-356) the Department learned about a very large grid modernization project in Docket No. G-002/GR-25-356 regarding a planned system-wide replacement of Xcel's Customer Information System (CIS):

In response to discovery requests, the Company explained that this project will retire the legacy billing and account management systems. When asked about the project budget and timeline, the Company first stated

¹³⁵ Xcel Reply Comments – Attachment A at 21.

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

“The Company must complete requirements and design activities to define the full scope of the CIS Modernization Program in order to solidify estimated annual budgets for the project by year and planned implementation dates.”

When the Department pressed for more detail on how the test year’s contract labor budget for the project was estimated given the early stage of the project scoping, the Company explained that it anticipates the project costing a total of \$1 billion (total Xcel Energy basis) and estimates a 2030 in-service date.¹³⁶ [citations omitted]

Kehrwald direct testimony states that Xcel plans a one-billion-dollar CIS project that was not mentioned in Xcel’s IDP. While the CIS effects Xcel’s entire system, the cost of the system appears to be very high and will affect Xcel electric’s distribution spending to the effect of several hundred million dollars. The Department highlights the importance of its recommendation for enhanced review of projects over \$25 million to ensure that these projects are optimized before cost recovery decisions are made. The sheer size of the budget expenditure leads to several questions, such as a comparison of cost and functionality to the existing CIS, the optionality and cost of different add-ons that could be driving cost, and a comparison of cost and functionality to other CIS options. The Department asserts that this optimization should happen before a cost recovery request whenever practicable to evaluate alternatives to the proposed spending. In addition, given the size of the system, the Department asserts that Xcel should have to submit deliverables before its next IDP.

Witness Kehrwald then makes a recommendation to analyze the CIS in Xcel’s IDP:

There is an ongoing docket for the Company’s 2025 Integrated Distribution Plan (IDP) that’s currently in the Company’s reply comment phase. I recommend that the Company provide a compliance filing in that docket providing additional detail on this upcoming large investment, consistent with the detail requested in the Department’s recommendation C.4. in that docket.¹³⁷ [citations omitted]

The Department does not make a recommendation for analysis of the CIS in this proceeding, and notes that Xcel is required to analyze its grid modernization projects under its IDP Filing Requirement D.2.

J.4. Recommendations From Other Commenters

J.4.1. DERMS

¹³⁶ *In the Matter of the Application by Northern Sates Power Company d/b/a Xcel Energy’s Petition for Authority to Increase Natural Gas Rates in the State of Minnesota*, Department, Direct Testimony, March 6, 2026, Docket No. G002/GR-25-356, CAH 21-2500-41419, (eDockets) [20263-229012-09](#) (hereinafter “Kehrwald Direct Testimony”).

¹³⁷ *Id.*, at 63.

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

In their initial comments, ELPC/CEF/VS make an argument for continued oversight of Xcel's DERMS rollout. ELPC/CEF/VS states:

Given Xcel's phased approach to DERMS implementation, and the ongoing efforts to refine its key uses cases, including Flexible Interconnection and Capacity*Connect, ELPC/CEF/VS again underscore the need for ongoing Commission oversight of Xcel's DERMS plans, budgets, and investments. While Xcel's future rate cases will allow the Commission to determine whether the Company's DERMS investments are prudent and the Company should receive cost recovery, we recommend that the Commission require Xcel to continue to describe its DERMS plans, use cases, and stakeholder engagement in its Integrated Distribution Plans. According to this IDP, by its next IDP in 2027, Xcel will only have deployed Grid DERMS in "limited use cases." More widespread deployment and "future integration of Aggregator DERMS with Grid DERMS" will occur after 2027, and Enterprise DERMS is part of the Company's "long term vision." By continuing to exert oversight in Xcel's IDPs over the Company's plans as it rolls out its phases of DERMS, the Commission can ensure that the Company continues to make only necessary, cost-effective DERMS investments and realizes the expected benefits in its intended DERMS use cases.¹³⁸

With the Department's withdrawal of its cost benefit analysis recommendation for DERMS, the Department supports continued oversight of Xcel's DERMS implementation. The Department adopts ELPC/CEF/VS's recommendation.

The Department recommends the Commission order Xcel to continue to describe its DERMS plans, use cases, and stakeholder engagement in its Integrated Distribution Plans.

In its initial comments, Fresh Energy makes a recommendation to prioritize demand side management (DSM) for local grid benefits:

Fresh Energy recommends that the Commission require Xcel to prioritize the integration of its DSM and distribution planning/operations systems and processes to more easily utilize DSM resources to address local capacity constraints.¹³⁹

The Department does not formally support this recommendation but notes that the Department is fully aligned with Fresh Energy in this regard. The Department does not formally support the recommendation because the Department understands that prioritization is contingent upon

¹³⁸ ELPC/CEF/VS Initial Comments– at 40.

¹³⁹ Fresh Energy Initial Comments– at 10.

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

successful DERMS implementation, which is supported by the Department's new recommendation in this subsection and the Department's DERMS pilot recommendation.

J.4.2. Flexible Interconnection

In its initial comments, ELPC/CEF/VS outline how Xcel does not comply with the Commission's orders:

Xcel has not adequately addressed the Commission's prior IDP Order points related to Flexible Interconnection. The Commission's 2024 Order called upon Xcel to demonstrate its ability to integrate DERs through "(a) Implementing static Flexible Interconnection prior to implementing full, dynamic Flexible Interconnection; and (b) Pursuing a staged approach to Flexible Interconnection, DERMS, and Dynamic Hosting Capacity implementation." The Commission also required Xcel to be transparent about the conditions under which the Company will use FI, particularly with impacted DER owner/operators. In addition, the Commission directed the Distributed Generation Workgroup to discuss Flexible Interconnection and "to work through questions related to Static Flexible Interconnection as well as Dynamic Flexible Interconnection which is enabled by DERMS." In this IDP, Xcel has improperly dismissed static FI as a solution and disregarded the Commission's direction to implement a staged approach to Flexible Interconnection. Instead, it prioritizes only dynamic FI, which according to Xcel requires DERMS. In addition, Xcel's dynamic FI plan falls short of the level of detail contemplated by the Commission's 2024 Order, and its proposed timeline is too prolonged, especially as it is vulnerable to further delays that could occur if the planned rollout of DERMS is itself delayed.¹⁴⁰ [citations omitted]

The Joint Solar Parties make a similar argument for Xcel's noncompliance.¹⁴¹ The Department agrees with both groups that Xcel is not in compliance with Order Point 19 of the Commission's September 16, 2024 Order, which requires Xcel to implement static flexible interconnection prior to implementing dynamic flexible interconnection. The Department agrees with both groups that static flexible interconnection offers much greater near-term capacity constraint relief compared to Xcel's staged implementation of dynamic flexible interconnection.¹⁴² The Department also agrees that the certainty of static flexible interconnection may also be preferable to the uncertainty of dynamic flexible interconnection.¹⁴³

Both groups make similarly themed recommendations, and were able to agree on the following joint recommendation. In coordination with these two stakeholder groups, the Department makes the following recommendation:

¹⁴⁰ ELPC/CEF/VS Initial Comments— at 17.

¹⁴¹ Joint Solar Parties Initial Comments— at 7-9.

¹⁴² *Id.*, at 10.

¹⁴³ ELPC/CEF/VS Initial Comments— at 18-19.

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

The Department recommends the Commission require Xcel to:

- **Revise its Flexible Interconnection proposal to develop and implement Static FI in the near term, prior to or in parallel with implementing full, Dynamic FI.**
- **Order Xcel to file, by December 31, 2026, a report on their FI efforts and plans in this docket, and include a specific update on their progress towards implementing static FI including elements such as technical standards, customer-facing documentation, and enablement timelines;**
- **Order Xcel to include updated information on Flexible Interconnection in its 2027 IDP, including the number of new load and DER connections utilizing static FI, the capacity made available as a result, and progress towards dynamic FI rollout;**
- **Require Xcel to incorporate and otherwise address discussions and learnings from the DGWG process in its 2026 and 2027 filing; and,**
- **Require Xcel to review materials from Ameren and CHARGED, who have worked extensively on Flexible Interconnection and present key considerations. We recommend that Xcel incorporate these considerations into its program design and address these materials in its 2026 report and 2027 IDP.**

J.5. Final Recommendations

The Department withdraws the following recommendations:

The Department recommends the Commission order Xcel to provide a cost benefit analysis for all planned use cases of Aggregator DERMS, Grid DERMS, and Enterprise DERMS between 2027 and 2032 in Xcel's next IDP.

The Department recommends the Commission order Xcel to include data on all individual FLISR installations in a single dataset, which reports on the Xcel Circuit ID, installation year, installation cost, and reliability savings, consistent with data reported in Attachment D of IR 49 in its next IDP.

The Department makes the following new recommendations:

The Department recommends the Commission order Xcel to continue to describe its DERMS plans, use cases, and stakeholder engagement in its Integrated Distribution Plans.

The Department recommends the Commission require Xcel to:

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

- Revise its Flexible Interconnection proposal to develop and implement Static FI in the near term, prior to or in parallel with implementing full, Dynamic FI.
- Order Xcel to file, by December 31, 2026, a report on their FI efforts and plans in this docket, and include a specific update on their progress towards implementing static FI including elements such as technical standards, customer-facing documentation, and enablement timelines;
- Order Xcel to include updated information on Flexible Interconnection in its 2027 IDP, including the number of new load and DER connections utilizing static FI, the capacity made available as a result, and progress towards dynamic FI rollout;
- Require Xcel to incorporate and otherwise address discussions and learnings from the DGWG process in its 2026 and 2027 filing; and,
- Require Xcel to review materials from Ameren and CHARGED, who have worked extensively on Flexible Interconnection and present key considerations. We recommend that Xcel incorporate these considerations into its program design and address these materials in its 2026 report and 2027 IDP.

The Department maintains the following recommendation:

The Department recommends the Commission order Xcel to begin a pilot program to test localized distribution grid benefits from its Aggregator Distributed Energy Resource Management System. At minimum the pilot should:

- A. Test different incentive levels to determine the optimal incentive structure;
- B. Test at least two controllable load types; and
- C. Provide a cost-benefit analysis of localized distribution grid benefits compared to standard distribution grid upgrades.

K. PLANNED NET LOAD

In its initial comments, the Department made the following recommendation for Xcel to accelerate the implementation of seasonal planned net load (PNL) dependability factors:

The Department recommends that Xcel evaluate the feasibility of accelerating the implementation of seasonal DF_{PV} values before the 2027

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

IDP, given that the foundational data for these factors is already present in the current filing.¹⁴⁴

The Department along with stakeholders raised several concerns regarding Xcel's PNL methodology, specifically the 15% dependability factor for photovoltaic generation (DF_{PV}). In its reply comments, Xcel justifies the continued use of this flat factor for the current cycle:

The analysis showed PV output falling as low as 12 percent in December. Averaging the three lowest-production months—December, January, and November—yielded 15.04 percent, supporting a conservative 15 percent factor to ensure system reliability. This approach is consistent with the Commission's September 16, 2024 Order, which explicitly directs the Company to implement a 15 percent DF_{PV} for N-0 risk analysis in this planning cycle.¹⁴⁵

While the Company acknowledges the potential for more granular, seasonal DF_{PV} values, it opposes the recommendation to evaluate or implement these values sooner than the 2027 IDP. Xcel asserts that accelerating this timeline is "not feasible" and that interim filings would create "duplicative reporting requirements."¹⁴⁶

Waiting until the 2027 IDP to refine these assumptions allows the Company to continue using a conservative, flat 15% factor that likely overestimates system risk during high-production months. This may lead to the approval of capacity investments that could have been deferred or avoided under a more accurate PNL framework. As noted by ELPC/VS/CEF, the rapid growth of DER requires a planning framework that keeps pace with real-world conditions rather than adhering to rigid two-year filing cycles.

Xcel also opposes the recommendation for an interim PNL update by December 31, 2026, arguing that any required compliance items can be incorporated into its November 1 compliance filing. The Department disagrees and maintains that a substantive evaluation of seasonal methodologies is necessary to ensure cost-effective distribution spending.

To reduce the complexity of decision options, the Department withdraws its recommendation and instead supports the PNL recommendation made by ELPC/VS/CEF.¹⁴⁷

The Department recommends the Commission order Xcel to:

- A. File, by December 31, 2026, an interim update that: (1) demonstrates that it has given due consideration to the alternative PNL methodologies presented by stakeholders and substantively evaluates those methodologies; (2) provides specific details about the seasonal**

¹⁴⁴ Department Initial Comments— at 97.

¹⁴⁵ Xcel Reply Comments – at 9.

¹⁴⁶ *Ibid.*

¹⁴⁷ ELPC/CEF/VS Initial Comments— at 49.

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

dependability factors, including the percentages it plans to use and which months would apply to each season; and (3) analyzes the impacts of those seasonal dependability factors; and

B. Address its implementation of these topics in its 2027 IDP.

K.1. Final Recommendations

The Department withdraws the following recommendation:

The Department recommends that Xcel evaluate the feasibility of accelerating the implementation of seasonal DF_{PV} values before the 2027 IDP, given that the foundational data for these factors is already present in the current filing.

The Department makes the following new recommendation:

The Department recommends the Commission order Xcel to:

A. File, by December 31, 2026, an interim update that: (1) demonstrates that it has given due consideration to the alternative PNL methodologies presented by stakeholders and substantively evaluates those methodologies; (2) provides specific details about the seasonal dependability factors, including the percentages it plans to use and which months would apply to each season; and (3) analyzes the impacts of those seasonal dependability factors; and

B. Address its implementation of these topics in its 2027 IDP.

L. NON-WIRES ALTERNATIVES ANALYSIS

In its initial comments, the Department recommended “that the Commission require Xcel to consider reliability projects in its Non-Wire Alternatives Analysis.”¹⁴⁸

In its reply comments, Xcel states that it does not support the inclusion of “urgent reliability projects” in its NWA analysis.¹⁴⁹ While the Department does not disagree with the fact that emergency replacements must proceed quickly, that fact does not justify a blanket exclusion of all reliability projects from NWA consideration. Some reliability issues, such as repeated cable failures, may be time-sensitive as highlighted by Xcel.¹⁵⁰ However, other issues may be the result of predictable asset deterioration, which occurs gradually and allows time for planning. In such cases, an NWA framework allows Xcel, as with other utilities, to evaluate solutions, compare alternatives, and identify the most cost-effective approach that maintains safe and reliable service. Moreover, the inclusion of reliability

¹⁴⁸ Department Initial Comments – at 99.

¹⁴⁹ Xcel Reply Comments – Attachment A at 31.

¹⁵⁰ *Id.*, at 32.

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

projects in the analysis does not force a specific choice as traditional replacements remain an option when alternatives prove infeasible. Ultimately, the Department believes that the exclusion of reliability projects limits planning options and may prevent the selection of a more cost-effective solution. The Department maintains its recommendation.

L.1. Final Recommendations

The Department maintains the following recommendation:

The Department recommends that the Commission require Xcel to consider reliability projects in its Non-Wire Alternatives Analysis.

M. PROACTIVE CAPACITY INVESTMENTS

In its initial comments, the Department made a recommendation for load to be added to the Distribution System Reactive Upgrades Process (DSRUP) via a workgroup. The Department stated:

The Department recommends the Commission order the Executive Secretary to open a working group tasked with the development of updating the Distribution System Reactive Upgrades Process for load.¹⁵¹

Xcel does not agree with the Department's recommendation. Xcel states its justification:

The Company does not believe such a working group or expanded alternatives-analysis requirement is necessary. Unlike DER interconnections, the cost of distribution upgrades is typically not a barrier for new or expanding load due to the Company's Contribution in Aid of Construction (CIAC) policies. These revenue-justification policies provide load customers with a credit equal to 3.5 times their expected annual revenue, which means that in some cases, load customers pay little—if anything—for necessary system upgrades. Because load-driven upgrades are already fully accommodated under this existing policy, there is no need for a separate load-focused DSRUP update or additional analysis requirements

[...]

Because CIAC policies already remove cost barriers for load customers and because load-driven upgrades must be completed to fulfill our service obligations, the Company does not support opening a working group or

¹⁵¹ Department Initial Comments— at 112.

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

expanding proactive-upgrade alternatives analyses for load-related needs.¹⁵²

While Xcel's response addresses that many CIAC payments will offset costs for load, Xcel's response does not address the Department's concern about load consolidation and improved system planning when large loads can be planned together.¹⁵³ Nevertheless, the Department's recommendation here is amongst the lowest priority items for the Department. The Department withdraws this recommendation to support its central planning standard review recommendations.

M.1. Final Recommendations:

The Department withdraws the following recommendation:

The Department recommends the Commission order the Executive Secretary to open a working group tasked with the development of updating the Distribution System Reactive Upgrades Process for load.

N. EQUITY ANALYSIS

In its initial comments, the Department made two equity-related requests for information:

The Department requests Xcel explain in reply comments causes behind the variation of outages across income groups. Xcel should explain if there are alternative ways to look at the outage duration across income groups, and any should explain analyses Xcel has done on this topic.

The Department requests Xcel explain in reply comments causes behind the variation in outages across census tracts with varying levels of non-white population. Xcel should explain if there are alternative ways to look at the of outage duration across racial groups, and should explain if any analyses Xcel has done related to incorporating equity considerations in reliability planning.¹⁵⁴

ELPC/CEF/VS makes a specific equity-related recommendation that is discussed in Xcel's reply to the Department's requests for information.

Require Xcel, before filing its next IDP on November 1, 2027, to:

- o Establish equity-informed prioritization criteria for distribution investments. The Commission should require Xcel to develop and implement systematic criteria that prioritize investments addressing documented service disparities. The Company should weight these criteria

¹⁵² Xcel Reply Comments – Attachment A at 37-38.

¹⁵³ Department Initial Comments– at 111.

¹⁵⁴ *Id.*, at 113-114.

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

appropriately in its distribution project scoring and prioritization processes.

- o Integrate equity requirements into the IDP process. The Commission should require Xcel to demonstrate in its IDP filings how it will systematically and transparently incorporate equity considerations into distribution planning and investments. We note that this may mean that the Company would prioritize system upgrades in communities, that would bear disproportionately greater impacts from outages, such as spoiled food or medicine, including low-income and otherwise vulnerable communities.

- o Implement transparent reporting on equity outcomes. The Commission should require Xcel to report on reliability improvements and infrastructure investments by environmental justice area, income level, and racial composition in its Safety, Reliability, and Service Quality annual reports, just as the Company reports on reliability or other dimensions of utility performance. This reporting should demonstrate whether rate-funded investments are systematically addressing documented disparities or perpetuating inequitable service patterns. Xcel should discuss its implementation of these requirements in its 2027 IDP.¹⁵⁵

Xcel provides the following response to the Department and to the equity-related recommendation made by ELPC/CEF/VS:

The Department also requests explanations for variations in outage duration across income groups and across communities with differing racial composition. These issues relate directly to service quality, reliability metrics, and disconnection practices, which are addressed in detail in the Company's annual reports on Safety, Reliability and Service Quality (SRSQ). In the 2023 SRSQ docket, two independent studies—by Pradhan and Chan and by TRC Companies—evaluated outage and disconnection data and identified higher rates of long outages (defined as interruptions of 12 hours or more, CELI-12) in certain Census Block Groups. In response, the Company's 2024 SRSQ Annual Report examined the drivers of these disparities, explaining that they were largely attributable to unusual weather events during the limited three-year study period. The Company also evaluated potential mitigation strategies—including targeted undergrounding, enhanced vegetation management, and pole replacement—and identified targeted undergrounding as the most effective option to reduce long outages. In addition, the Company has engaged an independent third-party evaluator to conduct an in-depth

¹⁵⁵ ELPC/VS/CEF Initial Comments— at 50.

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

review of capital investment planning, outage restoration practices, and shutoff policies to better understand observed service quality disparities. That work is underway and will be reported in future SRSQ filings.

We share stakeholders' interest in advancing equity in utility planning and customer outcomes—but the IDP is not the appropriate forum to resolve questions about outage disparities or disconnection practices. These topics are already under active review in the annual SRSQ dockets, where the Company will continue to provide detailed analysis and identify potential next steps.

In short, we do not support this recommendation because they would duplicate ongoing efforts in our SRSQ dockets as well as other Commission-directed workgroups.¹⁵⁶ [citations omitted]

Xcel's response to the Department's requests does not answer the Department's questions, but rather says the discussion should take place in the SRSQ dockets and other Commission-directed workgroups. The Department agrees with ELPC/CEF/VS's recommendation and Xcel's response regarding the SRSQ related to equity outcome metrics. In their third bullet point, ELPC/CEF/VS identifies the SRSQ as an appropriate venue for this discussion. The Department determines that it's reasonable for ELPC/CEF/VS to make its first two bullet recommendations within the IDP because these recommendations relate to budget planning and decision making that are within the purview of the IDP process. The third bullet that relates to the SRSQ reporting metrics is required to operationalize the first two recommendations, which makes this recommendation appropriate for the IDP as well.

While Xcel argues that it is already engaged in equity work across the Company and in other venues,¹⁵⁷ the Department agrees with ELPC/CEF/VS that the IDP is the appropriate venue to examine Xcel's equity planning decisions that relate to distribution.

The Department formally adopts ELPC/CEF/VS's recommendation:

The Department recommends the Commission order Xcel to submit a compliance filing before Xcel's 2025 IDP, which:

- A. Establishes equity-informed prioritization criteria for distribution investments. The Commission should require Xcel to develop and implement systematic criteria that prioritize investments addressing documented service disparities. The Company should weight these criteria appropriately in its distribution project scoring and prioritization processes.**
- B. Integrates equity requirements into the IDP process. The Commission should require Xcel to demonstrate in its IDP filings how it will systematically and transparently incorporate equity considerations into distribution planning and investments. We note that this may mean that**

¹⁵⁶ Xcel Reply Comments – Attachment A at 32-33.

¹⁵⁷ *Id.*, Attachment A – at 10.

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

the Company would prioritize system upgrades in communities, that would bear disproportionately greater impacts from outages, such as spoiled food or medicine, including low-income and otherwise vulnerable communities.

- C. Implements transparent reporting on equity outcomes. The Commission should require Xcel to report on reliability improvements and infrastructure investments by environmental justice area, income level, and racial composition in its Safety, Reliability, and Service Quality annual reports, just as the Company reports on reliability or other dimensions of utility performance. This reporting should demonstrate whether rate-funded investments are systematically addressing documented disparities or perpetuating inequitable service patterns. Xcel should discuss its implementation of these requirements in its 2027 IDP.**

N.1. Final Recommendations

The Department adds the following new recommendation:

The Department recommends the Commission order Xcel to submit a compliance filing before Xcel's 2025 IDP, which:

- A. Establishes equity-informed prioritization criteria for distribution investments. The Commission should require Xcel to develop and implement systematic criteria that prioritize investments addressing documented service disparities. The Company should weight these criteria appropriately in its distribution project scoring and prioritization processes.
- B. Integrates equity requirements into the IDP process. The Commission should require Xcel to demonstrate in its IDP filings how it will systematically and transparently incorporate equity considerations into distribution planning and investments. We note that this may mean that the Company would prioritize system upgrades in communities, that would bear disproportionately greater impacts from outages, such as spoiled food or medicine, including low-income and otherwise vulnerable communities.
- C. Implements transparent reporting on equity outcomes. The Commission should require Xcel to report on reliability improvements and infrastructure investments by environmental justice area, income level, and racial composition in its Safety, Reliability, and Service Quality annual reports, just as the Company reports on reliability or other dimensions of utility performance. This reporting should demonstrate whether rate-funded investments are systematically addressing documented disparities or perpetuating inequitable service patterns. Xcel should discuss its implementation of these requirements in its 2027 IDP.

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

O. DATA REQUESTS FOR GEOSPATIAL ANALYSIS

In its initial comments, the Department made the following request related to the geospatial analysis of Xcel's distribution system:

The Department requests Xcel explain in reply comments how the following inputs are integrated within its planning framework at the Planning Division level:

- Current population estimates by Planning Division;
- Assumptions regarding population growth or decline by Planning Division through the IDP planning horizon; and
- An explanation of whether, and how, population trends are incorporated into distribution planning, load forecasting, and investment prioritization decisions.
- The percentage of asset value by Planning Division that have exceeded their expected service life;
- Asset condition scores, health indices, or other quantitative metrics used internally by the Company to prioritize asset replacement; and
- Historical and forecasted asset failure rates by Planning Division, where available.
- These data would clarify whether higher levels of asset health spending in certain Planning Divisions are driven by objectively older or more degraded infrastructure.
- Customer density (customers per circuit mile);
- Circuit miles per customer and per megawatt served;
- The share of residential, commercial, and industrial load; and
- The presence of large individual loads or clustered developments that materially affect capacity planning.
- Historical reliability metrics (including SAIDI and SAIFI) by Planning Division;
- Counts of repeat or chronic outage locations by Planning Division;

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

- Quantitative measures of climate-related risk exposure already used by the Company in planning, including wind, flood, and wildfire risk indicators.¹⁵⁸

Xcel states that the Department's request is outside the scope of the IDP. The Company replies to the Department's request as follows:

As a threshold matter, the Company emphasizes that distribution planning in the IDP is performed at the feeder-circuit and substation-transformer level, not at the broader Planning Division level. These units reflect how the system is actually designed and operated and provide the level of granularity needed to evaluate load growth, asset condition, hosting-capacity constraints, and localized reliability needs. While some results can be aggregated to the Planning Division level for high-level trend observation, such aggregation can mask important differences across individual feeders and substations and risks overgeneralizing conditions across large, diverse geographic areas.

The specific data types referenced by the Department—including asset-condition metrics, customer-density and load-composition information, and climate-risk indicators—are incorporated where appropriate within feeder- and substation-level analyses, where they can meaningfully inform evaluations of capacity constraints, asset-replacement needs, and localized reliability concerns. Population and demographic trends may inform broader forecasting work, but they are not applied at the Planning Division scale, which does not align with electrical system topology. Similarly, reliability metrics such as SAIDI, SAIFI, and chronic-outage locations are monitored at the circuit level, and related equity questions continue to be addressed in the Service Quality docket.

The IDP remains a feeder- and substation-based planning framework. Planning Division-level analysis is not the appropriate scale for reliability, capacity, or asset-health decision-making. Therefore, the Company does not support this request.¹⁵⁹

Xcel's argument relies on a false dichotomy: the idea that because engineering execution happens at the feeder level, planning evaluation must also be confined to this scale. This argument conflates "how we fix it" with "how we decide what to fix." Feeder-level data is often too "noisy" for long-term forecasting. A single large commercial customer moving in or out can swing feeder-level metrics wildly, masking the broader, more stable trends occurring across the Planning Division. Aggregating to the Division level acts as a "low-pass filter," removing the operational "static" to reveal the underlying structural trends that the Department needs to oversee for long-term resource planning.

¹⁵⁸ Department Initial Comments— at 117-118.

¹⁵⁹ Xcel Reply Comments – Attachment A at 33-34.

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

Xcel's insistence on feeder-level analysis is like a doctor insisting on examining a patient by looking at individual skin cells under a microscope. While it is true that the 'body' is made of cells and biological processes happen at that 'granular' level, one cannot diagnose a broken arm or a systemic fever by looking at one cell at a time. If one is too close (the feeder level), all one can see is a single pixel of data; one misses the 'shape' of the problem. If one is too far away (the entire service territory), the image is blurry. The Planning Division is the 'high-resolution lens' that allows us to see the actual features—the neighborhoods, the growth corridors, and the zones of inequity. The Department is not asking Xcel to stop looking at the 'cells' (feeders) when they perform surgery (repairs), but the Department needs to see the 'limb' (Planning Division) to know where the treatment is actually needed. Thus, the Department reiterates its original recommendation on this topic.

The Department intends to provide additional geospatial analysis in future filings in the SRSQ and IDP, however the Department refrains from making a formal recommendation for enhanced geospatial analysis at this time. In preparation for the planning standard review for Budgeting, the Department intends to provide additional geospatial analysis in the IDP to facilitate the budgeting review.

O.1. Final Recommendations

The Department does not make any recommendations in this section.

P. OTHER ISSUES

In its initial comments, the Center for Energy and Environment outlines an argument for a dual fuel load control pilot for the electrification of residential space heating. The Center for Energy and Environment explains that significant winter peak loads can be expected if electrified heating is added without the ability to curtail the load.¹⁶⁰ The Department notes that while most of Xcel's distribution system is not currently winter peaking, Minnesota Power's system is winter peaking and the utility does have a dual fuel load control tariff.¹⁶¹ Xcel's current tariff offers a discount for winter heating,¹⁶² but this discount is only made possible by excess summer capacity that can absorb winter heating load. Should electrification accelerate, Xcel's reduced rate will likely not be sustainable.

Regarding Xcel's statement that a dual fuel load control pilot is outside the scope of the IDP,¹⁶³ the Department refers to its statement regarding its own DERMS pilot recommendation, which states that the IDP is the appropriate venue to request a pilot.

The Department formally adopts the Center for Energy and Environment's recommendation.¹⁶⁴

¹⁶⁰ See Figure 4. CEE Initial Comments – at 10.

¹⁶¹ See Figure 6. *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](https://mn.mypower.com/s/residential/heating-cooling/heating-upgrade-rebates), at 30.

¹⁶² *Electric Space Heating*. Xcel Energy, (2025). Available at: <https://mn.my.xcelenergy.com/s/residential/heating-cooling/heating-upgrade-rebates>.

¹⁶³ Xcel Reply Comments – Attachment A at 35.

¹⁶⁴ CEE Initial Comments– at 14.

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

The Department recommends the Commission order Xcel to develop a dual fuel load control pilot.

P.1. Final Recommendations

The Department makes one new recommendation:

The Department recommends the Commission order Xcel to develop a dual fuel load control pilot.

IV. DEPARTMENT RECOMMENDATIONS

The Department makes a series of recommendations that each aim to optimize Xcel's distribution system planning with a goal to address affordability. Based on analysis of Xcel's 2025 IDP and the information in the record, the Department has prepared the final recommendations, which are provided below.

A. IDP SCOPE AND SCALE

- A.1. The Department recommends the Commission order either A or B:
 - A. Xcel file its IDP, TEP, and IDP-Related Ad Hoc filings in odd-numbered years. MP, DEA, and OTP file their IDP and TEP in even-numbered years, with the next filing due in 2028.
 - B. All IDPs are filed in odd-numbered years. All TEPs and IDP-Related Ad Hoc Filings are filed in even-numbered years, with the next filing due in 2028.

C. STRATEGIES FOR DISTRIBUTION SYSTEM OPTIMIZATION

- C.1. The Department recommends the Commission create a formal workgroup and planning standard review process that shall:
 - A. Identify the main system planning standards that Xcel uses for each Commission-approved review topic;
 - B. Select one or more planning standards, in agreement with intervenors, to review before the next IDP;
 - C. Set alternative system planning scenarios to analyze, in agreement with intervenors;
 - D. Perform a quantitative analysis of alternative system planning standards that measure estimated costs and benefits of alternative system planning standards;
 - E. Require Xcel to present the results of steps A-D in the next IDP cycle; and
 - F. Request comments to approve, modify, or reject the revised system planning standards for each Commission-approved review topic.
- C.2. The Department recommends the Commission establish the following system planning standard review schedule, with each phase to repeat every eight years:
 - A. 2027: Capacity
 - B. 2029: Reliability and Asset Health
 - C. 2031: Grid Modernization, Distributed Energy Resources, and Operation and Maintenance
 - D. 2033: Budgeting

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

- C.3. The Department recommends the Commission authorize the Department to spend up to \$1 million to obtain contractual services for planning standard review.
- C.4. The Department recommends the Commission establish an ad hoc system planning standard review process that shall:
 - A. Allow any intervenor to request a planning standard review;
 - B. Set the parameters that shall be reviewed;
 - C. Require the Commission to approve, modify, or reject the request for a planning standard review, limited to one such planning standard review per IDP cycle;
 - D. Require Xcel to present the results of the planning standard review in its next IDP; and
 - E. Request comments to approve, modify, or reject Xcel's system planning standard.
- C.5. The Department recommends the Commission order the Distribution Data Reporting work group to identify IDP filing requirements that Xcel and intervenors agree can be removed.
- C.6. The Department recommends the Commission order Xcel to provide a cost benefit analysis of at least three discretionary programs with a goal to review a total five-year budget of at least \$250 million. Xcel shall meet its \$250 million goal unless the Company can demonstrate that no portfolio of projects can meet the goal under the following screening criteria: clear, quantifiable benefit streams (such as avoided Customer Minutes Out (CMOs) or targeted operations and maintenance (O&M) savings), stable and reliable data inputs, and no mandatory components triggered by inspection thresholds or safety requirements.
- C.7. The Department recommends the Commission order all new Xcel spending projects with a five-year budget over \$25 million, that were approved for cost recovery since 2021, report five years of actual outcomes compared to forecasted outcomes in the IDP. Forecasted outcomes correspond to the data used to substantiate a cost recovery request, which may include, but is not limited to: capital cost savings, operational cost savings, reliability benefits, enhanced customer experience.
- C.8. The Department recommends the Commission order Xcel to provide an update to each program cost benefit analysis ten years after the initial presentation of the cost benefit analysis.
- C. 9. The Department recommends that the Commission create a new filing requirement which states:
 - All new distribution spending projects and programs with an estimated historical or forecasted five-year budget of \$25 million or greater shall, at minimum, address the following:
 - A. Estimated cost or range for the project/program;
 - B. Consideration of feasible alternatives to the proposed spending;
 - C. Quantitative estimation of expected outcomes; and
 - D. Sensitivity analysis of cost and outcome assumptions.
- C. 10. The Department recommends the Commission establish an ad hoc system planning standard review process that shall:
 - A. Allow any intervenor to request a planning standard review;
 - B. Set the parameters that shall be reviewed;
 - C. Require the Commission to approve, modify, or reject the request for a planning standard review;
 - D. Require Xcel to present the results of the planning standard review in its next IDP; and
 - E. Request comments to approve, modify, or reject Xcel's system planning standard.

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

- C.11. The Department recommends the Commission order Xcel to disclose all changes to its system planning standards in its IDP.

D. VALUE OF RELIABILITY

- D.1. The Department recommends the Commission delegate authority to the Executive Secretary to issue a Notice of Comment Period in each IDP docket to discuss the appropriate value of reliability. The Department recommends the notice topics address:
 - A. The valuation of the cost of unserved energy;
 - B. The use of price caps for the cost of unserved energy;
 - C. Forecasting methodologies for reliability benefits;
 - D. Appropriate uses cases for the value of reliability; and
 - E. The potential to employ different values of reliability by customer class.

E. FORECASTING RESULTS AND METHODOLOGY

- E.1. The Department recommends the Commission create a new IDP filing requirement to provide a comparison of forecast accuracy for the forecast scenario or scenarios Xcel uses for budgeting in Xcel's LoadSEER forecasts compared to actuals. Forecast accuracy should adjust model parameters to actual observed conditions to determine the accuracy of the forecast.

F. CAPACITY

- F.1. The Department recommends the Commission order a review of the following capacity planning standards, to be presented in Xcel's 2027 IDP:
 - A. Capacity forecasting and accuracy
 - B. N-0 forecast uncertainty margin and the use of AMI or other actual data
 - C. N-1 probability of coincident peak load and N-1 contingencies
 - D. N-1 screening based on cost effectiveness
 - E. Equipment ratings during N-1 emergencies
 - F. Sizing new assets for future load growth
 - G. Capacity Risk Framework
 - H. Project Prioritization

G. WILDFIRE

- G.1. The Department recommends the Commission require Xcel to discuss and provide the available years of wildfire-related outage data in its Wildfire Mitigation Plan to be filed with the Company's 2027 IDP.
- G.2. The Department recommends the Commission require Xcel to include 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),

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

- A definition of “wildfire” as it is used for utility identification, planning and mitigation.
- A discussion of its risk modelling, mapping and prioritization process within its Wildfire Mitigation Plan.
- Quantification of actual wildfire risk in Xcel’s territory based on the probability and size of a fire, and land use.
- Xcel’s Minnesota wildfire risk should be compared to other reliability and safety risks experienced by Xcel in Minnesota as well as the wildfire risk experienced in Xcel’s other jurisdictions.
- Quantification of wildfire damages by event size, including Xcel-owned and other property damage, applicable liability, and any other costs Xcel deems reasonable to include.
- 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 locations of wildfires experienced in its territory, the number of outages caused by wildfire, and the average length of wildfire-related outage.
- Reporting on the efficacy of its wildfire mitigation strategy in reducing wildfire-related outages (i.e. After deployment of the rate-case-approved wildfire mitigation measures, wildfire-related outages in Xcel’s territory decreased 50 percent; the number of wildfires in Xcel’s service territory decreased from 100 to 50 since the filing of the Company’s last IDP resulting in approximately 10 fewer outages.¹⁶⁵)
- Discussion of its use of its Public Safety Power Shutoff Program, including the number of PSPS outages, cause of the PSPS outage, average length of a PSPS outage, if/how notice was provided to customers, and measures the Company employs to protect customers that are medically dependent on electric service.
- Provide the Wildfire Safety Operations Playbook, the PSPS Playbook, and the PSPS Communications Playbook as attachments or provide the location where the Playbooks can be accessed.
- A full cost benefit analysis of any proposals.
- G.3. The Department recommends the Commission authorize the Department to spend up to \$300,000 to obtain contractual services for wildfire mitigation plan reviews.
- G.4. The Department recommends Xcel integrate the locational information from its medically necessary equipment certification form into its wildfire mitigation plan.
- G.5. The Department recommends that future (outside of the current rate case’s test and planning years) wildfire mitigation proposals be filed with the Commission as a comprehensive Wildfire Mitigation Plan. The Department recommends the Company’s Wildfire Mitigation Plan be filed as an attachment or supplement to its IDP.

¹⁶⁵ Values are arbitrary given as examples for how Xcel could demonstrate the efficacy of its Wildfire Mitigation Plan.

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

H. TARGETED UNDERGROUNDING PROPOSAL

- H.1. The Department recommends the Commission order Xcel contract with an independent consulting firm that specializes in vegetation management to perform a comprehensive optimization of the Company's current vegetation management strategy.
- H.2. The Department recommends the Commission order Xcel to integrate equity considerations explicitly and transparently into its targeted underground program from the start to ensure that communities facing disparities in reliability appropriately benefit in a timely manner.
- H.3. The Department recommends the Commission order Xcel to report annually on its targeted undergrounding program. The Department suggests these reports should include the following data: number of undergrounding projects; number of projects in Environmental Justice areas; actual undergrounding project costs; drivers for projects (engineering, equity, other); and description of community engagement efforts.
- H.4. The Department recommends the Commission require Xcel to perform full BCA for all projects scheduled beyond the 2026 pilot phase, which must incorporate O&M savings (including avoided vegetation management and storm restoration costs), and use site-specific construction estimates and benefit calculations.
- H.5. The Department recommends the Commission approve the site selection criteria with the following modifications:
 - A. Require Xcel to demonstrate a minimum BCR of 1.25, using tools like the ICE, to financially justify each individual project prior to approval.
 - B. Limit or strictly prioritize undergrounding to sites where existing overhead infrastructure is fully depreciated to prevent stranded costs from premature retirements.
 - C. Require the formal quantification of alternatives, specifically enhanced vegetation management, FLISR deployment, and backlog O&M expenses, during site selection to ensure undergrounding is the most economical choice.

I. COST-BENEFIT ANALYSIS

- I.1. The Department recommends the Commission order all programmatic cost benefit analyses to calculate costs and benefits as follows:
 - All benefits and costs should use only marginal calculations;
 - All benefits and costs should be calculated in the present value of costs;
 - All cost calculations should be quantified over the full lifecycle of the program and its alternative case with no program expenditures;
 - All benefit calculations should avoid averaging and should be appropriately normalized unless Xcel can demonstrate why a normalization is not necessary; and
 - Where statistical analysis is used, Xcel's models should account for variance that can be explained by other factors than the primary variable of interest.

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

- I.2. The Department recommends the Commission order Xcel to re-file the cost benefit analyses for the ELR-Breakers and Grid Reinforcement programs that adhere to the Department's reply comment recommendation for cost benefit analysis.

J. GRID MODERNIZATION

- J.1. The Department recommends the Commission order Xcel to continue to describe its DERMS plans, use cases, and stakeholder engagement in its Integrated Distribution Plans.
- J.2. The Department recommends the Commission require Xcel to:
 - Revise its Flexible Interconnection proposal to develop and implement Static FI in the near term, prior to or in parallel with implementing full, Dynamic FI.
 - Order Xcel to file, by December 31, 2026, a report on their FI efforts and plans in this docket, and include a specific update on their progress towards implementing static FI including elements such as technical standards, customer-facing documentation, and enablement timelines;
 - Order Xcel to include updated information on Flexible Interconnection in its 2027 IDP, including the number of new load and DER connections utilizing static FI, the capacity made available as a result, and progress towards dynamic FI rollout;
 - Require Xcel to incorporate and otherwise address discussions and learnings from the DGWG process in its 2026 and 2027 filing; and,
 - Require Xcel to review materials from Ameren and CHARGED, who have worked extensively on Flexible Interconnection and present key considerations. We recommend that Xcel incorporate these considerations into its program design and address these materials in its 2026 report and 2027 IDP.
- J.3. The Department recommends the Commission order Xcel to begin a pilot program to test localized distribution grid benefits from its Aggregator Distributed Energy Resource Management System. At minimum the pilot should:
 - A. Test different incentive levels to determine the optimal incentive structure;
 - B. Test at least two controllable load types; and
 - C. Provide a cost-benefit analysis of localized distribution grid benefits compared to standard distribution grid upgrades.

K. PLANNED NET LOAD

- K.1. The Department recommends the Commission order Xcel to:
 - A. File, by December 31, 2026, an interim update that: (1) demonstrates that it has given due consideration to the alternative PNL methodologies presented by stakeholders and substantively evaluates those methodologies; (2) provides specific details about the seasonal dependability factors, including the percentages it plans to use and which months would apply to each season; and (3) analyzes the impacts of those seasonal dependability factors; and
 - B. Address its implementation of these topics in its 2027 IDP.

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

L. NON-WIRES ALTERNATIVES

- L.1. The Department recommends that the Commission require Xcel to consider reliability projects in its Non-Wire Alternatives Analysis.

N. EQUITY ANALYSIS

- N.1. The Department recommends the Commission order Xcel to submit a compliance filing before Xcel's 2025 IDP, which:
 - A. Establishes equity-informed prioritization criteria for distribution investments. The Commission should require Xcel to develop and implement systematic criteria that prioritize investments addressing documented service disparities. The Company should weight these criteria appropriately in its distribution project scoring and prioritization processes.
 - B. Integrates equity requirements into the IDP process. The Commission should require Xcel to demonstrate in its IDP filings how it will systematically and transparently incorporate equity considerations into distribution planning and investments. We note that this may mean that the Company would prioritize system upgrades in communities, that would bear disproportionately greater impacts from outages, such as spoiled food or medicine, including low-income and otherwise vulnerable communities.
 - C. Implements transparent reporting on equity outcomes. The Commission should require Xcel to report on reliability improvements and infrastructure investments by environmental justice area, income level, and racial composition in its Safety, Reliability, and Service Quality annual reports, just as the Company reports on reliability or other dimensions of utility performance. This reporting should demonstrate whether rate-funded investments are systematically addressing documented disparities or perpetuating inequitable service patterns. Xcel should discuss its implementation of these requirements in its 2027 IDP.

O. OTHER ISSUES

- P.1. The Department recommends the Commission order Xcel to develop a dual fuel load control pilot.

Attachments

OTTER TAIL POWER COMPANY
Docket No: E017-M-25-141

Response to: MN Department of Commerce
Analyst: Ari Zwick, Bhavin Pradhan, Krystal Binversie
Date Received: January 15, 2026
Date Due: February 26, 2026
Date of Response: February 25, 2026
Responding Witness: Mike Riewer, Manager, System Infrastructure & Reliability (218) 739-8565

Information Request:

OTP states:

It should be noted that design standards create system capacity “step changes.” For example, underground feeder design standards are rated at either 200 or 600 ampacity, or substation transformer sizing which is standardized to future purchases of 1 MVA or 2.5 MVA. This helps maintain efficient installation, and stock inventory of replacement asset materials. In doing so, building of the distribution system can appear “overbuilt” in terms of capacity. However, the system was not overbuilt at all but rather efficiently planned, designed and constructed to handle future growth.

Please provide:

1. A summary of each relevant capacity design standard for substation transformers, overhead feeders, underground feeders, overhead tap lines, underground tap lines, and any other relevant equipment.
2. An estimate of the difference in cost to install equipment described in 1. if the capacity exceeds the lower design standard by 10 percent, and the new equipment is rated at half of the next design standard capacity.

Attachments: 0

Response:

OTP distribution construction is guided by its internally developed and maintained, Material and Construction Standards book. This book contains thousands of pages outlining design standards that have been developed over many years. Summarizing that document is not feasible. Instead, OTP provides an example of how total construction costs are impacted by a move from one standard material to another; reflecting a step change in ampacity.

Table below illustrates medium voltage (MV) underground (UG) Cable Industry sizes as well as OTP Standard sizes (highlighted in blue) along with Ampacity, purchase price, and installation costs. All costs are normalized relative to OTP Standard 1/0 MV UG cable. Total installed costs are shown in high and low end ranges on the far right four columns. Again, these are normalized relative to the material costs of the OTP 1/0 MV cable.

Industry Standard MV Cable Sizes	Ampacity	DeadBreak Connections Ampacity	Relative Ampacity	Purchase Price \$/ft (Relative)	Install Cost low (1 Ph Primary - Lateral) \$/FT	Install Cost low (3 Ph Primary - Feeder) \$/FT	Install Cost High (Boring 1 Ph Primary Lateral) \$/FT	Install Cost High (Boring 3 Ph Primary Feeder) \$/FT	Relative Installed Total \$/FT Low Lateral	Relative Installed Total \$/FT High Lateral	Relative Installed Total \$/FT Low Feeder	Relative Installed Total \$/FT High Feeder
2 sol	168	200	0.77	0.82	0.75	1	3	5	0.90	2.18	N/A	N/A
2 str	168	200	0.77	0.84	0.75	1	3	5	0.91	2.19	N/A	N/A
1 sol	193	200	0.89	0.9	0.75	1	3	5	0.94	2.23	N/A	N/A
1 str	193	200	0.89	0.93	0.75	1	3	5	0.96	2.25	N/A	N/A
1/0 sol	218	200	1.00	1	0.75	1	3	5	1.00	2.29	2.29	4.57
1/0 str	218	200	1.00	1.03	0.75	1	3	5	1.02	2.30	2.34	4.62
2/0 str	248	200	1.14	1.18	0.75	1	3	5	1.10	2.39	2.59	4.88
3/0 str	284	200	1.30	1.23	0.75	1	3	5	1.13	2.42	2.68	4.97
4/0 str	324	600	1.49	1.33	0.75	1	3	5	1.19	2.47	2.85	5.14
250 str	360	600	1.65	1.36	0.75	1	3	5	1.21	2.49	2.90	5.19
350 str	389	600	1.78	1.4	0.75	1	3	5	1.23	2.51	2.97	5.26
500 str	468	600	2.15	1.46	N/A	1.2	N/A	5	N/A	N/A	3.19	5.36
750 str	569	600	2.61	1.63	N/A	1.2	N/A	5	N/A	N/A	3.48	5.65
1000 str	642	600	2.94	1.67	N/A	1.2	N/A	5	N/A	N/A	3.55	5.72
1250 str	688	600	3.16	1.78	N/A	1.2	N/A	5	N/A	N/A	3.74	5.91
1500 str	726	600	3.33	1.82	N/A	1.2	N/A	5	N/A	N/A	3.81	5.98
*OTP Standard MV UG Cable Sizes												
*Ampacity limited by Connections												
*Connection Ampacity not fully utilized												
*Base unit for calculation of costs												

In summary, if 1/0 sol cable capacity is exceeded by 10%, necessitating an increase step to next standard cable size of 4/0, installed cost increases to range of 1.19-2.47 for laterals and 2.85-5.14 for feeders.

Similarly, if 1/0 sol capacity is exceeded by 10% and an additional standard of 2/0 was added, total installed cost increase to a range of 1.10-2.39 for laterals and 2.59-4.88 for feeders.

By having a step change from 1/0 to 4/0 instead of 1/0 to 2/0 (non-OTP standard), corresponds to a 3-8% installed cost adder for laterals and a 5-10% cost adder for feeders. However, ampacity changes from a 200 amp limitation to 600 amp limitation. The other benefits of maintaining standards are discussed in the IDP in Section 4.

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
Public Reply Comments**

Docket No. E002/M-25-142

Dated this **23rd** day of **April 2026**

/s/Sharon Ferguson

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21	Ingrid	Bjorklund	ibjorklund@avisenlegal.com	Avisen Legal		901 S. Marquette Ave. #1675 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-142
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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-25-142
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-25-142
75	Nadav	Enbar	nenbar@epri.com	EPRI		1117 Quince Ave Boulder CO, 80304 United States	Electronic Service		No	M-25-142
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-25-142
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-25-142
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-25-142
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-25-142
80	Kornbaum	Frank	fkornbaum@mnpower.com			null null, null United States	Electronic Service		No	M-25-142
81	Nathan	Franzen	nathan@nationalgridrenewables.com	Geronimo Energy, LLC		8400 Normandale Lake Blvd Ste 1200 Bloomington MN, 55437 United States	Electronic Service		No	M-25-142
82	David	Freestate	dfreestate@epri.com	EPRI		942 Corridor Park Blvd Knoxville TN, 37932 United States	Electronic Service		No	M-25-142
83	Katelyn	Frye	kfrye@mnpower.com	Minnesota Power		30 W Superiot St Duluth MN, 55802-2093 United States	Electronic Service		No	M-25-142
84	Jessica	Fyhrie	jfyhrie@otpc.com	Otter Tail Power Company		PO Box 496 Fergus Falls MN, 56538-0496 United States	Electronic Service		No	M-25-142

#	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-25-142
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-25-142
87	Jenny	Glumack	jenny@mrea.org	Minnesota Rural Electric Association		11640 73rd Ave N Maple Grove MN, 55369 United States	Electronic Service		No	M-25-142
88	Sean	Gosiewski	sean@afors.org	Alliance for Sustainability		2801 21st Ave S Ste 100 Minneapolis MN, 55407 United States	Electronic Service		No	M-25-142
89	Scott	Greenbert	scott@nautilussolar.com	Nautilus Solar Energy, LLC		396 Springfield Aver, Ste 2 Summit NJ, 07901 United States	Electronic Service		No	M-25-142
90	Sarah	Groebner	sgroebner@redwoodelectric.com	Redwood Electric Cooperative		60 Pine St Clements MN, 56224 United States	Electronic Service		No	M-25-142
91	Tim	Gross	tgross@fuelingmn.com	Fueling Minnesota		3244 Rice Street St. Paul MN, 55126 United States	Electronic Service		No	M-25-142
92	Cody	Gustafson	cgustafson@mnpower.com			null null, null United States	Electronic Service		No	M-25-142
93	Tom	Guttormson	tom.guttormson@connexusenergy.com	Connexus Energy		14601 Ramsey Blvd Ramsey MN, 55303 United States	Electronic Service		No	M-25-142
94	Natalie	Haberman	townsend@fresh-energy.org	Fresh Energy		408 St Peter St # 350 St. Paul MN, 55102 United States	Electronic Service		No	M-25-142
95	Nicholas	Haeg	haeg@fresh-energy.org			12298 Bass Trail Sauk Centre MN, 56378 United States	Electronic Service		No	M-25-142
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-25-142
97	Joe	Halso	joe.halso@sierraclub.org	Sierra Club		1536 Wynkoop St Ste 200 Denver CO, 80202 United States	Electronic Service		No	M-25-142
98	Donald	Hanson	dfhanson@ieee.org			P. O. Box 44579 Eden Prairie MN, 55344 United States	Electronic Service		No	M-25-142
99	John	Harlander	john.c.harlander@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-142
100	Kim	Havey	kim.havey@minneapolismn.gov	City of Minneapolis		350 South 5th Street, Suite 315M Minneapolis	Electronic Service		No	M-25-142

#	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-25-142
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-25-142
103	Tiana	Heger	theher@mnpower.com	Minnesota Power		30 W. Superior Street Duluth MN, 55802 United States	Electronic Service		No	M-25-142
104	Adam	Heinen	aheinen@dakotaelectric.com	Dakota Electric Association		4300 220th St W Farmington MN, 55024 United States	Electronic Service		No	M-25-142
105	Annete	Henkel	mui@mnutilityinvestors.org	Minnesota Utility Investors		413 Wacouta Street #230 St.Paul MN, 55101 United States	Electronic Service		No	M-25-142
106	Jessy	Hennesy	jessy.hennesy@avantenergy.com	Avant Energy		220 S. Sixth St. Ste 1300 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-142
107	Mari	Hernandez	mari@irecusa.org	IREC		null null, null United States	Electronic Service		No	M-25-142
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-25-142
109	Joe	Hoffman	ja.hoffman@smpa.org	SMPA		500 First Ave SW Rochester MN, 55902-3303 United States	Electronic Service		No	M-25-142
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-25-142
111	Casey	Horan	choran@edf.org	Environmental Defense Fund		123 Mission St San Francisco CA, 94105 United States	Electronic Service		No	M-25-142
112	Ronald	Horman	rhorman@redwoodelectric.com	Redwood Electric Cooperative		60 Pine Street Clements MN, 56224 United States	Electronic Service		No	M-25-142
113	Frank	Hornstein	frank.hornstein@minneapolismn.gov	City of Minneapolis		350 South 5th Street Minneapolis MN, 55415 United States	Electronic Service		No	M-25-142
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-25-142
115	Lori	Hoyum	lhoyum@mnpower.com	Minnesota Power		30 West Superior Street Duluth MN,	Electronic Service		No	M-25-142

#	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- 142
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- 142
118	Reuben	Hunter	bhunter@madisonei.com	Madison Energy Investments		8100 Boone Blvd Suite 430 Vienna VA, 22182 United States	Electronic Service		No	M-25- 142
119	Casey	Jacobson	cjacobson@bepc.com	Basin Electric Power Cooperative		1717 East Interstate Avenue Bismarck ND, 58501 United States	Electronic Service		No	M-25- 142
120	John S.	Jaffray	jjaffray@jjrpower.com	JJR Power		350 Highway 7 Suite 236 Excelsior MN, 55331 United States	Electronic Service		No	M-25- 142
121	Robert	Jagusch	rjagusch@mmua.org	MMUA		3025 Harbor Lane N Minneapolis MN, 55447 United States	Electronic Service		No	M-25- 142
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- 142
123	Alan	Jenkins	aj@jenkinsatlaw.com	Jenkins at Law		2950 Yellowtail Ave. Marathon FL, 33050 United States	Electronic Service		No	M-25- 142
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- 142
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- 142
126	Nate	Jones	njones@hcpd.com	Heartland Consumers Power		PO Box 248 Madison SD, 57042 United States	Electronic Service		No	M-25- 142
127	Philip	Jones	phil@evtransportationalliance.org			1402 Third Ave Ste 1315 Seattle WA, 98101 United States	Electronic Service		No	M-25- 142
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- 142
129	Kevin	Joyce	kjoyce@tesla.com			null null, null United States	Electronic Service		No	M-25- 142
130	Mahmoud	Kabalan	mahmoud.kabalan@stthomas.edu	University of St Thomas		2115 Summit Ave. Mail OSS100	Electronic Service		No	M-25- 142

#	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-25-142
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-25-142
133	Ralph	Kaehler	ralph.kaehler@gmail.com			13700 Co. Rd. 9 Eyota MN, 55934 United States	Electronic Service		No	M-25-142
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-25-142
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-25-142
136	Jack	Kegel	jkegel@mmua.org	MMUA		3025 Harbor Lane N Suite 400 Plymouth MN, 55447-5142 United States	Electronic Service		No	M-25-142
137	William	Kenworthy	will@votesolar.org			1 South Dearborn St Ste 2000 Chicago IL, 60603 United States	Electronic Service		No	M-25-142
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-25-142
139	Tom	Key	tkey@epri.com	EPRI		942 Corridor Park Blvd Knoxville TN, 37932 United States	Electronic Service		No	M-25-142
140	Bobby	King	bking@solarunitedneighbors.org	Solar United Neighbors		3140 43rd Ave S Minneapolis MN, 55406 United States	Electronic Service		No	M-25-142
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-25-142
142	Aaron	Knoll	aknoll@greeneespel.com	Greene Espel PLLP		222 South Ninth Street Suite 2200 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-142
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-25-142
144	Nathan	Kostiuk	nathan.c.kostiuk@xcelenergy.com	Xcel Energy		414 Nicollet Mall, 401-07	Electronic Service		No	M-25-142

#	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-25-142
146	Michael	Krause	michaelkrause61@yahoo.com			1200 Plymouth Avenue Minneapolis MN, 55411 United States	Electronic Service		No	M-25-142
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-25-142
148	Corrina	Kumpe	ckumpe@mysunshare.com			null null, null United States	Electronic Service		No	M-25-142
149	Matthew	Lacey	mlacey@grenergy.com	Great River Energy		12300 Elm Creek Boulevard Maple Grove MN, 55369-4718 United States	Electronic Service		No	M-25-142
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-25-142
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-25-142
152	Burnell	Lauer	blauer.sundial@gmail.com	Sundial Solar		3209 W. 76th St #305 Edina MN, 55435 United States	Electronic Service		No	M-25-142
153	Dean	Leischow	dean@sunrisenrg.com	Sunrise Energy Ventures		315 Manitoba Ave Ste 200 Wayzata MN, 55391 United States	Electronic Service		No	M-25-142
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-25-142
155	Benjamin	Levine	blevine@mnpower.com	Minnesota Power		30 West Superior Street Duluth MN, 55802 United States	Electronic Service		No	M-25-142
156	Becky	Li	bli@rmi.org			17 State St 25th floor unit 2500 New York NY, 10004 United States	Electronic Service		No	M-25-142
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-25-142

#	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-25-142
159	Phillip	Lipetsky	greenenergyproductsllc@gmail.com	Green Energy Products		PO Box 108 Springfield MN, 56087 United States	Electronic Service		No	M-25-142
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-25-142
161	Susan	Ludwig	sludwig@mnpower.com	Minnesota Power		30 West Superior Street Duluth MN, 55802 United States	Electronic Service		No	M-25-142
162	Brian	Lydic	brian@irecusa.org	Interstate Renewable Energy Council, Inc.		PO Box 1156 Latham NY, 12110-1156 United States	Electronic Service		No	M-25-142
163	Madeline	Lydon	madeline.k.lydon@xcelenergy.com	Xcel Energy		401 NICOLLET MALL Floor 7 Minneapolis MN, 55401 United States	Electronic Service		No	M-25-142
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-25-142
165	Alice	Madden	alice@communitypowermn.org	Community Power		2720 E 22nd St Minneapolis MN, 55406 United States	Electronic Service		No	M-25-142
166	Alex	Magerko	amagerko@epri.com	EPRI		942 Corridor Park Blvd Knoxville TN, 37932 United States	Electronic Service		No	M-25-142
167	Kavita	Maini	kmainsi@wi.rr.com	KM Energy Consulting, LLC		961 N Lost Woods Rd Oconomowoc WI, 53066 United States	Electronic Service		No	M-25-142
168	Tom	Mammen	thomas.j.mammen@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-142
169	Discovery	Manager	discoverymanager@mnpower.com	Minnesota Power		30 W Superior St Duluth MN, 55802 United States	Electronic Service		No	M-25-142
170	Christine	Marquis	regulatory.records@xcelenergy.com	Xcel Energy		414 Nicollet Mall MN1180-07-MCA Minneapolis MN, 55401 United States	Electronic Service		Yes	M-25-142
171	Gregg	Mast	gmast@cleanenergyeconomyymn.org	Clean Energy Economy Minnesota		4808 10th Avenue S Minneapolis MN, 55417 United States	Electronic Service		No	M-25-142
172	Erica	McConnell	emcconnell@elpc.org	Environmental Law & Policy Center		35 E. Wacker Drive, Suite 1600	Electronic Service		No	M-25-142

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						Chicago IL, 60601 United States				
173	Jess	McCullough	jmccullough@mnpower.com	Minnesota Power		30 W Superior St Duluth MN, 55802 United States	Electronic Service		No	M-25-142
174	Sara G	McGrane	smcgrane@felhaber.com	Felhaber Larson		220 S 6th St Ste 2200 Minneapolis MN, 55420 United States	Electronic Service		No	M-25-142
175	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-25-142
176	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-25-142
177	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-25-142
178	Michael	Menzel	mike.m@sagiliti.com	Sagiliti		23505 Smithtown Rd. Suite 280 Excelsior MN, 55331 United States	Electronic Service		No	M-25-142
179	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-25-142
180	Pontius	Mike	mpontius@mnpower.com			null null, null United States	Electronic Service		No	M-25-142
181	Brian	Millberg	fwengineering@comcast.net			695 Grand Ave #222 Saint Paul MN, 55105 United States	Electronic Service		No	M-25-142
182	Luther	Miller	luther.c.miller@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-142
183	Marc	Miller	mmiller@soltage.com	Soltage, LLC		66 York Street, 5th Floor Jersey City NJ, 07302 United States	Electronic Service		No	M-25-142
184	Marcus	Mills	marcus@communitypowermn.org	Community Power		2720 E 22nd St Minneapolis MN, 55406 United States	Electronic Service		No	M-25-142
185	Darrick	Moe	darrick@mrea.org	Minnesota Rural Electric Association		11640 73rd Ave N Maple Grove MN, 55369 United States	Electronic Service		No	M-25-142
186	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-25-142

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
187	Brian	Monson	brian.t.monson@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-142
188	Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP		33 South Sixth St Ste 4200 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-142
189	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-25-142
190	Pouya	Najmaie	najm0001@gmail.com	Cooperative Energy Futures		3416 16th Ave S Minneapolis MN, 55407 United States	Electronic Service		No	M-25-142
191	Alex	Nelson	anelson@dakotaelectric.com	Dakota Electric Association		4300 220nd St Farmington MN, 55024 United States	Electronic Service		No	M-25-142
192	Anthony	Nelson	amnelson@otpc.com	Ottertail Power		53233 Sunrise Ln Park Rapids MN, 56470 United States	Electronic Service		No	M-25-142
193	Ben	Nelson	benn@cmpasgroup.org	CMPMA		459 South Grove Street Blue Earth MN, 56013 United States	Electronic Service		No	M-25-142
194	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-25-142
195	Darin	Nelson	dnelson@minnetonkamn.gov	City of Minnetonka		14600 Minnetonka Blvd Minnetonka MN, 55345 United States	Electronic Service		No	M-25-142
196	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-25-142
197	Sephra	Ninow	sephra.ninow@energycenter.org	Center for Sustainable Energy		426 17th Street, Suite 700 Oakland CA, 94612 United States	Electronic Service		No	M-25-142
198	Michael	Noble	noble@fresh-energy.org	Fresh Energy		408 Saint Peter St Ste 350 Saint Paul MN, 55102 United States	Electronic Service		No	M-25-142
199	Rolf	Nordstrom	rnordstrom@gpisd.net	Great Plains Institute		2801 21ST AVE S STE 220 Minneapolis MN, 55407-1229 United States	Electronic Service		No	M-25-142
200	Samantha	Norris	samanthanorris@alliantenergy.com	Interstate Power and Light Company		200 1st Street SE PO Box 351 Cedar Rapids IA, 52406-0351 United States	Electronic Service		No	M-25-142

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
201	David	O'Brien	david.obrien@navigant.com	Navigant Consulting		77 South Bedford St Ste 400 Burlington MA, 01803 United States	Electronic Service		No	M-25-142
202	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-25-142
203	Patty	O'Keefe	patty.okeefe@sierraclub.org			2525 Emerson Ave S Apt 2 Minneapolis MN, 55405 United States	Electronic Service		No	M-25-142
204	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-25-142
205	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-25-142
206	Matthew	Olsen	molsen@otpc.com	Otter Tail Power Company		215 South Cascade Street Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-142
207	Russell	Olson	rolson@hcpd.com	Heartland Consumers Power District		PO Box 248 Madison SD, 57042-0248 United States	Electronic Service		No	M-25-142
208	Wendi	Olson	wolson@otpc.com	Otter Tail Power Company		215 South Cascade Street Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-142
209	Carol A.	Overland	overland@legalelectric.org	Legalelectric - Overland Law Office		1110 West Avenue Red Wing MN, 55066 United States	Electronic Service		No	M-25-142
210	Bethany	Owen	bowen@mnpower.com	Minnesota Power		30 West Superior Street Duluth MN, 55802 United States	Electronic Service		No	M-25-142
211	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-25-142
212	Dan	Patry	dpatry@sunedison.com	SunEdison		600 Clipper Drive Belmont CA, 94002 United States	Electronic Service		No	M-25-142
213	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-25-142
214	Dean	Pawlowski	dpawlowski@otpc.com	Otter Tail Power Company		PO Box 496 215 S. Cascade St. Fergus Falls MN, 56537-0496 United States	Electronic Service		No	M-25-142

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
215	Susan	Peirce	susan.peirce@state.mn.us		Department of Commerce	85 Seventh Place East St. Paul MN, 55101 United States	Electronic Service		No	M-25-142
216	Mary Beth	Peranteau	mperanteau@fredlaw.com	Fredrikson & Byron, P.A.		44 East Mifflin Street Suite 1000 Madison WI, 53703 United States	Electronic Service		No	M-25-142
217	Jennifer	Peterson	jjpeterson@mnpower.com	Minnesota Power		30 West Superior Street Duluth MN, 55802 United States	Electronic Service		No	M-25-142
218	Wess	Pfaff	wes.pfaff@mrenergy.com			null null, null United States	Electronic Service		No	M-25-142
219	Ryan	Pierce	ryan.m.pierce@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-142
220	Morgan	Pitz	morgan.pitz@us-solar.com	US Solar		100 N 6th St #410B Minneapolis MN, 55403 United States	Electronic Service		No	M-25-142
221	Hannah	Polikov	hpolikov@aee.net	Advanced Energy Economy Institute		1000 Vermont Ave, Third Floor Washington DC, 20005 United States	Electronic Service		No	M-25-142
222	Crystal	Pomerleau	crystal.r.pomerleau@xcelenergy.com	Xcel		null null, null United States	Electronic Service		No	M-25-142
223	Kristel	Porter	kristel@mnrenewablenow.org	MN Renewable Now		null null, null United States	Electronic Service		No	M-25-142
224	Paula	Prahl	paula.prahl@dominiuminc.com	Dominium		2905 Northwest Blvd Ste 150 Plymouth MN, 55441 United States	Electronic Service		No	M-25-142
225	Kevin	Pranis	kpranis@liunagroc.com	Laborers' District Council of MN and ND		81 E Little Canada Road St. Paul MN, 55117 United States	Electronic Service		No	M-25-142
226	Matt	Privratsky	matt@nokomisenergy.com	Nokomis Energy		2639 Nicollet Ave Suite 200 Minneapolis MN, 55408 United States	Electronic Service		No	M-25-142
227	Elizabeth	Psihos	elizabeth.psihos@idealenergies.com			null null, null United States	Electronic Service		No	M-25-142
228	Bridget	Rathsack	bridget.rathsack@burnsvillemn.gov	City of Burnsville, MN		100 Civic Center Parkway Burnsville MN, 55337 United States	Electronic Service		No	M-25-142
229	Peter	Reese	preese@sundialsolarenergy.com	Sundial Energy, LLC		3363 Republic Ave Saint Louis Park MN, 55426 United States	Electronic Service		No	M-25-142
230	Generic Notice	Regulatory	regulatory_filing_coordinators@otpc.com	Otter Tail Power Company		215 S. Cascade Street Fergus Falls	Electronic Service		No	M-25-142

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
245	Robert K.	Sahr	bsahr@eastriver.coop	East River Electric Power Cooperative		P.O. Box 227 Madison SD, 57042 United States	Electronic Service		No	M-25-142
246	Ian	SantosMeeker	ians@ips-solar.com	IPS Solar		null null, null United States	Electronic Service		No	M-25-142
247	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-25-142
248	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-25-142
249	Dean	Schiro	dean.e.schiro@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-142
250	Jacob J.	Schlesinger	jschlesinger@keyesfox.com	Keyes & Fox LLP		1580 Lincoln St Ste 880 Denver CO, 80203 United States	Electronic Service		No	M-25-142
251	Jeff	Schoenecker	jschoenecker@dakotaelectric.com	Dakota Electric Association		4300 220th Street W Farmington MN, 55024 United States	Electronic Service		No	M-25-142
252	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-25-142
253	Kay	Schraeder	kschraeder@minnkota.com	Minnkota Power		5301 32nd Ave S Grand Forks ND, 58201 United States	Electronic Service		No	M-25-142
254	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-25-142
255	Ronald J.	Schwartau	rschwartau@noblesce.com	Nobles Electric Cooperative		22636 U.S. Hwy. 59 Worthington MN, 56187 United States	Electronic Service		No	M-25-142
256	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-25-142
257	Emma	Searson	esearson@solarunitedneighbors.org	Solar United Neighbors		646 S Barrington Ave Apt 101 Los Angeles CA, 90049 United States	Electronic Service		No	M-25-142
258	Dean	Sedgwick	sedgwick@itascapower.com	Itasca Power Company		PO Box 455 Spring Lake MN, 56680 United States	Electronic Service		No	M-25-142
259	Maria	Seidler	maria.seidler@dom.com	Dominion Energy Technology		120 Tredegar Street Richmond VA, 23219 United States	Electronic Service		No	M-25-142

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260	David	Shaffer	david.shaffer@novelenergy.biz	Novel Energy Solutions		2303 Wycliff St Ste 300 St. Paul MN, 55114 United States	Electronic Service		No	M-25-142
261	Patricia	Sharkey	psharkey@environmentallawcounsel.com	Midwest Cogeneration Association.		180 N LaSalle St Ste 3700 Chicago IL, 60601 United States	Electronic Service		No	M-25-142
262	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-25-142
263	Doug	Shoemaker	dougs@charter.net	Minnesota Renewable Energy		2928 5th Ave S Minneapolis MN, 55408 United States	Electronic Service		No	M-25-142
264	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-25-142
265	Glen	Skarbakka	glen@s-pllc.com	Skarbakka PLLC		5411 Bartlett Blvd Mound MN, 55364 United States	Electronic Service		No	M-25-142
266	Anne	Smart	anne.smart@chargepoint.com	ChargePoint, Inc.		254 E Hacienda Ave Campbell CA, 95008 United States	Electronic Service		No	M-25-142
267	Joshua	Smith	joshua.smith@sierraclub.org			85 Second St FL 2 San Francisco CA, 94105 United States	Electronic Service		No	M-25-142
268	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-25-142
269	Trevor	Smith	trevor.smith@avantenergy.com	Avant Energy, Inc.		220 South Sixth Street Suite 1300 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-142
270	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-25-142
271	Beth	Soholt	bsoholt@cleangridalliance.org	Clean Grid Alliance		570 Asbury Street Suite 201 St. Paul MN, 55104 United States	Electronic Service		No	M-25-142
272	Marcia	Solie	m.solie@bcrea.coop	Brown County Rural Electrical Association		24386 State Hwy. 4, PO Box 529 Sleepy Eye MN, 56085 United States	Electronic Service		No	M-25-142
273	Braden	Solum	braden.solum@idealenergies.com	iDEAL Energies		5810 Niccollet Ave Minneapolis MN, 55419 United States	Electronic Service		No	M-25-142

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
274	Karl	Sonneman	karl17@hbci.com	Law Office of Karl W. Sonneman		111 Riverfront Suite 202 Winona MN, 55987 United States	Electronic Service		No	M-25-142
275	Brandon	Stamp	brandon.j.stamp@xcelenergy.com	Xcel Energy		401 Nicollet Mall Minneapolis MN, 55401 United States	Electronic Service		No	M-25-142
276	Sky	Stanfield	stanfield@smwlaw.com	Shute, Mihaly & Weinberger		396 Hayes Street San Francisco CA, 94102 United States	Electronic Service		No	M-25-142
277	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-25-142
278	Byron E.	Starns	byron.starns@stinson.com	STINSON LLP		50 S 6th St Ste 2600 Minneapolis MN, 55402 United States	Electronic Service		No	M-25-142
279	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-25-142
280	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-25-142
281	Cary	Stephenson	cstephenson@otpc.com	Otter Tail Power Company		215 South Cascade Street Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-142
282	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-25-142
283	Tammy	Sundbom	tsundbom@mnpower.com	Minnesota Power		null null, null United States	Electronic Service		No	M-25-142
284	Sherry	Swanson	sswanson@noblesce.com	Nobles Cooperative Electric		PO Box 58 Slayton MN, 56172 United States	Electronic Service		No	M-25-142
285	Boratha	Tan	btan@votesolar.org	Vote Solar		null null, null United States	Electronic Service		No	M-25-142
286	Bryant	Tauer	btauer@whe.org	Wright-Hennepin		6800 Electric Dr Rockford MN, 55373 United States	Electronic Service		No	M-25-142
287	Dean	Taylor	dtaylor@pluginamerica.org	Plug In America		6380 Wilshire Blvd, Suite 1000 Los Angeles CA, 90048 United States	Electronic Service		No	M-25-142
288	Whitney	Terrill	whitney@mnipl.org	Minnesota Interfaith Power & Light		null null, null United States	Electronic Service		No	M-25-142

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289	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-25-142
290	Kate	Tohme	ktohme@newleafenergy.com	New Leaf Energy		null null, null United States	Electronic Service		No	M-25-142
291	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-25-142
292	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-25-142
293	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-25-142
294	Emma Marshall	Torres	emarshall-torres@convergentep.com			null null, null United States	Electronic Service		No	M-25-142
295	Zack	Townsend	zachary.townsend@brookfieldrenewable.com	Brookfield Renewable		200 Liberty St FL 14 New York NY, 10281 United States	Electronic Service		No	M-25-142
296	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-25-142
297	Jeff	Triplett	triplettj@powersystem.org	MREA		10710 Town Square Dr NW St 201 Minneapolis MN, 55449 United States	Electronic Service		No	M-25-142
298	Adam	Tromblay	atromblay@noblesce.com	Nobles Cooperative Electric		P.O. Box 58 Slayton MN, 56127-0058 United States	Electronic Service		No	M-25-142
299	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-25-142
300	Alan	Urban	alan.m.urban@xcelenergy.com	Xcel Energy		null null, null United States	Electronic Service		No	M-25-142
301	Matt	Van Arkel	mvanarkel@newleafenergy.com			55 Technology Drive Suite 102 Lowell MA, 01851 United States	Electronic Service		No	M-25-142
302	Gary	Van Winkle	gvanwinkle@mylegalaid.org	Mid-Minnesota Legal Aid		111 N Fifth St Ste 100 Minneapolis MN, 55403 United States	Electronic Service		No	M-25-142
303	John	Vaughn	nik@rreal.org	Rural Renewable Energy Alliance		3963 8th Street SW Backus MN, 55435 United States	Electronic Service		No	M-25-142

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
304	Ellen	Veazey	lveazey@solarunitedneighbors.org	Solar United Neighbors		1350 Connecticut Ave NW Ste 412 Washington DC, 20036 United States	Electronic Service		No	M-25-142
305	Sam	Villella	sdvillella@gmail.com			10534 Alamo Street NE Blaine MN, 55449 United States	Electronic Service		No	M-25-142
306	Curt	Volkman	curt@newenergy-advisors.com	Fresh Energy		408 St Peter St Saint Paul MN, 55102 United States	Electronic Service		No	M-25-142
307	Wendy	Vorasane	wendy.vorasane@idealenergies.com			null null, null United States	Electronic Service		No	M-25-142
308	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-25-142
309	Stacy	Wahlund	swahlund@otpc.com	Otter Tail Power Company		215 S. Cascade St Fergus Falls MN, 56537 United States	Electronic Service		No	M-25-142
310	Sarah	Walinga	swalinga@solarcity.com	Energy Freedom Coalition		3055 Clearview Way San Mateo MN, 94402 United States	Electronic Service		No	M-25-142
311	Kevin	Walker	kwalker@beaconinterfaith.org	Beacon Interfaith Housing Collaborative		null null, null United States	Electronic Service		No	M-25-142
312	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-25-142
313	Jenna	Warmuth	jwarmuth@mnpower.com	Minnesota Power		30 W Superior St Duluth MN, 55802-2093 United States	Electronic Service		No	M-25-142
314	Samantha	Weaver	samantha@communitysolaraccess.org	Coalition for Community Solar Access		1380 Monroe St. Washington DC DC, 20010 United States	Electronic Service		No	M-25-142
315	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-25-142
316	Sarah	Whebbe	swhebbe@mnseia.org	MnSEIA		445 Minnesota Street Suite 730 St. Paul MN, 55101 United States	Electronic Service		No	M-25-142
317	Joshua	Williams	joshua@highlandfleets.com	Highland Electric Fleets		200 Cummings Center Suite 273-D Beverly MA, 01915 United States	Electronic Service		No	M-25-142
318	Laurie	Williams	laurie.williams@sierraclub.org	Sierra Club		Environmental Law Program	Electronic Service		No	M-25-142

#	First Name	Last Name	Email	Organization	Agency	Address	Delivery Method	Alternate Delivery Method	View Trade Secret	Service List Name
						1536 Wynkoop St Ste 200 Denver CO, 80202 United States				
319	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-25-142
320	Anthony	Willingham	anthony.willingham@electrifyamerica.com	Electrify America		1950 Opportunity Way Suite 1500 Reston VA, 20190 United States	Electronic Service		No	M-25-142
321	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-25-142
322	Heidi	Winter	hwinter@co.murray.mn.us	Murray County		2500 28th Street PO Box 57 Slayton MN, 56172 United States	Electronic Service		No	M-25-142
323	Robyn	Woeste	robynwoeste@alliantenergy.com	Interstate Power and Light Company		200 First St SE Cedar Rapids IA, 52401 United States	Electronic Service		No	M-25-142
324	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-25-142
325	Curtis	Zaun	curtis@cpzlaw.com			3254 Rice Street Little Canada MN, 55126 United States	Electronic Service		No	M-25-142
326	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-25-142
327	Christopher	Zibart	czibart@atcllc.com	American Transmission Company LLC		W234 N2000 Ridgeview Pkwy Court Waukesha WI, 53188-1022 United States	Electronic Service		No	M-25-142
328	Kurt	Zimmerman	kwz@ibew160.org	Local Union #160, IBEW		2909 Anthony Ln St Anthony Village MN, 55418-3238 United States	Electronic Service		No	M-25-142
329	Emily	Ziring	eziring@stlouispark.org	City of St. Louis Park		5005 Minnetonka Blvd St. Louis Park MN, 55416 United States	Electronic Service		No	M-25-142
330	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-25-142

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