MINNESOTA
PUBLIC UTILITIES COMMISSION

Staff Briefing Papers

Meeting Date	Tuesday July 2, 2024	Agenda Item **1
Company	Dakota Electric Association, Minnesota Power, Otter Tail Power Company, Northern States Power Company d/b/a Xcel Energy	
Docket No.	**E111/M-23-420; E015/M-23-258; E017/M-23-380; E002/M-23-452**	
	In the Matter of Distribution System Planning for Dakota Electric Association	
	In the Matter of Minnesota Power's 2023 Integrated Distribution Plan	
	In the Matter of Otter Tail Power Company's 2023 Integrated Distribution Plan	
	In the Matter of Xcel Energy's 2023 Integrated Distribution Plan	
Issues	1. Should the Commission require any additional information or adjust any of the IDP filing requirements for Dakota Electric Association, Minnesota Power, Otter Tail Power, and Xcel Energy?	
	2. Should the Commission take any other action related to Dakota Electric Association, Minnesota Power, Otter Tail Power, and Xcel Energy's IDPs?	
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✓ **Relevant Documents**	**Date**
Docket E111/M-23-420 (Dakota Electric IDP)	
Dakota Electric – Report – 2023 Integrated Distribution Plan Report	November 1, 2023
Department of Commerce - Comments	April 19, 2024
Dakota Electric – Reply Comments	May 3, 2024
Department of Commerce – Reply Comments	May 24, 2024

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The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

✓ Relevant Documents	Date
Docket E015/M-23-258 (Minnesota Power IDP)	
Minnesota Power – 2023 Integrated Distribution Plan, Parts 1 and 2	October 16, 2023
Department of Commerce – Initial Comments	April 5, 2024
Minnesota Power – Reply Comments	April 26, 2024
Department of Commerce – Reply Comments	May 10, 2024
Docket E017/M-23-380 (Otter Tail Power IDP)	
Otter Tail Power – Initial Filing, Integrated Distribution Plan	November 1, 2023
Department of Commerce – Initial Comments	March 22, 2024
Otter Tail Power – Reply Comments	April 5, 2024
Department of Commerce – Reply Comments	April 19, 2024
Docket E002/M-23-452 (Xcel Energy IDP)	
Xcel Energy, Report – 2023 Integrated Distribution Plan Parts 1-3	November 1, 2023
Department of Commerce – Initial Comments	March 4, 2024
Xcel Energy – Reply Comments	March 22, 2024
Department of Commerce – Reply Comments	April 12, 2024

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Acronyms

AMI	Advanced Metering Infrastructure
BE	Beneficial Electrification
CAIDI	Customer Average Interruption Frequency Index
CBA	Cost Benefit Analysis
CELI	Customers Experiencing Lengthy Interruptions
CEMI	Customers Experiencing Multiple Interruptions
DEA	Dakota Electric Association
DER	Distributed Energy Resource
DERMS	Distributed Energy Resource Management System
DG	Distributed Generation
DR	Demand Response
DRMS	Demand Response Management System
ECO	Energy Conservation and Optimization Plan
EUIC	Electric Utility Infrastructure Costs
EV	Electric Vehicle
FAN	Field Area Network
FLISR	Fault Location, Isolation, and Service Restoration
GEC	Grid Equity Commenters
GIS	Geographic Information System
GRIP	Grid Resilience and Innovation Partnerships
IDP	Integrated Distribution Plan
IEEE	Institute of Electrical and Electronics Engineers
IRA	Inflation Reduction Act
IRP	Integrated Resource Plan

MAIFI	Momentary Average Interruption Frequency Index
MED	Major Event Day
MP	Minnesota Power
MW	Megawatt
NWA	Non-Wires Alternatives
O&M	Operations and Maintenance
OMS	Outage Management System
OSHA	Occupational Safety and Health Administration
OTP	Otter Tail Power
PBR	Performance Based Ratemaking
QSP	Quality of Service Plan
RMP	Resilient Minneapolis Project
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisory Control and Data Acquisition
SIRI	System Infrastructure and Reliability and Improvement
SQSR	Service Quality, Safety, and Reliability
T&D	Transmission and Distribution
TCR	Transmission Cost Recovery
TEP	Transportation Electrification Plan

1. Statement of the Issues

1. Should the Commission require any additional information or adjust any of the IDP filing requirements for Dakota Electric Association, Minnesota Power, Otter Tail Power, and Xcel Energy?
2. Should the Commission take any other action related to Dakota Electric Association, Minnesota Power, Otter Tail Power, and Xcel Energy's IDPs?

2. Introduction

On November 1, 2023, Dakota Electric Association, Minnesota Power, Otter Tail Power, and Xcel Energy filed their 2023 Integrated Distribution Plans (IDP). The purpose of this briefing paper is to give a an overview of the IDPs and cover common issues and recommendations made by the Department of Commerce across all four utility IDPs. Staff has also prepared individual briefing papers for each utility IDP that summarize the plans and utility-specific recommendations.

3. Summary of IDPs

In 2018, the Commission established Integrated Distribution Planning (IDP) requirements for Minnesota's four rate regulated utilities: Dakota Electric Association (Dakota or Dakota Electric), Minnesota Power, Otter Tail Power (Otter Tail), and Xcel Energy (Xcel). Dakota, Minnesota Power, and Otter Tail are now on their third IDP, while Xcel Energy has filed four. In

2022 the Commission merged Transportation Electrification Plans (TEPs) with IDPs for the three investor-owned utilities. Table 1 indicates docket numbers for the various utility IDPs.

Table 1: IDP Docket Numbers

	Dakota Electric	Minnesota Power	Otter Tail Power	Xcel Energy
Initial Filing Requirements	18-255	18-254	18-253	18-251
2019 IDP	19-674	19-684	19-693	19-666
2021 IDP	21-728	21-390	21-612	21-694
2023 IDP	23-420	23-258	23-380	23-452

Dakota Electric Association's 2023 IDP includes the following key areas:

- Increasing timelines for transmission interconnection of new substations
- Uncertainty about future power supply capacity
- Reducing costs for the integration of DERs
- Increases in Distribution System Losses

This year, Minnesota Power will be filing its Transportation Electrification Plan (TEP) as a part of its IDP for the first time. Also new to this year's IDP is the inclusion of Minnesota Power's consultant-led non-wires alternative study. The Company outlined the following priorities for its 2023 IDP that correspond with the Company's overall goals of Customer, Community, Climate, and Company:

- Customer – Strategic undergrounding, Right Size/Time of investments for affordability, Customer access to information though MyAccount, Advanced Metering Infrastructure (AMI) and Rate Design, Customer programs
- Community – Resiliency against extreme weather, Geographic Information System Benefits, Distribution Asset Renewal for Reliability
- Climate – Electric Vehicles, Distributed Energy Resources, Energy Conservation
- Company – Grid Security (both cyber and physical), Energy Management System, Demand Side management, Distributed Energy Resource Management System, Supervisory Control and Data Acquisition (SCADA), Smart Sensors, Distribution Forecasting

In the current IDP filing, Otter Tail includes its TEP as a part of its IDP for the first time. Otter Tail Power also provided details of its relevant activities since the prior IDP, as well as its plan over the next 10 years to meet the IDP requirements. This IDP includes:

- Updates on grid modernization initiatives including its Advanced Metering System rollout, Geographical Information System (GIS) data collection, Demand Response Management System (DRMS), and its newly deployed Outage Management System (OMS),
- A report on its System Infrastructure and Reliability and Improvement (SIRI) initiative,
- Takeaways from the balance of overall projected stagnant load growth with smaller areas of growth throughout its territory,

- Results from its Distributed Energy Resource (DER) and Electric Vehicle (EV) impact study conducted in Morris, MN, and
- An update on the non-wires alternative project with OATI and the University of Minnesota Morris on developing a utility-scale electrical battery.

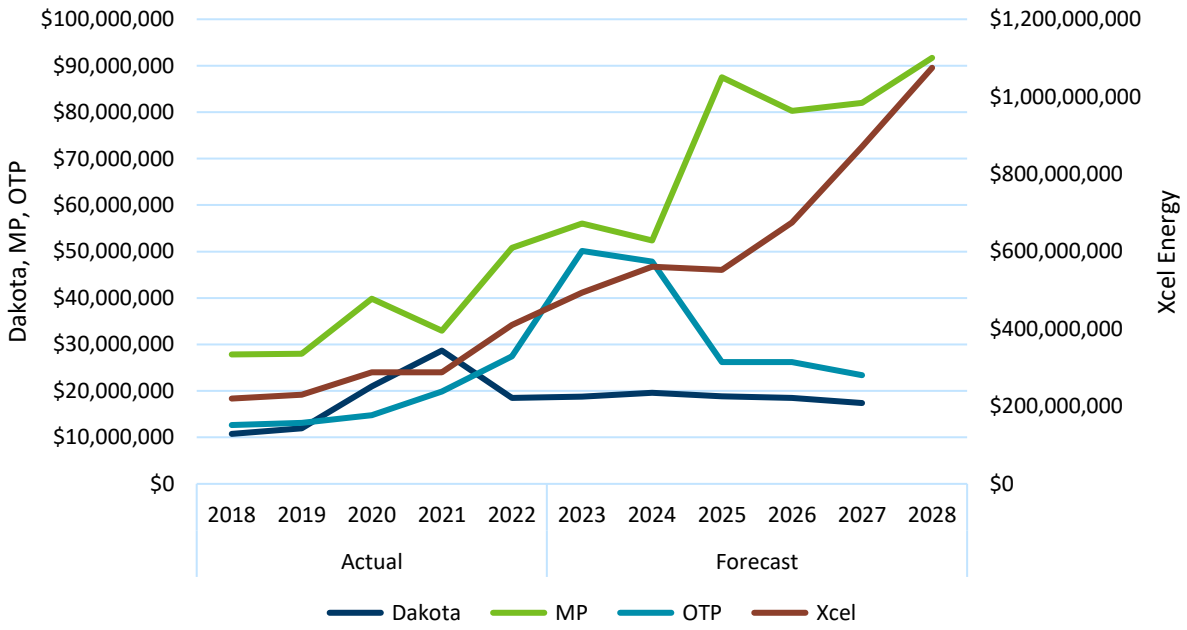
Xcel's 2023 IDP outlines the Company's strategic priorities for its distribution system investments and plans over the coming years. These include:

- Preparing for New and Increased Load
- Enabling the Clean Energy Transition
- Maintaining and Enhancing Reliability and Resilience
- Modernizing the Grid

In this IDP, Xcel seeks Commission and stakeholder guidance on its overall plans and direction, especially as it relates to the Company's future Distributed Energy Resource (DER) investments.

Staff notes that a common theme across utility IDPs this cycle is increasing distribution budgets, as evidenced in Figure 1.

Figure 1: Utility Distribution Budget Comparison, 2018-2028



Staff notes the 2021 spike in spending for Dakota Electric Association and the 2023-2024 spike in spending for Otter Tail Power are driven by their advanced metering infrastructure installations. One of the primary drivers of budget increases is the replacement of aging distribution system infrastructure. Large portions of utility systems are 50-plus years old and need to be replaced as they reach end of life. In Staff's opinion this presents a unique opportunity to replace the existing distribution grid with one that is more resilient, equitable,

and able to accommodate changing customer and technology preferences. Staff recommends the Commission focus on this aspect of IDPs to better understand how it can maximize this opportunity.

4. Acceptance of IDPs

In multiple IDPs this cycle stakeholders recommended the Commission "accept IDPs with modifications" or "approve IDPs." Staff notes that because review of IDPs does not constitute a prudency review, the Commission accepts IDPs instead of approving them. Similarly, because the Commission is accepting the IDPs, it does not make modifications to them, rather the Commission can require additional information either in the current docket, or with the next IDP. If the Commission determines that utilities have complied with the filing requirements and past orders, Staff recommends the Commission adopt the following decision option, which is included in each individual utility briefing paper:

> Accept [utility] 2023 IDP Report as in compliance with IDP reporting requirements. Acceptance of the 2023 IDP has no bearing on prudency nor certification under Minn. Stat. § 216B.2425, subd. 3.

This is listed as **Decision Option 1** in each utility IDP.

If the Commission determines a utility has not complied with the filing requirements and past orders, Staff recommends the Commission accept utility IDPs contingent upon a compliance filing of the required information. In dockets where commenters have determined a utility has not complied with the filing requirements or orders, this is listed as **Decision Option 2** with a list of deficiencies participants want remedied.

The Commission may adopt any other combination of decision options to require modifications to future IDPs, additional information in the interim, or provide policy guidance for utilities.

5. Purpose of the IDP

In its July 17, 2023 Order in Xcel Energy's most recent rate case (Docket E002/GR-21-630), the Commission ordered that:

> 29. In its next Integrated Distribution Plan (IDP), Xcel must propose and discuss ways for the IDP process to inform financial and cost recovery issues in rate cases, including but not limited to:
>
> a. The feasibility of conducting cost-benefit analyses for discretionary portions of the distribution budget.
>
> b. The decisions needed in the IDP to provide guidance to Xcel to ensure distribution spending that may be approved in forthcoming rate cases is in alignment with policy goals established through the IDP.

In its initial IDP filing, the Company indicated it did not think the Commission's rate case decision meant any fundamental changes to the IDP process were warranted, despite some

distribution system investments not being approved. Instead, the Company encouraged the Commission to make any policy goals it has for the distribution system explicit in the IDP order.[1]

In reply comments, the Department noted that it agrees with Xcel that the IDP is primarily meant to be an information filing, however it also believed "the purpose of the IDP is also to inform decisions made in other proceedings, including cost recovery proceedings." Therefore, the Department recommended that the Commission aim to clarify the role of the IDP. The Department advocates for this recommendation because the IDP is critical to establishing clear standards of review and for determining the extent to which assumptions, projections, and proposals in the IDP should be considered in other proceedings.[2]

The Department provided similar analysis in reply comments to other utility IDPs. For example, in Minnesota Power's IDP the Department noted that "recommendations in these comments are geared toward improving the quality of information included in MP's IDP with an eye toward improving the coordination between the IDP and other proceedings and enhancing the usefulness of the IDP to inform cost recovery proceedings."[3] In Otter Tail's IDP, the Department noted "the intended function of the IDP is as a document informational in nature, but with enough substance to be able to inform decisions made in other proceedings, including cost recovery proceedings."[4] And in Dakota Electric's reply comments, the Department explained that:

> A clearer understanding of the Commission's informational standards and review expectations beyond what is articulated plainly in the IDP filing requirements would be helpful for all participating parties. Further clarification from the Commission will help to establish objective standards of review for the IDP and to resolve potential disagreements relating to the extent of information that DEA should reasonably be expected to provide in its IDP filings.[5]

A. Staff Analysis

While the Department recommended that the Commission should "aim to clarify the role of the IDP," it did not provide a recommendation for what that clarification should be. Staff looks to the Commission's planning objectives to determine whether any additional clarification for the role of the IDP is necessary. The Commission's planning objectives state that the purpose of IDPs is to:

1. Maintain and enhance the safety, security, reliability, and resilience of the electricity grid, at fair and reasonable costs, consistent with the state's energy policies;
2. Enable greater customer engagement, empowerment, and options for energy services;

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[1] Xcel Energy, 2023 IDP Part 1 of 3, November 1, 2023, p. 25-26 (PDF p. 43-44)
[2] Department, Reply Comments, Docket 23-452, April 12, 2024, p. 4
[3] Department, Reply Comments, Docket 23-258, May 10, 2024, p. 9
[4] Department, Reply Comments, Docket 23-380, April 19, 2024, p. 6-7
[5] Department, Reply Comments, Docket 23-420, May 24, 2024, p. 9

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

The objectives also state that "Commission review of distribution system plans is not meant to preclude flexibility for a utility to respond to dynamic changes and on-going necessary system improvements to the distribution system; nor is it a prudency determination of any proposed system modifications or investments."

Staff believes that the existing planning objectives still encompass the direction this IDP cycle has started to move, which is to give utilities additional guidance on their distribution system investments ahead of a rate case where there is more limited time for review given the numerous other competing issues.

For example, in its IDP Xcel Energy included a placeholder budget for $190 million in 2025-2028 for proactive upgrades to increase hosting capacity for DERs, but sought guidance from stakeholders and the Commission on how best to use these funds. Stakeholders indicated that a process to determine where the upgrades would take place was necessary before the Commission should approve funding for the $190 million. This is guidance the Commission could adopt, and could require Xcel Energy to implement and have approval of such a process before it seeks cost recovery in a rate case.

Staff believes Xcel Energy's current IDP is a good example of how the role of the IDP should be envisioned going forward. In this IDP, Xcel presented its plans and vision for the distribution system. Stakeholders then weighed in on the Company's plans and raised concerns and suggestions with some portions of it, including recommendations to ensure investments are implemented in a way that advance the state's overall energy policy goals. Staff envisions the Commission will give guidance on some of these areas, such as how Xcel should implement a Distributed Energy Resource Management System (DERMs) and how to implement proactive upgrades for both new load from electrification and distributed generation.

To sum, Staff does not believe modifications to the IDP planning objectives or filing requirements are necessary at this time regarding guidance on the alignment of IDP policy goals and rate case spending. Staff believes the options available to the Commission in individual IDPs, particularly Xcel's, will provide the appropriate guidance for utilities moving forward. However, further discussion on this issue may be helpful to stakeholders and the Commission moving forward.

6. Alignment of budget categories with rate case categories

A. Xcel Energy Proposal

In its initial IDP filing, Xcel Energy requested a modification of filing requirements A.26, A.28, and A.29, which requires Xcel to provide financial information in specific categories. Xcel explained stakeholders have indicated it can be confusing when the IDP budget categories do not align with the budget categories Xcel uses internally and in other proceedings, such as rate cases. Xcel also explained because the IDP categories do not precisely align with its internal categories, it must use a manual process to create the budgets for the IDP which is time consuming. Therefore, Xcel requested the Commission modify the IDP filing requirements to remove the obligation to report in IDP categories.[6]

B. Department of Commerce

The Department generally agreed with Xcel's recommendations, stating that the modification would "provide consistency of budget categories across Xcel dockets." The Department recommended implementing similar modification for other utilities, and requested feedback from Otter Tail Power, Minnesota Power, and Dakota Electric Association as part of the Department's initial comments in each utility IDP. For Minnesota Power, the Department received feedback from the utility that it has already aligned its internal distribution budget categories with the IDP budget categories, thus the Department noted no changes were needed for Minnesota Power.[7]

C. Dakota Electric

Dakota Electric supported revising the IDP budget filing requirements, stating it had noted in prior IDPs that it does not track costs in the exact IDP categories. Instead, Dakota "tracks costs in accordance with 'what' was build versus 'why' the project was initiated." DEA stated that "tracking costs and expenses in a manner consistent with our regular planning process will be more efficient and provide the Commission and interested parties with a more relevant comparison standard."[8]

D. Otter Tail Power

Otter Tail explained that some of its internal budgeting categories overlap with the IDP budget categories, but for ones that do not there is some manual processing needed to get budget information into the correct categories. Otter Tail said the categorization effort is manageable if the Commission finds value in benchmarking categories against other Minnesota utilities. OTP noted it would support combining the system expansion – capacity and system expansion – reliability/power quality categories as they have overlap.[9]

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[6] Xcel Energy, 2023 IDP Part 1 of 3, Docket 23-452, November 1, 2023, p. 27 (PDF p. 45)
[7] Department, Initial Comments, Docket 23-258, April 5, 2024, p. 24
[8] Dakota Electric, Reply Comments, Docket 23-420, May 3, 2024, p.14
[9] Otter Tail Power, Reply Comments, Docket 23-380, April 5, 2024, p. 7

E. Staff Analysis

Staff agrees that it would be useful to have budgets categorized in a similar manner and overall does not object to having utilities provide a report of its financial data in categories consistent with cost recovery proceedings. However, Staff does have two concerns, both of which it believes can be resolved through further discussion with utilities.

First, utilities have different categories in use in current rate recovery proceedings, and in some cases, Staff was unable to find any kind of distribution categories at a cursory review of recent rate cases:

- In Xcel's 2021 Rate Case (Docket 21-630) the Company used eight categories: Asset Health and Reliability, Advanced Grid Intelligence and Security, EV Programs, New Business, Capacity, Mandates, Tool & Equipment, and Solar.
- Minnesota Power has adopted the IDP budget categories in its 2023 Rate Case (Docket 23-155)
- Staff was unable to find a high-level budget categorization of Dakota Electric Association's budget categories from its 2019 rate case (Docket 19-478)
- Staff was unable to find a high-level budget categorization of Otter Tail Power's budget categories from its 2020 rate case (Docket 20-719)

If utilities no longer report in the existing IDP financial categories the Commission will lose the ability to compare distribution spending across utilities, which is useful to see if budget increases are a trend across utilities or unique to a single utility. For example, Staff has created two comparisons using data from 2023 utility IDPs to compare the trend over time in two budget categories: Age Related and Asset Renewal and Upgrades for Reliability and Power Quality. Figures 2 and 3 indicate the percent increase over the average of 2018-2022 actual spending for the utilities.

Figure 2: % Increase in Age Related and Asset Renewal Budget from 2018-2022 Average

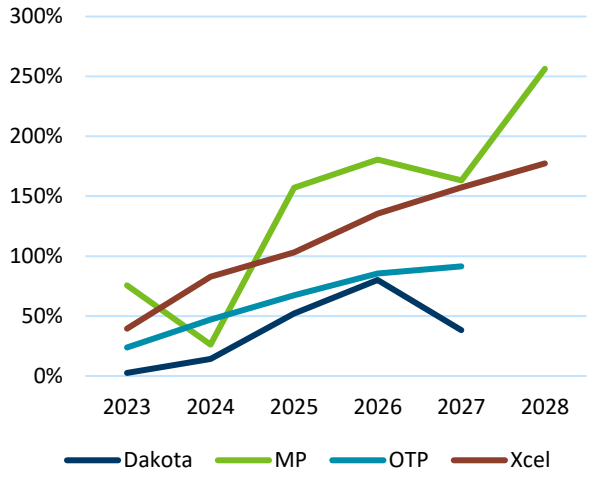
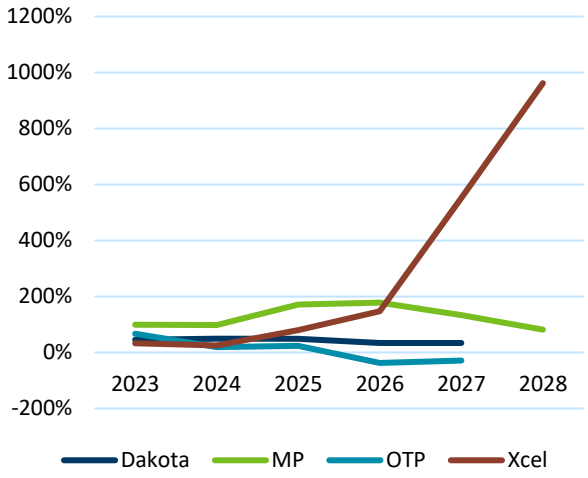


Figure 3: % Increase in Reliability and Power Quality Budget from 2018-2022 Average



As is evident from the charts, all four regulated utilities are seeing an increase in Age Related and Asset Renewal Spending over historical average. However, Xcel is seeing a much higher level of spending increase for its Reliability and Power Quality Budget from the 2018-2022 baseline than other utilities. This is an indication that Xcel's Reliability and Power Quality Budget may require additional scrutiny.

Second, as evidenced by the charts above, it is very useful to compare forecasted budgets to historic levels to view trends over time. Changing categories now could leave the Commission and stakeholders unable to compare historical spending to forecasted spending for a period, as occurred when the Commission initiated the IDPs in 2018. The Commission did not require utilities to recategorize historic information in their original IDP filings, as evidenced by the original 2018 IDP filing requirements.[10] Utilities also recategorize their distribution categories over time, for example Xcel now has eight different categories for its distribution budget vs five categories back in 2018. As noted above, Staff was unable to find distribution budget category breakdowns for Dakota Electric and Otter Tail Power, which would make the comparison of historic and forecasted data difficult if not impossible.

Staff would like to know from utilities how difficult it would be to continue providing breakdowns with current IDP categories, in addition to categories they use in rate cases and other cost recovery proceedings. While Staff acknowledges that it may create additional work for utilities to categorize budgets into uniform categories across different service providers, there are benefits for the Commission and stakeholders. As stated above, Staff generally agrees

[10] Order Approving Integrated Distribution Planning Filing Requirement for Xcel Energy, Docket E002/CI-18-251, August 30, 2018

with stakeholders that having individual utilities also report data in the same ways they do in their rate cases would facilitate better review.

Based on this analysis, Staff recommends that instead of modifying the filing requirements now, the Commission delegate authority to the Executive Secretary to work with utilities on ways to modify the budget categories that mitigate the concerns raised by Staff above. Staff notes this will not need to include Minnesota Power, as they have aligned their internal budget categories with the IDP budget categories.

If the Commission would like to adopt Xcel's proposed revision to the IDP filing requirements recommendation, it may adopt the following decision options in individual utility IDPs:

- Dakota Electric Association – **Decision Option 12**
- Otter Tail Power – **Decision Option 13**
- Xcel Energy – **Decision Option 14**

If the Commission would like to adopt Staff's recommendation, it may adopt the following decision options in individual utility IDPs:

- Dakota Electric Association – **Decision Option 11**
- Otter Tail Power – **Decision Option 12**
- Xcel Energy – **Decision Option 15**

7. Beneficial Electrification Plan

A. Department Proposal

The Department recommended Minnesota Power, Otter Tail Power, and Dakota Electric Association make supplemental filings that propose "a plan to accelerate beneficial electrification for its customers, including a discussion of how to incentivize dual fuel adoption for space heating and electrification of water heating, and provide forecasts of expected grid impacts of the same."

The Department did not make a recommendation for a Beneficial Electrification (BE) plan in Xcel Energy's IDP; however, it did recommend the Commission adopt a new filing requirement that "specifically address how beneficial electrification is anticipated to affect the distribution grid and cost allocation issues thereof."

In Minnesota Power, Otter Tail Power, and Dakota Electric's IDPs, the Department provided extensive analysis of the opportunities for beneficial electrification for individual utilities, along with the ability of beneficial electrification to help Minnesota meet various state energy goals. The Department noted that discussion of beneficial electrification is "absent" in each IDP. The Department pointed out the following deficiencies in utility planning related to electrification:

- Xcel provided a BE forecast but included little other explanation about impact to the grid from BE and how it could promote additional electrification. Xcel also only included a forecast for the residential sector.[11]
- Minnesota Power, Otter Tail Power, and Dakota Electric do not provide forecasts of anticipated heat pump adoption, which makes it difficult to assess the impacts to the distribution grid from either load growth (via fuel switching) or load shrinkage (through switching from electric resistance heat to more efficient heat pumps).[12]
- Utilities did not discuss the availability of Inflation Reduction Act incentives or State of Minnesota Incentives which will be available starting in 2025 and will require coordination to ensure customers are able to take advantage of them.[13]

B. Utility Response

i. Minnesota Power

Minnesota Power appreciated the Department's interest in accelerating beneficial electrification and the desire to understand how the Company is planning for the related load growth. MP explained that it is currently unknown how beneficial electrification will impact the grid because Inflation Reduction Act (IRA) rebates programs have not yet been implemented and the Company does not currently have any efficient fuel switching measures within its filed and approved Energy Conservation and Optimization (ECO) plan. The Company is unlikely to have significant data on the impacts of electrification prior its next IDP due November 1, 2025. Minnesota Power indicated it would prefer to focus on the impacts to the distribution system that result from electrification as part of the IDP, rather than creating new regulatory filing requirements through a beneficial electrification plan.[14]

ii. Dakota Electric

Dakota Electric supports engaging in beneficial electrification opportunities through the IRA and the Minnesota ECO Act, with plans to develop cost-effective programs in partnership with their power supplier, Great River Energy (GRE). They are focused on maximizing federal, state, and utility incentives for their members. However, the Cooperative did not believe a beneficial electrification plan is an appropriate use of limited resources while forthcoming rebate program details remain unclear. Instead, Dakota proposed to have a more in-depth discussion in its next IDP filing of how it plans to maximize electrification opportunities.

iii. Otter Tail Power

Like other utilities, Otter Tail indicated it would be premature to propose a beneficial electrification plan outside of the existing ECO plan, given the early stages of implementing its 2024-2026 ECO Triennial which is the first to include fuel switching measures. Otter Tail

[11] Department, Initial Comments, Docket 23-452, March 1, 2024, p. 27-28
[12] Department, Initial Comments, Docket 23-380, March 22, 2024, p. 22-23
[13] Department, Initial Comments, Docket 23-380, March 22, 2024, p. 23-24
[14] Minnesota Power, Reply Comments, Docket 23-258, April 26, 2024, p. 5

outlined its efforts to increase beneficial electrification in its service territory, which include some of the highest rebate amounts for heat pumps in the country, load management measures for electrified heat, and contractor education for heat pump installation. The Company also indicated that it plans to continue recruitment of heat pump load for its DR programs to mitigate distribution impacts. OTP indicated it would highlight the impacts of these programs along with the IRA rebates in its 2025 IDP.

C. Department and GEC Reply

i. Department

The Department was unimpressed with utility responses to its initial analysis. The Department pointed out that while utilities are required to include information about distributed generation and electric vehicles in their IDP, there are not similar requirements for beneficial electrification. Therefore, the Department recommended utilities provide similar levels of information about beneficial electrification as they do about electric vehicles, including:

- Determining the number of beneficial electronification devices at a system level and, preferably, on a feeder level;
- Historical adoption rates, preferably at each feeder, and forecast beneficial electrification rates for at least a system wide level;
- Identifying feeders at risk of not supporting increased adoption of beneficial electrification technologies;
- A discussion of how the IRA is impacting beneficial electrification implementation;
- A beneficial electrification plan should be reported in the IDP;
- Exploring the benefits of offering fuel switching incentives in the proposed Beneficial Electrification Plan;
- The Company should identify who its income-qualified customers are, and how to ensure equity in the distribution of incentives;

ii. Grid Equity Commenters

The Grid Equity Commenters (GEC) filed reply comments in Otter Tail Power's IDP supporting the Department's recommendation for Otter Tail to develop a beneficial electrification plan. GEC agreed with the Department that electrification aligns with state energy policy goals and that starting to plan now will equip utilities and the Commission with the information it needs to prepare for widespread electrification. GEC also agreed that it is wise to require a BE plan now instead of waiting for the next IDP given the near-term availability of heat pump incentives.[15]

D. Staff Analysis

Staff shares the utilities concern that it is premature to require formal beneficial electrification plans at this time, especially given the overlap with existing fuel switching options under ECO

[15] GEC, Reply Comments, Docket 23-380, April 19, 2024, p. 2-3

that are still in the early stages of development. Given IDPs are not currently a vehicle for the approval of individual utility programs (except for TEPs as discussed below), Staff is uncertain how adding a Beneficial Electrification Plan to the docket would work.

When the Commission merged utility TEPs with the IDP, TEPs were similarly designed as a biennial report of the utility's efforts in transportation electrification, but without approvals of individual programs and where the information filed overlapped with existing IDP requirements. This changed in 2023 with newly added legislation, Minn. Stat. 216B.1615, which expanded the scope of the TEPs to include the approval of specific programs and initiatives. No such statute exists to file a plan with the Commission for other forms of beneficial electrification. Staff understands the Department's concern about optimizing federal and state rebates but wonders whether the State Energy Office and ECO teams would be better coordinators as they have the expertise in program implementation and utility rebate programs.

However, Staff does agree that more explicit discussion of how utilities are planning for electrification impacts in load forecasts and system planning is warranted. Staff recommends that the focus be on improving forecasting and including summary information on utility fuel switching programs in ECO programing. Staff believes this could be incorporated into existing filing requirements and proposes that the Commission delegate authority to the Executive Secretary to work with the Department, utilities, and stakeholders to modify the filing requirements. The Commission has used this approach in the past when the TEPs were merged with the IDPs, and Staff received positive feedback from utilities and stakeholders on the process and how it helped to reduce overall workload.

Staff notes that based on feedback in Xcel Energy's IDP, stakeholders are interested in broader discussions on cost allocation and proactive upgrades not just for distributed generation, but also for new load from electrification, which would be an additional form to assess grid planning and impacts. While the recommendations were proposed in Xcel's docket, Staff suggests the Commission seek feedback from Minnesota Power, Otter Tail Power, and Dakota Electric at the agenda meeting if they would like to participate in a broader upgrade/cost allocation working group rather than implementing an Xcel-specific process. Staff proposes a Commission-led stakeholder process to allow flexibility to include other utilities as needed.

If the Commission would like to adopt the Department's recommendations, it may adopt the following decision options in individual utility IDPs:

- Dakota Electric Association – **Decision Option 9**
- Otter Tail Power – **Decision Option 10**
- Minnesota Power – **Decision Option 6**
- Xcel Energy – **Decision Option 16**

Staff notes that the Department did not provide a timeline for the additional beneficial electrification filing, or suggestions on what the process for feedback and evaluation would be. The Commission would need to add in these details to the decision option.

If the Commission would like to adopt Staff's recommendation to modify IDP filing requirements, it may adopt the following decision options in individual utility IDPs:

- Dakota Electric Association – **Decision Option 10**
- Otter Tail Power – **Decision Option 11**
- Minnesota Power – **Decision Option 7**
- Xcel Energy – **Decision Option 17**

8. Resiliency Metrics

Utilities provided information on their reliability and resiliency efforts throughout their IDPs. Those specific efforts are summarized individually in each separate briefing paper. The Department made similar recommendations across the four utility IDPs about developing resiliency metrics, Staff summarize those recommendations here.

A. Department Proposal

The Department explained that utilities extensively report on their efforts to maintain and improve reliability in their IDPs, however there is a lack of a clear distinction between reliability and resiliency. The Department offered a definition of resilience as "low-probability, high-consequence events […] and affect a significant number of customers, often spanning a wide geographic extent."[16] Further, the Department noted that utilities have an "opportunity to track and report system resilience as a distinct concept from reliability to ensure that investments are appropriately targeted." To establish resiliency metrics for the Company, the Department notes the Company could utilize non-weather-normalized versions of metrics, including Major Event Days (MEDs), in its Minnesota Service Quality, Safety, and Reliability Standards (SQSR) Report. The Department noted that other jurisdictions track System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) with MEDs as resilience metrics. Therefore, the Department recommended the Commission direct utilities to develop a suite of metrics to track resiliency, including SAIDI and SAIFI, MEDs, and other metrics to the extent warranted.[17]

B. Utility Response

i. Dakota Electric Association

Dakota clarified that it is not required to file service quality reports for Commission approval. Nonetheless, Dakota provides the Commission with the SQSR Report as an informational filing with the Commission. Dakota further notes that no current industry standards are available to measure resilience and Commission guidance may be warranted to track resiliency. In the meantime, Dakota does participate in the Outage Data Initiative Nationwide.[18]

ii. Minnesota Power

[16] Department, Initial Comments, Docket 23-420, May 19, 2024, p. 30
[17] Department, Reply Comments, Docket 23-380m April 19, 2024, p. 11
[18] Dakota Electric, Reply Comments, Docket 23-420, May 3, 2024, p. 16

In response to the Department's initial comment recommendation, Minnesota Power stated it currently files resiliency and reliability metrics within the Service Quality, Safety, and Reliability filing on or before April 1 of each year.[19]

iii. Otter Tail Power

Like other utilities, Otter Tail noted it submits annual service quality reports that contains both normalized and non-normalized data on SAIDI, SAIFI, CAIDI, MAIFI, CEMI and CELI. Otter Tail's report also discusses how MEDs are calculated for its system. Otter Tail noted that in discussions with other utilities, there are no agreed upon industry standards for measuring resilience today. Otter Tail noted it was also tracking the Outage Data Initiative Nationwide and the development of resilience metrics for Grid Resilience and Innovation Partnerships (GRIP) funded projects.[20]

iv. Xcel Energy

Xcel did not respond to the directly to Department's suggestion to develop a suite of metrics to track resiliency, but did explain that it already reports SAIDI, SAIFI, and CAIDI in its Service Quality Docket in response to the Department's recommendations around establishing metrics for its Fault Location, Isolation, and Service Restoration (FLISR) system.[21]

C. Staff Analysis

Utilities file SQSR reports annually with the Commission in accordance with Minn. R. 7826. This includes reporting SAIDI, SAIFI, and CAIDI both with and without MEDs, which are also referred to normalized and non-normalized events. Minnesota's utilities use the IEEE Standard 1366-2022 IEEE Guide for Electric Power Distribution Reliability Indices, which is the industry standard. MEDs are determined using the 2.5 Beta Methodology, which is a statistically based methodology that determines days which exceed a threshold SAIDI value and should be excluded from "normalized" reliability metric calculations. The cause of outages is not taken into consideration when calculating MED, therefore not all MED are necessarily caused by extreme weather. There also may be extreme weather events that cause lengthy outages for a small portion of a utility system that are not a MED, but still have a profound impact on customers.

Utilities must also set benchmarks for their reliability performance each year, typically equal to the IEEE benchmarking workgroup second quartile. Utilities also report on CEMI and CELI, again with and without MEDs. Additionally, Xcel Energy reports reliability for SAIDI, SAIFI, and CAIDI down to the feeder level, broken down by outage cause[22] and MED/non-MED, and has CEMI and CELI at the census block group level included on its Interactive Service Quality Map. Staff

[19] Minnesota Power, Reply Comments, Docket 23-258, April 26, 2024, p. 5
[20] Otter Tail Power, Reply Comments, Docket 23-380, April 5, 2024, p. 11
[21] Xcel Energy, Reply Comments, Docket 23-452, p. 40, March 22, 202
[22] Attachment L, Docket 24-27, Xcel Energy Annual Service Quality Report, April 1, 2024. Tracked outage causes include bulk power, planned outages, overhead equipment, underground equipment, lightning, power supply, public damage, vegetation, non-lightning weather, wildlife, unknown, and other

agrees with utilities that developing additional metrics in the IDPs would be duplicative of existing reporting and does not believe it would be useful at this time until there are more broadly accepted national standards for resiliency metrics. However, Staff does discuss the collection of more granular distribution data, including reliability data, in the next section, measuring distribution impact investments, that overlaps with the Department's recommendations here.

If the Commission would like to adopt the Department's recommendations, it may adopt the following decision options in individual utility IDPs:

- Dakota Electric Association – **Decision Option 6**
- Otter Tail Power – **Decision Option 7**
- Minnesota Power – **Decision Option 3**
- Xcel Energy – **Decision Option 18**

9. Measuring Distribution Investment Impacts

A. Department Proposal

In reply comments to each utility IDP, the Department recommended the Commission require utilities "to provide a proposal for measuring the capacity, reliability, ratepayer, and equity impacts of its distribution grid investments in its next IDP." The Department explained that utilities should start to quantify the impacts of traditional distribution expenditures in addition to grid modernization projects to "better demonstrate that its various budgets are right-sized." The Department outlined the following metrics it believed utilities should track for all distribution investments:

- Capacity – marginal expected increase in MW capacity (at the level of system/substation/feeder)
- Reliability – marginal expected increase in reliability, as per SAIDI/SAIFI or other metrics
- Ratepayer impacts – marginal increase/decrease in rates and average bills
- Equity impacts – impacts on reliability, rates/bills, or other metrics by income group, race, environmental justice community, and potentially other dimensions

The Department acknowledged that quantification of these impacts could be challenging, therefore it recommended the utilities provide a proposal in their next IDP that addresses "the level of granularity at which [the utility] will evaluate these impacts for each budget category, indicating for each category whether [the utility] plans to measure these impacts at the level of the budget category, program, project, or at some other level of resolution, or not at all, and specifically accounting for the impact of any expected changes to IDP budget categories."

In addition to the metrics proposed for all utilities, the Department recommended additional metrics to evaluate the cost-effectiveness of Xcel's capacity projects. The Department's proposal was made in response to significant spending increases in three areas of Xcel's IDP Budget: "Age-Related Replacement and Asset Renewal," "System Expansion or Upgrades for Capacity," and "System Expansion or Upgrades for Reliability and Power Quality." Xcel

acknowledged that most of the discretionary capacity investments fall under the three areas of significant spending increase identified by the Department.[23] In reply comments to Xcel's IDP it also recommended the Company provide a proposal for reporting on the expected benefits and costs of elective distribution grid investments in its next IDP.[24]

In support of its proposal, the Department explained that while it does not dispute the *need* for many of Xcel's capacity projects, it does recommend that Xcel quantify expected benefits from both required and discretionary capacity investments.[25] Such information could help assess prudency in future rate cases. As the Department explained, "while the IDP may not be the ideal forum to address the prudency of the projected spending levels, it is important for the information presented to allow the Commission and stakeholders to understand distribution system planning and spending."[26] Therefore the Department asked Xcel to explain for which metrics listed in Table 2 below it would report expected results for its elective distribution grid investments and then, which metrics should be reported on an ongoing basis.[27]

[23] Xcel Energy, Reply Comments, Docket 23-452, March 22, 2024, p. 26
[24] Department, Reply Comments, Docket 23-452, April 12, 2024, p. 10
[25] Department, Reply Comments, Docket 23-452, April 12, 2024 p. 8-9
[26] Department, Initial Comments, Docket 23-452, March 1, 2024, p. 18
[27] Department, Reply Comments, Docket 23-452, April 12, 2024, p. 11, 17-18

Table 2: Proposed metrics for discretionary distribution grid investments for Xcel Energy

Impact Category	Specific Measures Suggested
Reliability and Resiliency	SAIDI (at system and subsystem levels – with and without major event days) SAIFI (at system and subsystem levels – with and without major event days)
Safety	OSHA metrics (e.g., recordable incident rate, DART rate)
DER	Incremental DER hosting capacity Incremental capacity of DER providing grid services MW savings from demand response Reduction in curtailment of DER
GHG Reduction	Incremental integration of renewables Increased timeliness of interconnection of renewables Incremental emissions reductions from renewables Incremental emissions reductions from peak reduction/load shifting Incremental emissions reduction from electrification
Grid Investment and Operational Efficiency	Avoided generation capacity costs Avoided energy costs Avoided O&M costs Reduction in line losses (T&D) Reduced ancillary services costs Reduced environmental compliance costs Cost savings from NWAs
Customer Engagement	Incremental customer participation in utility programs and rates Increased customer satisfaction
Other	Number of new Jobs created Improvements in air quality and health Changes in Rates and bills

B. Utility Responses

In response, Xcel stated that, "additional metrics are not needed [as] capacity projects must be done to maintain the reliability of our system, and the project risk score [or benefit-cost ratio] is the measure we should prioritize."[28] Xcel highlighted its existing risk assessment process:

> As discussed in more detail in Attachment D: Risk Scoring Methodology of our 2023 IDP, we already apply a risk scoring methodology to evaluate and prioritize Capacity projects. This risk analysis is one type of CBA and considers financial benefits, reliability benefits, and costs for a specific project. The analysis also applies other jurisdictional factors, such as discount rates, tax rates, inflation rates, and SAIDI data to the financial benefit and reliability benefit. The benefit-cost ratio, or Risk Score, is calculated based on the benefits (both financial and

[28] Xcel Energy, Reply Comments, Docket 23-452, March 22, 2024 p. 27, 39. Company states it discusses risk scoring in Attachment D: Risk Scoring Methodology of 2023 IDP.

reliability) and annualized cost for each project. Attachment E: Risk Scored Projects of our IDP includes information and risk scores for 108 Capacity projects.[29]

Because the Department made its recommendation for utilities to develop proposals to measure the impacts of its distribution grid investments in reply comments, other utilities have not had an opportunity to respond to the request.

C. Staff Analysis

Citing an increase in distribution system spending, the Department recommended utilities develop a suite of metrics to track the extent to which investments are producing their expected benefits. To this extent, the Department has requested utilities predict the incremental improvements from its investments and for some metrics, pair this with ongoing data collection.

Staff is concerned about the degree of accuracy of such predictions in general, as well as the accuracy of predicting incremental benefits as system investments may work in concert to improve reliability or other aspects of a utility's system. To this end, even if predictions of incremental improvements are made, distribution system data are collected across multiple proceedings such that it may be impossible to prove a single cause-and-effect relationship between an investment and, for example, an improved SAIDI score.

Xcel confronted this same issue in its Transmission Cost Recovery Rider (TCR) Compliance filing regarding the basis for cost recovery of AMI and Field Area Network (FAN) investments, stating "the fact that the benefits modeled in our CBA will not necessarily create near-term, direct cost savings or net budget reductions – combined with the reality that the benefits and metrics are affected by outside factors – create challenges in ongoing evaluation of the benefits in the context of AMI."[30]

In terms of the Department's additional metrics for Xcel's discretionary investments, Staff notes that a large number of the proposed metrics are already collected across different dockets, such as the Transmission Cost Recovery rider (20-814), the Performance Based Metrics docket (17-40), the annual SQSR report (24-27), the annual Hosting Capacity Analysis (23-466), the Annual DER Interconnection Report (24-10), MN DIP Annual Reporting (16-521), the Qualifying Facilities Report (24-09), the DR annual report (20-421), and Xcel's ECO triennial (23-92).

While other utilities do not have the same extent of reporting as Xcel Energy, they still file annual SQSR reports, the Annual DER Interconnection Report (24-10), MN DIP Annual Reporting (16-521), the Qualifying Facilities Report (24-09), and ECO triennials (23-92), which contain much of the data requested by the Department.

Table 3 provides an overview indicating which types of data are already collected in dockets, at what level of granularity, and considers what, if any, consequences are tied to performance.

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[29] Xcel Energy, Reply Comments, Docket 23-452, March 22, 2024 p. 27

[30] September 25, 2023 Compliance Filing, Transmission Cost Recovery Rider, E002/M-21-814, p. 5

Table 3: Distribution Data Collected Across Dockets

Granularity	Docket	Utilities	Data Collected	Impact of Reported Data
System	QSP	Xcel	SAIDI, SAIFI, and customer service	Penalties for underperformance
System	PBR	Xcel	SAIDI, SAIFI, additional reliability metrics, emissions, rates and bills, equity, capacity, and customer satisfaction.	In 2026 Commission will consider performance targets and possible incentive mechanisms.
System	ECO	All utilities	Energy savings- a public electric utility has an annual energy-savings goal equivalent to 1.75 percent of gross annual retail energy sales.	DSM financial incentive based on energy savings is calculated by utilities in accordance with the Commission Order
System; Reliability at Feeder and Work Center	SQSR	All utilities, Dakota optional	SAIDI and SAIFI data at more granular levels as well as safety and various customer service metrics system-wide	Reporting is used to track system and customer status but not to make broad programmatic or policy changes.
Census Block Group	SQSR (Equity Map)	Xcel	Mapping CELI 12, CEMI 6, disconnections, and low-income program participation	Commission discussing how to analyze map data
Customers with AMI	TCR	Xcel	Customer minutes of outage, as well as emissions, rates and bills, capacity, customer satisfaction, installation, NWAs, and avoided costs.	Cost recovery for AMI and FAN based on performance
Spending Type	IDP, Rate Case	Xcel	Spending on Asset Health and Reliability projects	Department recommends differentiating Proactive versus Reactive spending
Project	24-10, 16-521	All utilities	Number of DERs, Interconnection timelines	
Feeder	HCA	Xcel	Hosting Capacity availability	

Staff's docket review captured in Table 3 shows that many of the data requested by the Department are already collected in other dockets. However, many of the data are collected at a system-level to show system-wide impacts of policies or programs. Staff draws two conclusions from this. First, it is feasible for utilities to collect many of the data requested by the Department in the instant proceeding as those data are already collected in other proceedings. Second, because the data requested by the Department are already collected in

other proceedings, but at the *system* level, additional *system*-level data in the instant proceeding may not be as valuable as data collected at a more granular scale.

To this extent, Staff's docket review also shows that Xcel Energy already collects many data points at a more granular scale than system-wide. For example, the SQSR and Xcel's Interactive Service Quality Map filings show that the Company can file data for specific geographic locations like the feeder and census block group levels. Importantly, these more granular data are filed for reliability, an important impact for distribution system spending. Staff anticipate that other utilities could have access to similar data as reported on Xcel Energy's Interactive Service Quality Map, and would recommend requesting feedback from Dakota, MP, and OTP on whether they have the capabilities to create similar maps depicting reliability data at the census block level.

Across dockets, Staff sees stakeholders requesting information to understand the customer impacts of utility investments and ensure that ratepayers are receiving the promised benefits in an equitable manner. Equity concerns indicate that the underlying issue is not necessarily *which* metrics are being collected, but rather at what *granularity* they are collected. Staff also believes there is one important missing piece of information to evaluate distribution spending: a geographical breakdown of where utilities are spending their distribution budgets. This has been raised by participants in Xcel Energy's IDP, noting that locational distribution spending would assist in evaluating whether distribution investments are being spread equitably throughout the Company's service territory.

Staff seeks to balance the desire for accountability through reporting and evaluation in the IDPs with the fact that similar metrics are being called upon across multiple dockets to provide proof that ratepayers are indeed benefitting from their investments. To find this balance, Staff provides an alternative to the Department's proposal, where Staff would compile a list of existing distribution reporting requirements across dockets, then work with utilities and stakeholders to determine a list of distribution data utilities would report on a granular level annually in a centralized manner.

Staff notes, however, that the call for more granular reporting of distribution system metrics is not necessarily a call for utilities to forecast the impacts of specific distribution investments. As noted above, Staff has concerns about being able to attribute specific improvements to individual programs. While utilities may predict the expected benefits of its investments for purposes of a cost benefit analysis, it may not be practical to hold them to those predictions by expecting actual benefits that are exactly equal to predictions. Staff is hesitant to create a situation where a plethora of metrics are proposed, but in practice are not feasible or meaningful to evaluate performance.

Staff believes that by tracking a limited set of actual performance data, stakeholders and the Commission will be equipped to ensure investments are being targeted to areas of underperformance and determined whether there are inequities that need to be remedied.

Therefore, Staff recommends the following decision option:

Delegate authority to the Executive Secretary work with stakeholders and utilities to discuss metrics reported across distribution dockets and delegate authority to accept via notice a stakeholder agreement on metrics reporting if one is reached. At minimum, the proposal and metrics should include the following components:

- Reliability metrics such as SAIDI, SAIFI, CAIDI, CEMI, and CELI
- Distribution spending by IDP budget categories
- Whether there is available hosting capacity for generation or load at the primary system level[31]
- Demographic data including race and income
- Installed DERs, ECO rebates, DR customers enrolled in programs, etc.
- Metrics reported at a feeder and/or census block group level

Staff notes a possible outcome would be the creation of interactive maps like Xcel Energy's Service Quality Map for Dakota, Minnesota Power, and Otter Tail Power, and the addition of metrics to Xcel's existing map.

Though not aiming to prescribe how the Commission or stakeholders should review the utility data, Staff notes that it is important to collect data that can be compared to standards or historical data to gauge changes in performance. The data Staff proposes utilities collect could be compared to both IEEE reliability benchmarks, as is done in SQSR, as well as a rolling historic average. Budgets could be compared to historic data as well as spending in other categories of utility budgets. Evidence of positive impact could be, for example, improvements in reliability commensurate with spending. Conversely, spending without evidence of a reliability improvement could suggest that utilities should have employed a different strategy to provide reliable service to its customers.

If the Commission would like to adopt the Department's recommendation, it may adopt the following decision options in individual utility IDPs:

- Dakota Electric Association – **Decision Option 7**
- Otter Tail Power – **Decision Option 8**
- Minnesota Power – **Decision Option 4**
- Xcel Energy – **Decision Option 32**

If the Commission would like to adopt Staff's recommendation, it may adopt the following decision options in individual utility IDPs:

- Dakota Electric Association – **Decision Option 8**
- Otter Tail Power – **Decision Option 9**
- Minnesota Power – **Decision Option 5**
- Xcel Energy – **Decision Option 33**

[31] Staff notes this does not need to be an exact quantification, rather an indicate of whether the system is constrained at that location.

10. Alignment of IDP with other utility processes

A. Department Proposal

The Department provided the following observation about coordination between IDPs and other planning processes:

> The IDP and the IRP are currently separate processes but are not wholly unrelated. Currently all IDPs, including Xcel's IDP, are filed simultaneously on a schedule that is unrelated to other Commission proceedings. As such, there is no reason to assume that the inputs to Xcel's IDP analysis will be the same or similar to the inputs to Xcel's IRP—the difference in timing alone creates the potential for significant differences. In addition, due to the timing of Xcel's IDP, there is no reason to assume that the outputs from Xcel's IDP could be used as inputs to Xcel's IRP or any other proceeding. In essence, the current filing schedule leaves the IDP process as a standalone proceeding whose inputs and outputs are not easily integrated into any other Commission proceeding.
>
> Finding an approach that integrates these processes and addresses the timing of these filings would be beneficial. For example, one approach would be to have Xcel's IRP and IDP filed on the same schedule so that they share a common set of inputs. Another approach would be to sequence the dockets so that the IDP is completed first and the IDP outputs can then be used as inputs to the IRP.[32]

The Department requested feedback from Xcel, Minnesota Power, and Otter Tail Power on aligning various processes.

B. Utility Responses

In response to the Department, Otter Tail noted that there are a number of proceedings that overlap with the topics covered in the IDP:

- Electric Utility Infrastructure Costs (EUIC)
- Energy Conservation and Optimization (ECO)
- Service Quality, Safety, and Reliability (SQSR)
- Transportation Electrification Plan (TEP) – now merged into the IDP
- Joint Investigation into the Impacts of the Federal Inflation Reduction Act

Otter Tail explained that:

> More important than integrating the filing timing of each of these dockets is an understanding of what is requested and filed in each docket. At this time, Otter Tail is supportive of leaving the filing timing as is but recommends stakeholders and reviewers be aware of these other dockets. Ultimately, a review of the most current utility filing in each of the areas above would be helpful ahead of reviewing

[32] Department, Initial Comments, Docket 23-452, March 1, 2024, p. 59

> the utility IDP. The holistic understanding of each of these dockets hopefully leads to more efficient administration of each of the proceedings.[33]

Minnesota Power noted that at the Commission's April 2, 2024 planning meeting on distribution system issues, there was a discussion of how to improve coordination between the IDP, the Integrated Resource Plan, Transmission Planning, and rate cases. Minnesota Power indicated it is supportive of continued discussions on how to have procedural improvements between the processes.[34]

In response to stakeholder requests to align IDP with IRP filing deadlines, Xcel reiterated the challenges of doing so. Specifically, both processes have very different planning cycle durations and cadences. The IRP indicates the size, type, and timing of resource need over a 15-year time horizon, while the IDP is a five-year budget of specific projects and potential investments. The IDP is also informed by data in the prior year to influence capital budgets and forecasted budgets.

Xcel noted that even if the IDP and IRP filings were due on the same day, the Company would not be able to fully align the forecasts because of the inherent differences in the purpose and construction of the IDP and IRP. However, Xcel has proposed measures to align such forecasts where possible in Appendix E of the IRP filed on February 1, 2024, in Docket No. E0002/RP-24-67.[35]

C. Staff Analysis

The Department did not provide a response or recommendation in reply comments on this topic. Still, Staff provides additional insights into the alignment of the IDP with different utility processes and the steps the Commission has taken to ensure consistency across dockets.

As noted by Xcel, the planning and forecasting for IDPs and IRPs takes place on a different cycle. Staff believes it is less important that forecasts match exactly and more important that they are based on the same methodology, which the Commission has taken steps to address by ordering both Xcel and Minnesota Power to set "forecasts for distributed energy resources consistently in its resource plan and its Integrated Distribution Plan."[36]

Additionally, Staff is concerned that trying to sequence IDPs with IRPs, or even rate cases, would result in inconsistent filing periods for the IDPs, leaving the Commission without key information about the distribution system. In recent years there has been as much as 5 years between filing dates for IRPs, with multiple extension requests. In contrast, IDPs are filed every two years which gives the Commission consistent insight into the distribution planning process. Rate cases are filed at the discretion of the utility, again on an intermittent basis. Staff believes that it is more important to ensure consistency in planning processes rather than exact

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[33] Otter Tail Power, Reply Comments, Docket 23-380, April 5, 2024, p. 7-8
[34] Minnesota Power, Reply Comments, Docket 23-258, April 26, 2024, p. 10
[35] Xcel Energy, Reply Comments, Docket 23-452, March 22, 2024, p. 48-49
[36] Xcel Energy Filing Requirement 3.A.5.a

duplication between different dockets. Information and utility systems are constantly changing to keep pace with new developments and shifting circumstances.

Therefore, Staff does not recommend any additional changes to the sequencing of IDPs with IRPs or with other processes. Staff believes that the consistent two-year cycle for IDPs provides important, regular transparency into utility system planning and keeps the Commission up to date on important developments regarding the distribution system.

11. Cost Benefit Analysis of Grid Mod Investments

In individual IDP comments, the Department made multiple requests for utilities to file cost benefit analyses of their past, current, and upcoming grid modernization project. These requests are summarized in individual briefing papers along with associated decision options, and here Staff provides context around past discussions about cost benefit analysis and an overall recommendation.

In 2022, the Department retained Synapse Energy Economics, Inc. as its technical expert to assist with the evaluation of Xcel's grid modernization investments. As a part of its technical assistance, Synapse developed a report titled "Review and Assessment of Grid Modernization Plans: Guidance for Regulators, Utilities, and Other Stakeholders," also referred to as the "Guidance Document." The Department filed the Guidance Document across a variety of dockets and recommended the Commission establish a standard of review by creating a link between IDPs and grid modernization projects via the cost benefit analysis outlined in the Guidance Document. Utilities and other stakeholders expressed concerns about both the development and recommendations contained within the Guidance Document. The Commission considered the Department's recommendations related to the Guidance Document but declined to adopt them in its October 14, 2022 Order, stating:

> The Commission appreciates the Department's work to develop a framework for evaluating utility grid modernization investments and encourages utilities to continue working with the Department to provide information that aids the Department's evaluation of grid modernization proposals. The Commission will not, however, adopt the Guidance Document for future use in all cases and will instead continue to evaluate utility filings and their proposals on a case-by-case basis going forward.

Staff believes that cost benefit analyses are one important tool the Commission may use when it evaluates utility investments, especially when associated with a cost recovery request. However, they are not the only way to judge whether an investment is in the public interest. While cost benefit analyses can enumerate monetary costs and benefits, there are other intangible costs and benefits that are not captured. Staff's view is that utilities should aim to give the best available information about the costs and benefits of grid modernization projects within their IDPs, but formal, in-depth cost benefit analysis are best examined in cost recovery or certification requests. This is consistent with the approach the Commission adopted in the 2021 IDPs and other proceedings such as the Transmission Cost Recovery Rider.

However, Staff does believe that having some additional specific information about grid modernization projects could provide useful context in IDP review to give the Commission a sense of the scale of investments utilities are providing. For example, if a utility is considering implementing a Distributed Energy Resource Management System (DERMS), it could provide a high and low estimate for the total cost based on what other utilities have observed. Similarly, if a utility is considering an investment like Fault Location, Isolation, and Service Restoration (FLISR) that improves reliability, it could quantify the reliability savings other utilities have realized from similar installations. This would avoid having utilities be tied to specific outcomes for its individual projects but help stakeholders and the Commission understand the scope of the project in the context of other utility spending. Staff does not believe a decision option is necessary but would request utilities provide this type of information in future IDPs for upcoming grid modernization improvements.

If the Commission wishes to adopt the Department's recommendations on cost benefit analysis, it could adopt the following decision options in individual utility IDP dockets:

- Dakota Electric Association – **Decision Option 2**
- Otter Tail Power – **Decision Option 2**
- Minnesota Power – **Decision Option 2a**
- Xcel Energy – **Decision Options 2a, 46, 49**

12. Decision Options

Staff provides a list of decision options referenced in the briefing papers above for transparency, but as noted at the outset of this briefing paper recommends adopting them in individual utility IDPs, where they are listed as relevant.

1. Delegate authority to the Executive Secretary to work with [utility] and stakeholders on ways to modify the IDP budget categories to allow for comparisons between utilities and comparison of historic to forecasted data. Delegate authority to the Executive Secretary to approve via notice a stakeholder agreement on amended filing requirements if one is reached. (Staff)
   OR
2. Modify [utility] IDP filing requirements to amend requirement 3.A.26, 3.A.28, and 3.A.29 to remove the requirement that financial information be reported in IDP-specific categories as follows:

3.A.26 Historical distribution system spending for the past 5 years~~, in each category:~~ Information shall be reflected in categories consistent with the Company's cost recovery proceedings.

~~a. Age-Related Replacements and Asset Renewal~~
~~b. System Expansion or Upgrades for Capacity c. System Expansion or Upgrades for Reliability and Power Quality d. New Customer Projects and New Revenue~~
~~e. Grid Modernization and Pilot Projects~~
~~f. Projects related to local (or other) government requirements~~
~~g. Metering~~
~~h. Other~~
~~i. Electric Vehicle Programs~~
~~1) Capital Costs~~
~~2) O&M Costs~~
~~3) Marketing and Communications~~
~~4) Other (provide explanation of what is in "other")~~

~~The Company may provide in the IDP any 2018 or earlier data in the following rate case categories:~~
~~a. Asset Health~~
~~b. New Business~~
~~c. Capacity~~
~~d. Fleet, Tools, and Equipment~~
~~e. Grid Modernization~~

For each category, provide a description of what items and investments are included.

3.A.28 Projected distribution system spending for 5 years into the future ~~for the categories listed above~~ in categories consistent with the Company's cost recovery proceedings. ~~itemizing any non-traditional distribution projects.~~

3.A.29 Planned distribution capital projects, including drivers for the project, timeline for improvement, summary of anticipated changes in historic spending. Projects shall be reflected in categories consistent with the Company's cost recovery proceedings. ~~Driver categories should include:~~

~~a. Age-Related Replacements and Asset Renewal~~
~~b. System Expansion or Upgrades for Capacity~~
~~c. System Expansion or Upgrades for Reliability and Power Quality~~
~~d. New Customer Projects and New Revenue~~
~~e. Grid Modernization and Pilot Projects~~
~~f. Projects related to local (or other) government requirements~~
~~g. Metering~~
~~h. Other~~
~~i. Electric Vehicle Programs~~
~~1) Capital Costs~~
~~2) O&M Costs~~
~~3) Marketing and Communications~~
~~4) Other (provide explanation of what is in "other")~~

3. Delegate Authority to the Executive Secretary to work with the [utility], the Department, and stakeholders to modify the IDP filing requirements to include discussions of the impacts of electrification where appropriate. Delegate authority to the Executive Secretary to approve via notice a stakeholder agreement on amended filing requirements if one is reached. (Staff)

OR

4. Require [utility] to make a supplemental filing within [180 days] of the Commission's Order in this docket that proposes a plan to accelerate beneficial electrification for its customers, including a discussion of how to incentivize dual fuel adoption for space heating and electrification of water heating, and provide forecasts of expected grid impacts of the same. (Department)

5. Direct [utility] to develop a suite of metrics to track resiliency, including SAIDI with MEDs and SAIFI with MEDs, and other metrics to the extent warranted in its [2024 IDP Annual Compliance filing/2025 IDP]. (Department)

6. Require [utility] to provide a proposal for measuring the capacity, reliability, ratepayer, and equity impacts of its distribution grid investments in its next IDP. This proposal shall specifically address the level of granularity at which the utility will evaluate these impacts for each budget category, indicating for each category whether the utility plans to measure these impacts at the level of the budget category, program, project, or at some other level of resolution, or not at all, and specifically accounting for the impact of any expected changes to IDP budget categories. (Department)

   OR

7. Delegate authority to the Executive Secretary work with [utility] and stakeholders to discuss metrics reported across distribution dockets and delegate authority to the Executive Secretary to approve via notice a stakeholder agreement on metrics reporting if one is reached. At minimum, the proposal and metrics should include the following components:
   a. Reliability metrics such as SAIDI, SAIFI, CAIDI, CEMI, and CELI
   b. Distribution spending by IDP budget categories
   c. Whether there is available hosting capacity for generation or load at the primary system level
   d. Demographic data including race and income
   e. Installed DERs, ECO rebates, DR customers enrolled in programs
   f. Metrics reported at a feeder and/or census block group level

   (Staff)