

May 16, 2022

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

RE: **Comments of the Minnesota Department of Commerce, Division of Energy Resources**  
Docket No. E015/M-21-390

Dear Mr. Seuffert:

Attached are the comments of the Minnesota Department of Commerce, Division of Energy Resources (Department) in the following matter:

Minnesota Power's 2021 Integrated Distribution Plan

In the attached comments the Department provides its response to the Minnesota Public Utilities Commission's (Commission) November 15, 2021 *Notice of Comment Period In the Matter of Distribution System Planning for Minnesota Power*.

The Department requests additional information from Minnesota Power and will provide final recommendations in Party Reply comments.

The Department is available to respond to any questions the Commission may have on this matter.

Sincerely,

/s/ MATTHEW LANDI  
Rates Analyst

/s/ CHRISTOPHER WATKINS  
Rates Analyst

ML/CW/ja  
Attachment



## Before the Minnesota Public Utilities Commission

### Comments of the Minnesota Department of Commerce Division of Energy Resources

Docket No. E015/M-21-390

#### I. INTRODUCTION AND BACKGROUND

##### A. OVERVIEW

On October 25, 2021, Minnesota Power (MP, or the Company) filed its 2021 Integrated Distribution Plan (2021 IDP)<sup>1</sup> as required by the Minnesota Public Utilities Commission (Commission) in its November 2, 2020 Order in Docket No. E015/M-19-684 (the 2020 Order).<sup>2</sup>

On November 15, 2021, the Commission issued a *Notice of Comment Period In the Matter of Distribution System Planning for Minnesota Power* (Notice). The Commission's Notice seeks comments on the issue of whether the Commission should accept or reject Minnesota Power's 2021 Integrated Distribution Plan (IDP).

The Commission's Notice also identifies five topics open for comment, which are as follows:

1. Should the Commission accept or reject Minnesota Power's Integrated Distribution Plan (IDP)?
2. Does the IDP filed by Minnesota Power achieve the planning objectives outlined in the filing requirements as amended by the Commission's November 2, 2020 Order? [footnote omitted]
3. What IDP filing requirements provide the most value to the process, and why?
4. Are there filing requirements that are not information and/or should be deleted or modified, and why?
5. Are there other issues or concerns related to this matter?

---

<sup>1</sup> Minnesota Power 2021 IDP Report, Docket No. E015/M-21-390. November 1, 2021. Accessed at (PUBLIC): <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={90D7B87C-0000-C11A-B189-92C523CE4428}&documentTitle=202110-179112-01>.

<sup>2</sup> *In the Matter of Minnesota Power's 2019 Integrated Distribution System Plan*, Docket No. E015/M-19-684 (2019 IDP). ORDER ACCEPTING INTEGRATED DISTRIBUTION PLAN AND MODIFYING FILING REQUIREMENTS. November 2, 2020. Accessed at:

<https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={40E08A75-0000-CD3E-9513-C4079E3DDBA8}&documentTitle=202011-167944-02>.

*B. MINNESOTA POWER'S 2021 IDP*

Minnesota Power's IDP is required to be filed biennially and to be responsive to the Commission's IDP Planning Objectives, consisting of information required by the Commission's IDP Filing Requirements.<sup>3</sup> The IDP is intended to build upon Commission, stakeholder, and customer understanding of the Company's distribution system planning in two key areas: (1) development of a framework for ongoing distribution system planning and related analyses (such as DER forecasts); and (2) grid modernization implementation plans and analyses. At a high level, MP's 2021 IDP provides an overview of its distribution system management strategies and how the Company plans the system to be responsive to state energy policies while meeting customers' current and future needs.

The Commission's IDP Filing Requirements require utilities to provide information and analyses related to internal distribution system planning processes, historical actual and budgeted capital expenditures, present and forecasted levels of distributed energy resources (DER), forecasted levels of energy demand, hosting capacity data, and non-wires alternatives (NWA) analysis. Utilities are also required to discuss how their IDPs fulfill the Commission's IDP Planning Objectives. MP provided a Compliance Matrix in Appendix A of its 2021 IDP which indicates where in the IDP the Company addressed each of the Commission's IDP Filing Requirements, and included a separate Compliance Matrix in Appendix G of its 2021 IDP which listed where in the IDP the Company addressed each of the Commission's IDP Planning Objectives.

MP's 2019 IDP projected total distribution spending of approximately \$167.86 million between 2020 and 2024. MP's 2021 IDP increased that projection to \$221.12 million between 2022 and 2026.

Table 1 below provides a high-level overview of the projected spending levels MP provided in its 2019 and 2021 IDPs, organized by the IDP Budget Categories required by IDP Filing Requirement 3.A.29. IDP Filing Requirement 3.A.29 requires MP to provide information on "[p]lanned distribution capital projects, including drivers for the project, timeline for improvement, summary of anticipated changes in historic spending"<sup>4</sup> and contains eight IDP Budget Categories, which are listed in the table below.

---

<sup>3</sup> The Department's review of each utility's 2019 IDP proceedings found that the only comprehensive list of IDP filing requirements that reflect modifications made by the Commission's Orders related to utilities' 2019 IDPs is found in the Commission's December 4, 2020 *Notice of Stakeholder Meeting*, which was filed in each utility's 2019 IDP proceeding. See Attachment 3 of the December 4, 2020 *Notice of Stakeholder Meeting* for red-line version of Minnesota Power's IDP Filing Requirements (IDP Filing Requirements). Accessed at:

<https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={50352E76-0000-C019-90D8-2EE7FED17752}&documentTitle=202012-168786-01.>

<sup>4</sup> IDP Filing Requirement 3.A.29.

**Table 1. Comparison of MP Distribution System Spending Projections:  
2019 and 2021 IDP**

|                                                                           | 2019 IDP<br>(2020 - 2024) | 2021 IDP<br>(2022 - 2026) | Δ               |
|---------------------------------------------------------------------------|---------------------------|---------------------------|-----------------|
| IDP Budget Category                                                       | Spending<br>(Millions)    | Spending<br>(Millions)    | (Millions)      |
| <i>Age-Related Replacement and Asset Renewal</i>                          | \$ 76.33                  | \$ 112.75                 | \$ 36.42        |
| <i>System Expansion or Upgrades for Capacity</i>                          | \$ 3.71                   | \$ 5.22                   | \$ 1.51         |
| <i>System Expansion or Upgrades for Reliability<br/>and Power Quality</i> | \$ 29.29                  | \$ 39.97                  | \$ 10.68        |
| <i>New Customer Projects and New Revenue</i>                              | \$ 21.44                  | \$ 21.29                  | \$ (0.16)       |
| <i>Grid Modernization and Pilot Programs</i>                              | \$ 11.25                  | \$ 18.90                  | \$ 7.65         |
| <i>Projects related to Local (or other)<br/>Government Requirements</i>   | \$ 2.70                   | \$ 3.75                   | \$ 1.05         |
| <i>Metering</i>                                                           | \$ 18.25                  | \$ 13.65                  | \$ (4.60)       |
| <i>Other</i>                                                              | \$ 4.90                   | \$ 5.60                   | \$ 0.71         |
| <b>Total Spending</b>                                                     | <b>\$ 167.86</b>          | <b>\$ 221.12</b>          | <b>\$ 53.26</b> |

For each IDP Budget Category and overall, this table calculates the difference in projected spending between the 2019 IDP and the 2021 IDP.

These filings were made two years apart from one another (on November 1, 2019 and November 1, 2021), and overall distribution system spending projections increased from approximately \$167.86 million to \$221.12 million over that time period.

It is important to note that this isn't an apples-to-apples comparison given the periods analyzed in each filing (e.g., the 2019 IDP period covers years 2020 through 2024, whereas the 2021 IDP period covers years 2022 through 2026).

To obtain a better apples-to-apples comparison between each filing, the Department reviewed the annual spending projections provided in each filing and was able to compare projected spending between the 2022 through 2024 period. Table 2 below provides such a comparison.

**Table 2. Comparison of MP's Distribution System Spending Projections for the 2022 – 2024 Period:  
2019 and 2021 IDP**

|                                                                           | 2019 IDP<br>(2022 - 2024) | 2021 IDP<br>(2022 - 2024) | Δ               |
|---------------------------------------------------------------------------|---------------------------|---------------------------|-----------------|
| IDP Budget Category                                                       | Spending<br>(Millions)    | Spending<br>(Millions)    | (Millions)      |
| <i>Age-Related Replacement and Asset Renewal</i>                          | \$54.210                  | \$66.820                  | \$ 12.61        |
| <i>System Expansion or Upgrades for Capacity</i>                          | \$2.800                   | \$3.993                   | \$ 1.19         |
| <i>System Expansion or Upgrades for Reliability<br/>and Power Quality</i> | \$21.420                  | \$22.505                  | \$ 1.09         |
| <i>New Customer Projects and New Revenue</i>                              | \$12.771                  | \$12.771                  | \$ -            |
| <i>Grid Modernization and Pilot Programs</i>                              | \$8.500                   | \$9.100                   | \$ 0.60         |
| <i>Projects related to Local (or other)<br/>Government Requirements</i>   | \$1.750                   | \$2.350                   | \$ 0.60         |
| <i>Metering</i>                                                           | \$5.850                   | \$9.750                   | \$ 3.90         |
| <i>Other</i>                                                              | \$1.815                   | \$4.040                   | \$ 2.23         |
| <b>Total Spending</b>                                                     | <b>\$ 109.12</b>          | <b>\$ 131.33</b>          | <b>\$ 22.21</b> |

This table calculates the difference in spending reported in the 2021 IDP for each IDP Budget Category and overall as compared to the 2019 IDP for the 2022 through 2024 period. MP's total planned distribution system spending over these three years increased by \$22.21 million. The increase in projected spending over these three years is largely a result of additional investments in the IDP Budget Categories of Age-Related Replacement and Asset Renewal and Metering.

MP's increase in projected spending on Age-Related Replacement and Asset Renewal projects in the 2021 IDP is in keeping with the Company's general trend of increasing its budget for the replacement of aging equipment over the coming decade. MP explained that it has identified and prioritized proactive asset renewal modernization projects at the transmission-to-distribution substation level where failures are more broadly impactful, costly, and have longer lead times to fix.<sup>5</sup> MP noted that this is a departure from its traditional depreciation level spending pattern for its distribution system and reflects the Company's commitment to increasing investments to accelerate asset renewal, modernize its distribution system, and complete the requisite reliability projects that are foundational to the development of future projects described in Section IV of the 2021 IDP – Planning for a Resilient Future.<sup>6</sup>

<sup>5</sup> MP 2021 IDP, at 33.

<sup>6</sup> *Id.*, at 22.

The \$3.9 million additional investment in the IDP Budget Category of Metering can be entirely attributed to a \$3.9 million increase in anticipated investment in Metering in the year 2022. The Company explained that projects in the Metering category include the replacement of legacy meters with Advanced Metering Infrastructure meters, integrating the new AMI meters with the Outage Management System (OMS), replacing aging dual fuel and controlled access control systems, and providing customers with interval usage information loaded into the MyAccount customer portal on the Minnesota Power website.<sup>7</sup> While the Department understands that projects included in the IDP Budget Category of Metering are generally associated with the procurement, installation, and communications and control of customer-sited energy measurement technologies or supporting systems for financial transactions, it is not clear at this time what specific project or projects are driving the Company's decision to increase annual investments in Metering in 2022 in the 2021 IDP relative to the 2019 IDP.

**The Department requests that MP provide additional information and/or discussion clarifying which specific projects or investments caused the \$3.9 million increase in planned investments in the IDP Budget Category of Metering for the year 2022.**

Finally, the Department reviewed the 2021 IDP's provision of information related to MP's historical actual distribution system spending from the 2016 to 2020 period and compared that spending to MP's projected distribution system spending from the 2022 to 2026 period. This high-level overview of financial data in MP's 2021 IDP is summarized in the table below.

---

<sup>7</sup> *Id.*, at 36.

**Table 3. Comparison of Distribution System Spending Reported in MP's 2021 IDP, Historical Actual (2016 – 2020) vs. Budgeted (2022 – 2026)**

| IDP Budget Category                                                   | Historical Actual<br>(2016 - 2020) |                     | Budgeted<br>(2022 - 2026) |                     | Δ               |               |
|-----------------------------------------------------------------------|------------------------------------|---------------------|---------------------------|---------------------|-----------------|---------------|
|                                                                       | Spending<br>(Millions)             | % of<br>Total Spend | Spending<br>(Millions)    | % of<br>Total Spend | (Millions)      | %             |
| <i>Age-Related Replacement and Asset Renewal</i>                      | \$ 60.12                           | 36.20%              | \$ 112.75                 | 50.99%              | \$ 52.63        | 87.54%        |
| <i>System Expansion or Upgrades for Capacity</i>                      | \$ 3.49                            | 2.10%               | \$ 5.22                   | 2.36%               | \$ 1.73         | 49.58%        |
| <i>System Expansion or Upgrades for Reliability and Power Quality</i> | \$ 26.16                           | 15.75%              | \$ 39.97                  | 18.07%              | \$ 13.81        | 52.78%        |
| <i>New Customer Projects and New Revenue</i>                          | \$ 18.80                           | 11.32%              | \$ 21.29                  | 9.63%               | \$ 2.49         | 13.22%        |
| <i>Grid Modernization and Pilot Programs</i>                          | \$ 1.22                            | 0.73%               | \$ 18.90                  | 8.55%               | \$ 17.68        | 1450.45%      |
| <i>Projects related to Local (or other) Government Requirements</i>   | \$ 11.47                           | 6.90%               | \$ 3.75                   | 1.70%               | \$ (7.72)       | -67.30%       |
| <i>Metering</i>                                                       | \$ 36.62                           | 22.05%              | \$ 13.65                  | 6.17%               | \$ (22.97)      | -62.72%       |
| <i>Other</i>                                                          | \$ 8.22                            | 4.95%               | \$ 5.60                   | 2.53%               | \$ (2.62)       | -31.91%       |
| <b>Total Spending</b>                                                 | <b>\$ 166.09</b>                   |                     | <b>\$ 221.12</b>          |                     | <b>\$ 55.03</b> | <b>33.13%</b> |

MP's total budgeted distribution system spending is projected to be \$221.12 million for the 2022 through 2026 period compared to the historical actual distribution system spending of \$166.09 million for the 2016 through 2020 period. MP has budgeted an increase in spending for every IDP Budget Category except for Projects Related to Local (or other) Government Requirements, Metering, and Other. The total increase is largely attributable to the IDP Budget Categories of Age-Related Replacement and Asset Renewal, System Expansion or Upgrades for Reliability and Power Quality, and Grid Modernization and Pilot Programs; together, they account for \$84.12 million of additional spending by the Company above recent levels.

C. *THE GUIDANCE DOCUMENT FROM SYNAPSE ENERGY ECONOMICS, INC.*

As explained in the Department's February 9, 2022 Letter,<sup>8</sup> the Department retained Synapse Energy Economics, Inc. (Synapse) in response to the Commission's September 27, 2019 Order in Docket No. E002/M-17-797 requesting that the Department secure specialized technical professional investigative services to investigate the potential costs and benefits of proposed grid modernization investments. Synapse provided analysis specific to projects proposed by Xcel in its next rate case or Transmission Cost Recovery filings and provided a methodology to be used by the Department in making recommendations to the Commission regarding any such future proposed investments by Xcel or other regulated public utilities.

Through this engagement and in service of the Commission's request, Synapse developed a document, attached to the Department's Letter, titled *Review and Assessment of Grid Modernization Plans: Guidance for Regulatory, Utilities, and Other Stakeholders* (Guidance Document). The Guidance Document was developed to support the analysis of grid modernization investments in Minnesota, and the Department intends to use its methodology in assessing proposals from all utilities submitting IDPs.

II. **DEPARTMENT ANALYSIS**

The Department's analysis responds to the IDP-related topics of the Commission's Notice. First, the Department provides additional insight regarding the Guidance Document and the Department's analytical framework and methodology that will be applied to utility IDPs and grid modernization plans and proposed investments.

The Department aims to apply a consistent and methodical approach to analyzing biennial IDPs from Minnesota Power (and other regulated utilities) with the goal of providing timely and useful advice to the Commission to ensure a) completeness of submitted IDPs in meeting IDP Filing Requirements and Commission-ordered modifications, b) consistency in planning scenarios and horizons, economic evaluation techniques, and forecasting methodology across system resource and transmission planning dockets, and c) utility IDPs continue to provide the conceptual foundation and context for short- and long-term grid modernization investment while eliminating information asymmetries between utilities and regulators.

---

<sup>8</sup> Minnesota Department of Commerce. Letter of the Minnesota Department of Commerce, Division of Energy Resources Introducing Synapse Energy Economics' Review and Assessment of Grid Modernization Plans. Report for Minnesota Department of Commerce. Filed in Docket No. E002/M-19-666, E999/DI-20-627, E002/M-20-680, E002/M-21-694, E002/M-21-814, E017/M-21-612, E015/M-21-390, and E111/M-21-728. February 9, 2022. Accessed at: <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={E09BE07E-0000-CB2C-85E2-91C3122300BD}&documentTitle=20222-182633-05>.

A. *THE DEPARTMENT'S ANALYTICAL FRAMEWORK AND METHODOLOGY*

1. *Overview and Background*

In view of the ongoing and significant grid modernization investment proposals, and the likelihood that utilities will continue proposing similar investments, the Department sought to work with Synapse to review the landscape of grid modernization investments in Minnesota and develop a uniform, consistent approach to review all such investments.

The Guidance Document was borne out of this effort and incorporates the filing requirements and principles of benefit-cost analysis from the Commission's September 27, 2019 Order in Docket No. E002/M-17-797 and July 23, 2020 Order in Docket No. E002/M-19-666. Fundamentally, the Guidance Document is a synthesis of these Commission Orders and elucidates many of these filing requirements and principles to adhere to established best practices for conducting of economic analysis of grid modernization investments. Further, the Department's Letter explains that the Guidance Document's filing requirements are applicable across each of the Grid Modernization Pathways and provides needed specificity on how to provide benefits and costs where the Commission has not articulated with precision what information is needed.

The Guidance Document's applicability to utility grid modernization proposals is a recognition of the nature of conducting economic evaluations: the principles of this benefit-cost analysis (BCA) apply generally, and there is not a theoretical reason to differentiate between utilities or the regulatory proceedings grid modernization are proposed in. While there are important differences between utilities, and further differences still between the Grid Modernization Pathways as described in the Department's Letter, the BCAs used to support utility proposals need not be differentiated.

As noted in the Guidance Document, the emergence of new technologies on the distribution grid has introduced new complexities and opportunities in how utilities plan and operate the electricity grid across multiple scales. Increased interoperability between technologies and applications requires that regulators understand the implications of the incremental investments by utilities in the distribution system across the scale of the grid as a whole. This necessitates the provision of a detailed and consistently applied BCA framework to ensure that grid modernization investments are responsive to state policy and customer needs and can be clearly justified as responding to these first principles. If these conceptual linkages throughout a project's development are not first clearly defined in proposals, the Commission runs the risk of approving superfluous or wasteful spending or allowing for cost recovery that does not accurately capture the true range of benefits and costs to ratepayers.

The Guidance Document is intended to help the Commission, stakeholders, and utilities thoughtfully and comprehensively approach investments made to modernize utility distribution systems so that the true range of benefits and costs to ratepayers associated with such investments are sufficiently understood and evaluated. Section 3 of the Guidance Document details Initial Filing Requirements that

are intended for all Minnesota utilities that submit proposals for grid modernization investment plans. These requirements address the information that should be provided with these plans, including necessary detail on economic evaluation methods and results to support proposed investments.

The Department will evaluate utility grid modernization proposals using the initial filing requirements detailed in Section 3 of the Guidance Document.

An important aspect of the Guidance Document is Section 4, which details Ongoing Reporting Requirements. As explained in the Department's Letter, the Guidance Document is intended in part to complement and incorporate the recommendations of the Department's report called *Methods for Performance Evaluations, Metrics, and Consumer Protections for AMI and FAN* (December 2020 Report), filed in Docket Nos. E002/M-19-666 and E999/DI-20-627.<sup>9</sup>

Section 4 of the Guidance Document is the manifestation of this intent, as the Department's December 2020 Report is intended to prescribe methods for evaluating performance of a grid modernization investment, establish metrics that can be used in cost recovery assessments, and establish consumer protection at the outset of a utility grid modernization proposal. Similarly, Section 4 of the Guidance Document is intended to hold utilities accountable to the costs they anticipate incurring in pursuing a grid modernization proposal, as well as the realization of the benefits that a utility claims a grid modernization proposal will provide over the life of the grid modernization project.

The Department is appreciative of the hard work and dedication shown by MP in maintaining and improving the reliability, resiliency, and safety of their distribution grid in Minnesota. The requisite investments made by the Company to maintain this system have historically been approved and made under an implicit trust that that this spending was the most efficient and appropriate use of ratepayer funds. In calling for increased scrutiny into distribution system spending the Department is not implying that this trust has been misplaced or abused, but rather the increasing complexity and interoperability of components in the modern distribution system requires coincident increased scrutiny and detail of analysis to ensure efficient resource allocation and ratepayer protection.

Therefore, the Department affirms the following from the February 9, 2022 Letter:<sup>10</sup>

---

<sup>9</sup> Minnesota Department of Commerce. Methods for Performance Evaluations, Metrics, and Consumer Protections for AMI and FAN. Department of Commerce Report to the Public Utilities Commission. Filed in Minnesota Public Utilities Commission. Docket. No. E-002/M-19-666 and E-999/DI-20-627. December 1, 2020. Accessed at: <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={40E01F76-0000-C232-AC19-D0DBF3B76F62}&documentTitle=202012-168688-02.>

<sup>10</sup> Department Letter, at 10.

It is the Department's intention to evaluate utility grid modernization proposals based on the prescriptions of the Guidance Document and will do so absent Commission action.

Nevertheless, **the Department recommends that the Commission require utility grid modernization proposals to adhere to the filing requirements, methods of evaluation, and ratepayer protections detailed in the Guidance Document.**

2. *The Department Seeks the Orderly Development of Utility Grid Modernization Investments Using Elements of Established Regulatory Paradigms in Minnesota*

The Department's goal with the Guidance Document is the orderly development of utility grid modernization investments using elements of established regulatory paradigms in Minnesota that have resulted in outcomes that benefit the state of Minnesota, utility ratepayers, and utilities.

The Department's Letter and comments in other utility IDP proceedings discuss those regulatory paradigms: utility Integrated Resource Plans (IRPs)/MISO transmission planning processes and CN petitions.

The Department views utility IDPs and grid modernization as in many ways a parallel regulatory paradigm to utility IRPs/MISO transmission planning and CN petitions, in structure and in outcome. Articulating this parallel is not indicative of an intention or a goal to transform utility IDPs into utility IRPs.

The Department's invocation of the IRP-CN and MISO transmission planning-CN connection in the context of utility IDPs and grid modernization is instead intended to suggest that there are elements of those regulatory paradigms that have demonstrably led to an orderly development of energy resources in the state of Minnesota that have benefitted all parties. The Department's position is simple: in principle, those elements—articulated in more detail below—can and should be transcribed to the IDP-grid modernization context.

As the Department's Letter explained:

The IRP process in Minnesota and the transmission planning processes that occur at Midcontinent Independent System Operator (MISO) are deliberate, complex, and thoroughly reviewed planning processes that can culminate in a utility proposal to address needs identified, whether the need is for a new generating resource or a new transmission line.

Once a general need is established in the IRP process or at MISO, utilities propose specific projects subject to clear, well-defined Minnesota Rules that establish a standard of review that require utilities to consider alternatives and demonstrate that the least-cost option has been selected, and often, a project is approved in part based upon a finding that it will result in net benefits to utility ratepayers and society.

Similarly, a utility IDP is a planning process that accounts for expected changes over a long-term period and leads to the identification of utility proposals to respond to distribution system needs.<sup>11</sup> In the context of grid modernization, utilities are required to develop long-term plans that account for forecasts of distributed energy resource adoption, the distribution system's ability to facilitate DER adoption (hosting capacity analysis), and the alternatives to traditional investments that a utility can make to address the needs of its distribution system (non-wires alternatives analysis). These plans require utilities to discuss and consider investment options that respond to those needs and should culminate in the identification of specific investments that a utility plans to make in response to those needs.

The missing element of the IDP-grid modernization process is what is present in the IRP and MISO transmission planning process: a clear, well-defined next step to review and evaluate specific investment proposals that includes a clear, well-defined standard of review through which stakeholders can assess the merits of the investment and the Commission can use to approve or deny investments.

IRPs and MISO transmission planning processes lead to CN proceedings where a utility, independent power producer, or transmission line owner files a CN petition and proposes specific investments to respond to needs identified in the IRP or MISO transmission planning processes. They are subject to myriad Minnesota Statutes and Rules that have been applied for decades, which has resulted in a comprehensive standard of review of these investments over time. The CN process generally requires the petitioner to articulate the connection between the relevant planning process and to demonstrate that its specific investment proposal is a reasonable and prudent investment decision responsive to the needs identified in the planning process and in the public interest.

At a high level, the regulatory paradigm for CN petitions has three key principles that the Department has an interest in applying to grid modernization investment proposals in Minnesota:

1. Principle 1: Information Threshold. All parties, including utilities and energy resource developers, have a clear understanding of the quality and type of information a CN petition should contain to facilitate the evaluation of the proposed project's reasonableness;

---

<sup>11</sup> IDP Filing Requirement 3.D. Long-Term Distribution System Modernization and Infrastructure Investment Plan.

2. Principle 2: Evaluation Methods. All parties have a clear understanding of how to evaluate CN petitions; and
3. Principle 3: Standard of Review. All parties have a clear understanding of the standard of review to apply to the CN petition and the decision criteria that the Commission will use in determining whether to grant a CN and approve the proposed project.

The Department is concerned that these three key principles are not sufficiently developed in the context of evaluating proposed utility grid modernization investments. The Department's goal is to facilitate the creation of a similar paradigm for IDPs and grid modernization in Minnesota informed by these regulatory best practices developed over the course of decades in CN proceedings so that the orderly development of utility grid modernization investments in response to emergent, novel technologies and customer preferences can proceed in a way that promotes the public interest.

3. *The Guidance Document Synthesizes Related Commission Orders and Creates a Framework for Economic Evaluation of Utility Grid Modernization Investments*

The Department offers the Guidance Document as a path forward in creating a similar regulatory paradigm, and notes that it addresses Principles 1 and 2 of the CN petition regulatory paradigm. The Guidance Document's Initial Filing Requirements applies to any utility grid modernization proposal and creates a clear expectation of the quality and type of information that utilities need to provide when grid modernization investments are proposed. The Guidance Document also provides a methodological framework for conducting economic evaluation of grid modernization investments, which offers clear methods for stakeholders to review such investments and requirements for a utility regarding the information required to support and justify the proposed grid modernization investment.

As noted above, the Guidance Document incorporates the filing requirements and principles of benefit-cost analysis from the Commission's September 27, 2019 Order in Docket No. E002/M-17-797 (September 27, 2019 Order) and July 23, 2020 Order in Docket No. E002/M-19-666 (July 23, 2020 Order).

Structurally, Section 2 of the Guidance Document synthesizes the Commission's evaluation principles from the Commission's September 27, 2019 and July 23, 2020 Orders, and builds on these principles by incorporating important information regarding best practices of benefit-cost analysis and economic evaluation of utility grid modernization investments (unless otherwise noted, all referenced Order Points are from the Commission's September 27, 2019 Order):

- **Section 2.1 Principles for Grid Modernization Evaluation:** incorporates the eleven principles from Order Point 9.B.4.d;
- **Section 2.2 Articulating the Goals of Grid Modernization:** incorporates Order Point 9.A.1.c;
- **Section 2.3 Choosing an Evaluation Methodology:** incorporates Order Point 9.A.4;

- **Section 2.4 Defining the Reference Scenario and the Investment Scenario:** incorporates Order Point 9.A.2 and Order Point 9.B.2.c;
- **Section 2.5 Accounting for Costs and Benefits:** incorporates Order Point 9.A.1, 3, and 4, and Order Point 9.B.2.a, and Order Point 10.a of the July 23, 2020 Order;
- **Section 2.6 Establishing Metrics:** incorporates Order Point 8 and the “Clear and Convincing Evidence Standard” of the July 23, 2020 Order, as well as the Department’s December 2020 Report;
- **Section 2.8 Determining Discount Rates:** incorporates Order Point 9.B.1; and
- **Section 2.9 Considering Customer Equity:** incorporates Order Point 9.B.2.d.ix.

To a greater extent, Section 3 of the Guidance Document (Initial Filing Requirements) incorporate and expands upon the Commission’s September 27, 2019 and July 23, 2020 Orders. Additionally, the Initial Filing Requirements incorporate the Commission’s Integrated Distribution Plans (IDP) Planning Objectives and Filing Requirements in relevant places, adopted in the Commission’s August 30, 2018 Order in Docket No. E002/M-18-251 for Xcel Energy<sup>12</sup> and the Commission’s February 20, 2019 Order in Docket No. E017/CI-18-253 for Otter Tail Power Company<sup>13</sup> (and as modified by the Commission’s July 23, 2020 Order and the 2020 Order).

Section 3’s Initial Filing Requirements are derived from Commission Orders as follows (unless otherwise noted, all referenced Order Points are from the Commission’s September 27, 2019 Order):

- **Section 3.1 Plans Should Be Based on Long-Term Planning:** incorporates the Commission’s IDP Order;
- **Section 3.2 Proposals Should Identify the Roles and Relationships of the Components:** incorporates Order Point 9.A.1.a-d, 9.A.2, and 9.B.2.c;
- **Section 3.3 Proposals Should Justify the Evaluation Scope:** incorporates Order Point 9.A.4;
- **Section 3.4 Evaluation Methods Should Be Thoroughly Detailed in the Proposal:** incorporates Order Point 9.A and 9.B in numerous parts;
- **Section 3.5 Proposals Should Specify Metrics and Targets:** incorporates Order Point 9.B.2, Order Point 8 of the July 23, 2020 Order and the Department’s December 2020 Report; and

---

<sup>12</sup> *In the Matter of Distribution System Planning for Xcel Energy.* ORDER APPROVING INTEGRATED DISTRIBUTION PLANNING FILING REQUIREMENTS FOR XCEL ENERGY. Docket No. E002/CI-18-251. August 30, 2018. Accessed at: <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={F05A8C65-0000-CA19-880C-C130791904B2}&documentTitle=20188-146119-01>.

<sup>13</sup> *In the Matter of Distribution System Planning for Otter Tail Power Company.* ORDER ADOPTING INTEGRATED-DISTRIBUTION-PLAN FILING REQUIREMENTS. Docket No. E017/CI-18-253. February 20, 2019. Accessed at: <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={A0DA0B69-0000-C13C-8023-6B0911F35D22}&documentTitle=20192-150449-02>.

- **Section 3.6 Proposals Should Clearly Present All Results:** incorporates Order Point 9.B.2.b and 9.B.2.d, and Order Point 10.b of the July 23, 2020 Order.

The Guidance Document is intended to create a framework for the economic evaluation of utility grid modernization investments in Minnesota so that review of such investments is uniform regardless of the utility proposing the investment or the regulatory venue in which the investment is proposed.

The Guidance Document provides a flexible and non-prescriptive framework that serves as a guardrail for utility grid modernization investments. It can assist the Department, the Commission, stakeholders, and utilities by providing clear expectations regarding the nature of the evidence that utilities need to provide to support and justify proposed grid modernization investments and the quality of economic analysis that utilities need to conduct to justify investments, as well as economic evaluation methods to use to the review of grid modernization investments. This framework addresses principles one (information threshold) and two (evaluation methods) of the CN petition regulatory paradigm.

The Electric Utility Infrastructure Cost (EUIC) Rider Statute (Path 3) has clear criteria to apply in the review of utility investments and address the third principle (standard of review).

The Department addresses the Guidance Document's role in review of EUIC Rider petitions in the next sections.

#### *4. The Guidance Document and the EUIC Rider Statute*

Here, the Department explains how to comport the Guidance Document with the EUIC Rider Statute.

The EUIC Rider Statute specifies five requirements for approval:

1. The rider must only include costs that were not in the utility's rate base in the Company's most recent general rate case, per Minn. Stat. §216B.1636, subd. 1(b);
2. The utility must show that the associated projects increase energy conservation or efficiency, consistent with Minn. Stat. §216B.241, subd. 1c, by replacing or modifying existing electric utility infrastructure, per Minn. Stat. §216B.1636, subd. 1(c);
3. The utility must not have submitted another request under Minn. Stat. §216B.1636 at any other time the year it files its petition, per Minn. Stat. §216B.1636, subd. 2(b)(1);

4. The utility must submit all required information required under Minn. Stat. §216B.1636 subd. 2(b)(2); and
5. The utility must show that the rider is in the public interest by, at minimum, providing a justification of the proposed rate design, per Minn. Stat. §216B.1636, subd. 2(b)(2)(v), and a benefit-cost analysis (BCA) of the project, per Minn. Stat. §216B.1636, subd. 2(b)(2)(xi).

Taken together, these five statutory requirements provide a clear standard of review for EUIC Rider petitions: if the utility demonstrates that its EUIC Rider petition satisfies all five requirements, then the Commission “may approve an electric utility’s petition for a rate schedule to recover EUIC under this section.” This standard of review satisfies the third principle of the CN regulatory paradigm: it provides all parties with a clear understanding of what the Commission will consider in its decision to approve or deny a project that is proposed through a EUIC Rider.

The Department suggests that the Guidance Document is directly relevant to the BCA required by Minn. Stat. §216B.1636, subd. 2(b)(2)(xi), which states:

- (2) an electric utility must file sufficient information to satisfy the commission regarding the proposed EUIC or be subject to denial by the commission. The information includes, but is not limited to:
  - ...
  - (xi) a cost benefit analysis showing that the electric utility infrastructure project is in the public interest.

This requirement does not establish what a utility must provide in its BCA to demonstrate that a project is in the public interest. The Department submits that the Guidance Document does just that.

The Guidance Document’s methodological framework for conducting BCA of utility grid modernization proposals (Section 2), the initial filing requirements for a utility grid modernization proposal (Section 3), and the ongoing reporting requirements (Section 4) all lay out in principle and specifically the quality and type of information that a proposed utility grid modernization investment should consist of in order to evaluate whether it is in the public interest.

To date, Minnesota Power has not proposed any projects for approval and cost recovery through the EUIC Rider Statute. However, the Department offers the following recommendation in the event that Minnesota Power seeks approval of projects through a EUIC Rider proceeding:

**The Department recommends that the Commission require Minnesota Power to provide BCA information consistent with Section 2 of the Guidance Document (Grid Modernization Evaluation Framework), comply with Section 3 of the Guidance Document (Initial Filing Requirements), and**

**propose an annual report of approved projects consistent with Section 4 of the Guidance Document (Ongoing Reporting Requirements) in future EUIC Rider proceedings for any projects that the Commission approves in those proceedings.**

6. *The Guidance Document in the Context of Utility IDPs*

The Department's goal for the Guidance Document in the context of utility IDPs is for utilities to provide benefit-cost analysis information of grid modernization investments as required by IDP Filing Requirement 3.D consistent with the Guidance Document. As the Department expressly stated in its Initial Comments in Otter Tail Power's 2021 IDP Docket No. E017/M-21-612, the Department "is not recommending any modifications of IDP Filing Requirements related to the provision of BCA information but will monitor future IDPs to ensure that Otter Tail Power and utilities are providing BCA information consistent with the Guidance Document's prescriptions."<sup>14</sup>

The Department's invocation of the Guidance Document in the context of utility IDPs is limited to IDP Filing Requirement 3.D and relates to the quality, type, and consistency of information that utilities are required to provide.

The quality of information provided in utility IDPs regarding grid modernization plans and investments should be detailed enough to allow for stakeholders and the Commission to understand the utility's plans and proposed investments. Section 2 of the Guidance Document provides insight and information related to the quality of information required for economic evaluation of grid modernization investments.

The type of information provided in utility IDPs regarding grid modernization plans and investments should be of the type and character of information that the Guidance Document argues is necessary to enable the economic review of a utility's grid modernization plans and investments. Sections 2 of the Guidance Document also provides insight and information related to the type of information required for economic evaluation of grid modernization investments.

The consistency of information provided in utility IDPs regarding grid modernization plans and investments relates to the connection between utility IDPs and specific grid modernization investment proposals: information provided in utility IDPs should be consistent with information provided in specific grid modernization investment proposals (with appropriate caveats, as explained further below).

---

<sup>14</sup> Otter Tail Power Company's 2021 IDP. Docket No. E017/M-21-612. Department's Initial Comments, at 28. March 22, 2022. Accessed at (PUBLIC): <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={A062B37F-0000-C031-AABA-0A57247362FC}&documentTitle=20223-184065-02.>

The Department's goal in this connection is to tie utility IDPs directly to utility grid modernization proposals: a utility's proposal for a specific grid modernization investment should be discussed in a utility's IDP so that the grid modernization investment can be proactively understood, and stakeholders are provided with a meaningful opportunity to influence a utility's grid modernization plans.

This is in line with the planning function of IRPs and the impact of IRP proceedings on CN petitions: an opportunity to review information and plans in an IRP lends itself to a more efficient review process in a CN petition. Xcel Energy's March 22, 2022 Reply Comments in its 2021 IDP proceeding (Docket No. E002/M-21-694) correctly pointed out that a Commission's Order in an IRP constitutes "prima facie evidence which may be rebutted by substantial evidence in all other proceedings."<sup>15,16</sup> To be clear: the Department is **not** recommending that a similar structure be adopted for IDPs and specific grid modernization proposals since no such rule language exists for IDPs or grid modernization proposals.

Merely, and only, the Department suggests that IDPs serve a similar planning function for grid modernization plans and proposed investments as IRPs serve for energy resource development. The planning function of an IDP can and should lend itself to the review of a specific grid modernization proposal once a utility files a petition, similar to the planning function of an IRP.

*a. Quality and Type of Information*

IDP Filing Requirement 3.D requires utilities to propose a long-term plan for its distribution system, including a 5-Year Action Plan that requires utilities to provide specific information regarding its near-term investments. This plan is required to consist of information that helps stakeholders and the Commission understand forthcoming, specific utility investment proposals. The information required should be objective, transparent, and include sufficient detail to assess whether the utility's forthcoming proposals have merit.

The type and quality of information that a utility provides in response to this IDP Filing Requirement can be informed by the Guidance Document. The Guidance Document is organized in three main parts: Section 2: Grid Modernization Evaluation Framework; Section 3: Initial Filing Requirements; and Section 4: Ongoing Reporting Requirements.

---

<sup>15</sup> Xcel Energy's 2021 Integrated Distribution Plan. Docket No. E002/M-21-694. Xcel Energy Reply Comments, at 9. March 22, 2022. Accessed at: <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={201CB37F-0000-C01B-BE48-5A0ADB2A1569}&documentTitle=20223-184060-01>.

<sup>16</sup> Minn. Stat. §216B.2422, subd. 2(b). Accessed at: <https://www.revisor.mn.gov/statutes/cite/216B.2422#stat.216B.2422.2>.

Section 2 is most directly applicable to IDP Filing Requirement 3.D because it prescribes a framework for evaluating grid modernization proposals: its prescriptions include the type and quality of information necessary to evaluate a utility's grid modernization investments. For instance, IDP Filing Requirement 3.D(iii) requires utilities to provide its analysis of alternatives to its forthcoming investment proposal(s).<sup>17</sup> Sections 2.4 and 2.5 of the Guidance Document have clear prescriptions of the quality and type of information needed in order to evaluate forthcoming investments and its alternatives.

To illustrate, information provided in response to IDP Filing Requirement 3.D(iii) should include the following: (1) a reference scenario and investment scenario(s) (Section 2.4); (2) supporting information a utility relied on to develop its plans and the alternatives that were considered (Section 2.4.1); (3) the costs and benefits of reference and investment scenario(s) should be reported in appropriate units, including the net benefits of each so they can be compared directly (Sections 2.4.2 and 2.5.2-2.5.4); and (4) the cost-effectiveness test/BCA test used by the utility to evaluate the reference and investment scenario(s) (Section 2.5.1).

Sections 3 and 4 of the Guidance Document more directly relate to a specific grid modernization investment proposal, such as those that may be proposed by the Company for cost recovery in a future EUIC Rider petition. The content of future EUIC Rider petitions should include information consistent with those Sections, but the utility can and in some cases should provide information consistent with these Sections in its 5-Year Action Plan so that the information is consistent between the *plan* and the *proposal* to the extent practicable, as described more below.

*b. Consistency of Information*

Upon a utility filing a specific grid modernization investment proposal that was first articulated in the utility's IDP 5-Year Action Plan, the information provided in the investment proposal filing should be consistent with the information provided in the 5-Year Action Plan, with the understanding that a utility's grid modernization *proposal* may differ from a utility's grid modernization *plan* based on project-specific circumstances on a case-by-case basis and directly as a result of feedback and stakeholder recommendations regarding its grid modernization plan. Consistent information between plans and proposals aids the proposal's review process and can help expedite review, similar to how

---

<sup>17</sup> The Department notes that the sub-requirements of IDP Filing Requirement 3.D are not enumerated and instead appear as a bulleted list. The Department enumerates these sub-requirements as lowercase Roman numerals so that they are more easily referred to in the analysis that follows. IDP Filing Requirement 3.D(iii) 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.

certificate of need proceedings' review process is impacted when the proposed project is part of a utility's IRP.

*c. Completeness Reviews of Utility Grid Modernization Proposals*

The Guidance Document relates to the quality, type, and consistency of information utilities are required to provide in response to IDP Filing Requirement 3.D and in utility grid modernization investment proposals. The Guidance Document will greatly benefit the review process of these proposals by creating clear informational requirements that are understood by all parties.

A completeness review of utility filings in the context of CN petitions is an interim step that allows parties to determine whether a CN petition has provided information necessary for parties to reach the merits of the petition. The Department is not suggesting a completeness review of utility grid modernization proposals at this time.

Rather, the Department is merely suggesting that if information in IDPs and utility grid modernization investment proposals adhere to the Guidance Document in terms of the quality, type, and consistency of information, then the review process of the proposal overcomes an informational barrier and can largely avoid an interrogative process that can require significant analytical resources.

The Department views this as a threshold issue in evaluating a grid modernization investment proposal: has the utility provided information necessary and sufficient to complete the public record? In other words, do parties have the *quality* and *type* of information that the Guidance Document identifies is required to evaluate the merits of a utility's grid modernization investment proposal? Information contained in the proposal should be *consistent* with the information contained in the IDP where that proposal is discussed.

*d. Threshold for Analysis*

Other utility IDP proceedings recommended that the Commission establish a cost threshold for analysis of proposed grid modernization investments. Otter Tail Power Company recommended a \$10 million threshold, indicating that "such a threshold would avoid committing extensive ratepayer resources, including hiring additional third-party consultants to perform analysis on projects that wouldn't require it."<sup>18</sup>

---

<sup>18</sup> Otter Tail Power Company's 2021 Integrated Distribution Plan. Docket No. E017/M-21-612. Reply Comments, at 5. April 5, 2022. Accessed at: <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={503E2F80-0000-C216-AE9A-EBA6EB6EA3C0}&documentTitle=20224-184826-01>.

The Department does not support a cost threshold for analysis of proposed grid modernization investments. For grid modernization projects that the Company expects to request cost recovery of in its EUIC Rider or in a general rate case, the BCA information provided in those filings should adhere to the Guidance Document. When those projects and/or plans for grid modernization are discussed in the context of IDP Filing Requirement 3.D, the Company should provide BCA information consistent with the Guidance Document.

It is unclear whether a minimum cost threshold or a minimum grid modernization project capability threshold is appropriate to trigger BCA information requirements consistent with the Guidance Document, but the Department maintains, at base, that any proposed grid modernization project included by utilities in an EUIC Rider petition or a utility rate case should include the quality and type of BCA evaluation and information that the Guidance Document calls for, and that information should be consistent with the information contained in the IDP where that proposal is discussed.

*7. The Department Supports and Expects Ongoing Evaluation of the Guidance Document Through Stakeholder Feedback and Engagement*

Some utilities expressed a desire for further dialog with the Department to obtain additional clarity around the use and applicability of the Guidance Document in reply comments in other IDP proceedings.

The Department reiterates that we are happy to meet with utilities and discuss the Guidance Document, goals for utility grid modernization, and any other topics that utilities wish to discuss in further detail.

The Department notes and emphasizes that there has been an extensive stakeholder process over the years with regards to utility distribution system planning and grid modernization. The Commission's comment-and-reply comment process is fundamentally a stakeholder process that provides the public with an opportunity to participate, affords every participant with due process rights, and creates a public record upon which Commission decisions are made.

The Guidance Document was developed by Synapse after careful, exhaustive review of several regulatory proceedings regarding utility distribution system planning and grid modernization investments, as described in the table below.

**Table 1. Minnesota Utilities' Distribution System Planning and Grid Modernization Proceedings**

| Docket Number  | Description                                                                                                                       | Docket Number | Description                                     |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------|
| E999/CI-15-556 | Commission Investigation into Grid Modernization                                                                                  | E002/M-19-666 | Xcel 2019 IDP and AGIS Certification Request    |
| E002/M-15-962  | Xcel 2015 Grid Modernization Report                                                                                               | E017/M-19-693 | Otter Tail Power 2019 IDP                       |
| E002/M-17-776  | Xcel 2017 Grid Modernization Report                                                                                               | E015/M-19-694 | Minnesota Power 2019 IDP                        |
| E002/M-17-797  | Xcel 2017-2018 TCR Rider Petition                                                                                                 | E111/M-19-674 | Dakota Electric Association 2019 IDP            |
| E111/M-17-821  | Dakota Electric Association Electric Utility Infrastructure Cost (EUIC) Rider (Advanced Grid Infrastructure (AGI) Rider) Petition | E017/M-21-382 | Otter Tail Power EUIC Rider Petition            |
| E002/CI-18-251 | Distribution System Planning for Xcel Energy                                                                                      | E002/M-19-721 | Xcel 2019-2020 TCR Rider Petition               |
| E017/CI-18-253 | Distribution System Planning for Otter Tail Power Company                                                                         | E002/M-21-694 | Xcel 2021 IDP and DI/RMP Certification Requests |
| E015/CI-18-254 | Distribution System Planning for Minnesota Power                                                                                  | E002/M-21-814 | Xcel 2021-2022 TCR Rider Petition               |
| E111/CI-18-255 | Distribution System Planning for Dakota Electric Association                                                                      |               |                                                 |

Regardless, the Department notes utility interest in additional stakeholder discussion. Generally, the Department supports additional stakeholder processes that would lend itself to a uniform approach to economic evaluation of utility grid modernization investments. The Department welcomes stakeholder feedback regarding the Guidance Document and expects that the Guidance Document, much like IDPs themselves, will change over time to reflect new information and understandings.

The Department is not opposed to refinements of the Guidance Document and in fact, encourages stakeholders to offer suggestions regarding best practices for evaluation of grid modernization investment proposals. Including the instant proceeding, the Department submitted the Guidance Document in several related regulatory proceedings:

- **Docket No. E002/M-21-814:** Xcel's 2021-2022 TCR Rider Proceeding
- **Docket No. E002/M-19-666:** Xcel's 2019 IDP and AGIS Certification Request
- **Docket No. E999/DI-20-627:** Department Stakeholder Process Informing the Report on Metrics, Performance Evaluation Methods, and Consumer Protection Conditions to be applied to Xcel Energy's Advanced Metering Infrastructure and Field Area Network Projects Certified in Docket No. E002/M-19-666
- **Docket No. E002/M-20-680:** Xcel's Compliance Filing re: the Procedural Path for Review of AMI and FAN
- **Docket No. E017/M-21-612:** Otter Tail Power's 2021 IDP
- **Docket No. E015/M-21-390:** Minnesota Power's 2021 IDP
- **Docket No. E111/M-21-728:** Dakota Electric Association's 2021 IDP

The Department issued the Guidance Document in those proceedings for the express purpose of soliciting feedback from stakeholders and utilities, and to further the Department's goal regarding the orderly development of utility grid modernization investments in Minnesota. The Department is actively considering feedback from other stakeholders—including the Company's in the instant proceeding—and commits to ongoing engagement with stakeholders and utilities and incorporation of feedback that is consistent with recommendations from Synapse.

However, the Department is concerned about the desire for additional stakeholder process before utility grid modernization investments are evaluated using the Guidance Document, given persistent resource constraints. Should the Commission desire additional stakeholder process for the Guidance Document, the Department recommends that the Commission use the existing Department Investigation proceeding in Docket No. E999/DI-20-627. While the Guidance Document is in part borne out of that proceeding and relied on extensive stakeholder feedback provided there and in many other regulatory proceedings (as described above), that regulatory venue seems most appropriate to discuss the content of the Guidance Document.

The Department appreciates the Company's concerns and reiterates our willingness to engage in further dialogue and stakeholder engagement, should the Commission determine that is prudent.

***B. IDP NOTICE TOPIC #1: SHOULD THE COMMISSION ACCEPT OR REJECT MINNESOTA POWER'S INTEGRATED DISTRIBUTION PLAN (IDP)?***

The Department's review of MP's IDP begins at a threshold question: did the Company provide information and analyses required by the Commission's IDP Filing Requirements and previous Commission Orders?

As a preliminary matter, the Department notes that Minnesota Power provided a Compliance Matrix in Appendix A of their 2021 IDP that shows the location within the IDP where each of the Commission's IDP Filing Requirements are addressed. The Department has reviewed the filing in its entirety and

concludes that MP has sufficiently addressed each of the IDP Filing Requirements and Commission Orders.

However, the Department will provide a final recommendation regarding whether the Commission should accept MP's 2021 IDP in Party Reply comments once the Department reviews additional information from MP and has an opportunity to review valuable stakeholder input.

*C. IDP NOTICE TOPIC #2: DOES THE IDP FILED BY MINNESOTA POWER ACHIEVE THE PLANNING OBJECTIVES OUTLINED IN THE FILING REQUIREMENTS AS AMENDED BY THE COMMISSION'S FEBRUARY 20, 2019 ORDER?*

The Commission's February 20, 2019 Order (2019 Order) in Docket No. E015/CI-18-254 provided the Commission's Planning Objectives:<sup>19</sup>

The Commission is facilitating comprehensive, coordinated, transparent, integrated distribution plans to:

- 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;
- Enable greater customer engagement, empowerment, and options for energy services;
- Move toward the creation of efficient, cost-effective, accessible grid platforms for new products, new services, and opportunities for adoption of new distributed technologies; and,
- Ensure optimized utilization of electricity grid assets and resources to minimize total system costs.
- Provide the Commission with the information necessary to understand Minnesota Power'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.

---

<sup>19</sup> *In the Matter of Distribution System Planning for Minnesota Power*, Docket No. E015/M-18-254. ORDER ADOPTING INTEGRATED DISTRIBUTION PLAN FILING REQUIREMENTS. February 20, 2019. Accessed at: <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={A0DA0B69-0000-C13C-8023-6B0911F35D22}&documentTitle=20192-150449-02>.

The Commission's 2020 Order requires MP to do the following:<sup>20</sup>

Minnesota Power shall discuss in future filings how the IDP meets the Commission's Planning Objectives, including:

- A. An analysis of how the information presented in the IDP related to each Planning Objective;
- B. The location in the IDP;
- C. Analysis of efforts taken by the Company to improve upon the fulfillment of the Planning Objectives; and
- D. Suggestions as to any refinements to the IDP filing requirements that would enhance Minnesota Power's ability to meet the Planning Objectives.

Appendix G of MP's 2021 IDP identifies the page numbers of where each component of the Commission's Planning Objectives are addressed in the IDP. MP also provided a brief summary of how the information in the IDP relates to each Planning Objective and describes the efforts taken by the Company to improve upon the fulfillments of these objectives.

The Department reviewed Appendix G and analyzed whether MP's 2021 IDP was responsive to the Commission's Planning Objectives.

1. *Planning Objective #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*

Appendix G provides a list of locations throughout the IDP where Minnesota Power discusses each of the topics referenced in the Commission's first IDP Planning Objective, broken down into its component topics of safety, security, reliability, resilience, and maintaining costs. The Company generally stated that it provided a holistic description of how MP met each component of this Planning Objective throughout the 2021 IDP, and did not provide specific locations within the IDP where detailed discussions of each of the topics in Planning Objective #1 could be found.

---

<sup>20</sup> *In the Matter of Minnesota Power's 2019 Integrated Distribution Plan*, Docket No. E015/M-19-684. ORDER ACCEPTING INTEGRATED DISTRIBUTION PLAN AND MODIFYING FILING REQUIREMENTS. Order Point No. 2. November 2, 2020.

Accessed at:

<https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={40E08A75-0000-CD3E-9513-C4079E3DDBA8}&documentTitle=202011-167944-02.>

*a. Safety*

In MP's 2021 IDP safety is mentioned only generally as a point of focus for the Company in its strategic planning or as a benefit of investments in reliability projects or grid modernization initiatives. There are no sections of the IDP that discuss how safety standards inform planning processes or risk management, nor any mentions of how safety metrics are defined and tracked in the Company's operations. The Department reviewed MP's most recent Safety, Reliability, and Service Quality report<sup>21</sup> and found no notable instances that would imply safety concerns are not adequately addressed by the Company, but would find a high-level discussion within the IDP of how safety informs decision-making processes at MP when designing and operating their distribution system instructive.

*b. Security*

Minnesota Power discussed cyber security considerations in Section II.H of the 2021 IDP. MP emphasized the Company's continual enhancement and adjustment to protect Minnesota Power's systems from an evolving threat landscape and its cooperation with other utilities, industry partners, and public officials to share best practices for both cyber and physical security. MP's multi-layered cyber security program is based on the Center for Internet Security's internationally-accepted Critical Security Controls for Effective Cyber Defense framework, and the Company's Cyber Security Team has been nationally recognized by IT vendors for its work with Enterprise Detection and Response (EDR) and Security Orchestration Automation and Response (SOAR) tools.<sup>22</sup>

*c. Reliability and Resilience of the Electricity Grid*

Reliability and resilience are referenced by MP throughout its 2021 IDP as an important expectation of its customers and core objective of its distribution system operations. The Company noted its unique customer composition and implications for reliability and resilience, with industrial customers making up 72 percent of annual energy sales and most of these sales served via transmission-level voltage leaving residential customers (representing approximately 13 percent of MP's annual energy sales) to comprise a relatively large portion of the Company's distribution system load.<sup>23</sup> This, coupled with the unique challenges of a service area that consists largely of rural communities and customers, had defined how MP designed its distribution planning strategy to meet these expectations by "deploying right time/right fit distribution technology that is flexible, adaptable, and upgradable" while

---

<sup>21</sup> *Minnesota Power SRSQ Informational Filing*. Docket No. E015/M-21-230. April 1, 2021. Accessed at: <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={B0ED8F78-0000-CC11-8787-E865ED47D7CF}&documentTitle=20214-172481-01>.

<sup>22</sup> MP 2021 IDP, at 52.

<sup>23</sup> *Id.*, at 4.

“maintaining a focus on customers’ needs, upholding distribution planning principles, and aligning these investments with the Company’s sustainability goals.”<sup>24</sup>

The Department notes that MP is proposing investing \$39.97 million in System Expansion or Upgrades for Reliability and Power Quality in its Five-year Action Plan, an increase of \$13.81 million over historical investments in this category from 2016 to 2020. This spending is in addition to significant expenditures proposed over the same time period in both Asset Renewal and Grid Modernization projects which the Company expects will also realize reliability benefits for the distribution system.

**The Department requests further discussion from Minnesota Power in reply comments regarding the specific reliability and resiliency targets used by the Company to select projects or sections of the distribution system to improve, and how MP intends to evaluate the performance of these projects and initiatives in improving system reliability and resiliency.**

*d. Fair and Reasonable Costs*

The Department is developing the knowledge base to better evaluate whether investments made or costs incurred by MP in the maintenance and operation of the distribution system are fair and reasonable. However, this does not imply that there is any reason to assume that they are unreasonable. At this time the Department has limited information with which to quantitatively assess the reasonableness of specific investment strategies made by MP in managing the distribution system. To accurately ascertain the most fair and reasonable costs to be recovered from ratepayers, the Department would need to see reference and investment scenarios and BCA results that were studied by MP, consistent with the Guidance Document’s prescriptions. This will involve additional transparency on the Company’s part regarding certain types of distribution system investments. The Department addresses this in Section II.C.4 below in the analysis of the fourth Planning Objective.

*e. Consistent with State Energy Policies*

The Company did not provide a discussion of how state energy policy influences distribution system planning or budgeting allocations. There is no clear line of sight from specific technology investment decisions back to guiding Commission objectives or legislative principles. The Department expects MP and other utilities to illuminate that connection, and notes that such connections are likely to help establish the bona fides of proposed initiatives.

The Department is considering a recommendation to create such a link: a requirement that utilities discuss how each technology or program offering proposed is influenced by IDP Planning Objectives and state energy policies (as well as local government mandates and/or policy goals), including how

---

<sup>24</sup> *Id.*, at 5.

the metrics chosen to evaluate the performance of those technologies or program offerings in meeting those objectives were selected. The Department invites MP and other stakeholders to provide feedback on whether this topical area needs further elucidation.

2. *Planning Objective #2 - Enable greater customer engagement, empowerment, and options for energy services.*

The Department understands that the merits and reasonableness of the investments and their ultimate utility to ratepayers are being decided in the contexts of other dockets. IDP proceedings provide the ideal venue for the Company to provide a cohesive narrative that allows the Commission to evaluate proposals for distribution system investments in keeping with the recommendations found in the Guidance Document mentioned in Section II.A, however at this time there is a lack of quantitative data provided in the IDP to prove the business case for selecting certain technologies over alternatives.

The Department's goal is to emphasize and support existing Commission-approved Filing Requirements related to grid modernization proposals included in the Company's 5-year Action Plan, specifically the following sub-topics under IDP Filing Requirement 3.D to be discussed as appropriate, and to include at a minimum:<sup>25</sup>

- 3.D.1.ii. Grid Architecture: Description of steps planned to modernize the utility's grid and tools to help understand the complex interactions that exist in the present and possible future grid scenarios and what utility and customer benefits that could or will arise [citation omitted].
- 3.D.1.iii. 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.
- 3.D.1.vi. Interplay of investment with other utility programs (effects on existing utility programs such as demand response, efficiency projects, etc.).
- 3.D.1.vii. Customer anticipated benefit and cost.
- 3.D.1.xi. For each grid modernization project in its 5-year Action Plan, Minnesota Power should provide a cost-benefit analysis.

---

<sup>25</sup> The Department here enumerates the sub-requirements of IDP Filing Requirement 3.D in Roman numerals to more easily refer to individual sub-requirements, but notes that these sub-requirements appear in a bulleted list.

The Department's recommendation here is intended to obtain additional information to enable that stakeholder review.

**The Department requests that in future filing regarding customer-facing utility offerings and programs that may be enabled by new investments in grid modernization technologies that Minnesota Power includes in the information provided in response to IDP Filing Requirement 3.D., Minnesota Power provides the following information:**

- Internal benefit-cost analyses for reference and investment case scenarios, including reasonably known and analyzed alternatives;
- Assumptions and data supporting the projected customer participation rates;
- Sensitivity analysis for varying rates of adoption of proposed programs; and
- Discussion of how the proposed customer-facing utility offerings and programs may interact with existing or proposed Conservation Improvement Plan or Next Generation Energy Act programs.

The Department suggests that Minnesota Power can reasonably assume that a service offered by the Company can be considered to be customer-facing if the project can be conceptually linked – or is proposed as a response – to the Commission's IDP Planning Objective regarding enabling greater customer engagement, empowerment, and options for energy services. Services and technologies that provide customers with greater and more granular information regarding their energy use, allow for customer behavioral changes to result in reduced bills, and ease the interconnection and optimization of behind-the-meter DERs or enable beneficial electrification of equipment on a customer's property are examples of grid modernization proposals that the Department would consider to be customer-facing. This is not an exhaustive list, however, and the Department invites further discussion from the Company and stakeholders to refine this definition.

This information and data would be used by the Department to carry out its responsibility to the Commission of ensuring that grid modernization proposals are responsive to the Commission's Planning Objectives and relevant state energy policies in the most cost-effective manner available to the Company. The Department's goal, as explained above, is to better understand the Company's grid modernization plans under IDP Filing Requirement 3.D and to require additional information so that stakeholders have an opportunity to discuss the merits of the Company's plans.

This information is required for an independent verification of the reasonableness of the proposed incurred costs related to new customer-facing utility offerings and programs. The Department also encourages the continued discussion of how proposed business cases for new technology or service

offerings not only address customer expectations but are responsive to - and enabling of – state policy goals and objectives that can serve as a proxy for understanding what society deems to be valuable and will lead to more efficient allocation of ratepayer funds to provide this value.<sup>26</sup>

3. *Planning Objective #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.*

In addition to the observations above, the Department finds it instructive to evaluate MP’s response to the third Planning Objective by analyzing the differences in distribution system spending over the time periods 2016 – 2020 and 2021 – 2025. Table 3 above provides a breakdown of MP’s historic and projected distribution system expenditures, the Department provides it here again for convenience.

**Table 3. Comparison of Distribution System Spending Reported in MP’s 2021 IDP, Historical Actual (2016 – 2020) vs. Budgeted (2022 – 2026)**

| IDP Budget Category                                                       | Historical Actual<br>(2016 - 2020) |                     | Budgeted<br>(2022 - 2026) |                     | Δ               |               |
|---------------------------------------------------------------------------|------------------------------------|---------------------|---------------------------|---------------------|-----------------|---------------|
|                                                                           | Spending<br>(Millions)             | % of<br>Total Spend | Spending<br>(Millions)    | % of<br>Total Spend | (Millions)      | %             |
| <i>Age-Related Replacement and Asset Renewal</i>                          | \$ 60.12                           | 36.20%              | \$ 112.75                 | 50.99%              | \$ 52.63        | 87.54%        |
| <i>System Expansion or Upgrades for Capacity</i>                          | \$ 3.49                            | 2.10%               | \$ 5.22                   | 2.36%               | \$ 1.73         | 49.58%        |
| <i>System Expansion or Upgrades for Reliability<br/>and Power Quality</i> | \$ 26.16                           | 15.75%              | \$ 39.97                  | 18.07%              | \$ 13.81        | 52.78%        |
| <i>New Customer Projects and New Revenue</i>                              | \$ 18.80                           | 11.32%              | \$ 21.29                  | 9.63%               | \$ 2.49         | 13.22%        |
| <i>Grid Modernization and Pilot Programs</i>                              | \$ 1.22                            | 0.73%               | \$ 18.90                  | 8.55%               | \$ 17.68        | 1450.45%      |
| <i>Projects related to Local (or other)<br/>Government Requirements</i>   | \$ 11.47                           | 6.90%               | \$ 3.75                   | 1.70%               | \$ (7.72)       | -67.30%       |
| <i>Metering</i>                                                           | \$ 36.62                           | 22.05%              | \$ 13.65                  | 6.17%               | \$ (22.97)      | -62.72%       |
| <i>Other</i>                                                              | \$ 8.22                            | 4.95%               | \$ 5.60                   | 2.53%               | \$ (2.62)       | -31.91%       |
| <b>Total Spending</b>                                                     | <b>\$ 166.09</b>                   |                     | <b>\$ 221.12</b>          |                     | <b>\$ 55.03</b> | <b>33.13%</b> |

<sup>26</sup> U.S. Department of Energy. *Modern Distribution Grid (DSPx). Volume 1: Objective Driven Functionality, Ver. 2.0.* (November 2019), at 16.

It is important to note the Company's clarification that many of its planned projects address multiple grid needs including reliability and power quality, capacity, and grid modernization initiatives— thus the assignment of these project's costs into IDP Budget Categories was a subjective process that results in an at-best rough estimate of costs.

The Department finds that the proposed larger increases in spending in the Age-Related Replacement and Asset Renewal, System Expansion or Upgrades for Reliability and Power Quality, and Grid Modernization and Pilot Programs IDP Budget Categories comports with MP's language elsewhere in the IDP and aligns with the Company's stated priorities and EnergyForward strategy.

While the analysis of relative investments across standardized categories is a useful tool, there is limited information provided that allows for a rigorous assessment of the investment decisions being made *within* each category. The Department addresses this in further detail in Section II.C.4 below.

The Department is building the capacity to make assessments regarding the efficiency or cost-effectiveness of grid investments within each IDP Budget Category, and in order to alleviate this asymmetry, the Department is considering a recommendation for future IDPs to include some illustrative examples of detailed and complete BCAs for proposed projects within each of the IDP Budget Categories. This analysis would include, at a minimum, a description of the methodology employed to prevent double counting of benefits or costs across programs or enabling technologies, a clear conceptual line of sight between the project selected and the Commission's Planning Objectives, and metrics to evaluate the project's performance with respect to the benefits identified and in relation to the Commission's Planning Objectives.

Such illustrations seem reasonably likely to help the Department, the Commission, and stakeholders develop a deeper understanding of how MP plans for and spends ratepayer funds on these myriad grid investments.

The Department invites MP and other stakeholders to provide feedback on this potential recommendation.

*4. Planning Objective #4 - Ensure optimized utilization of electricity grid assets and resources to minimize total system costs*

The fourth Planning Objective is designed to ensure optimized utilization of electricity grid assets and resources to minimize total system costs. The Department is building its knowledge base of issues related to this planning objective and expects to be better positioned to evaluate this Planning Objective over time as more experience is gained with utility distribution systems. One way to better discern whether Minnesota Power is optimally utilizing electricity grid assets and minimizing total system costs is to evaluate how MP's forecasting and planning process informs spending on its distribution.

Section III.B of MP's IDP discusses how the Company's Transmission & Distribution Planning and Resource Planning departments work together to conduct forecasting and share information on potential supply- and demand-side opportunities that could be located at the distribution level.<sup>27</sup> Distribution Planning and Engineering also provide information required for the distribution appendix to MP's IRP, and these groups coordinate in creating the Distributed Energy Resource Scenario Analysis for the IDP.

In the near-term, the primary areas of active coordination between the Distribution and Resource Planning departments are in load forecasting and the evaluation of non-wires alternatives. Out-year distribution planning analysis is based on the latest Annual Forecast Report (AFR) provided by the Load Forecasting department which is used to develop the out-year peak load scenario for distribution planning.

After Distribution Planning has conducted its out-year analyses and identified candidate projects to address reliability or lead-serving needs on the system regular planning assessments are conducted to evaluate traditional solutions, and subsequent alternatives analyses are conducted to evaluate potential non-wires alternatives for major projects (those projects greater than \$2 million as established in the IDP Requirements). Should any NWA projects show potential benefits for customers and the distribution system they could be considered as future resource options in the Company's next IRP. MP noted that the consideration of NWA for distribution system needs within the context of integrated resource planning can preclude the selection of any NWA as the implementation timelines associated with the specific distribution system need often require a project to be completed with more immediacy than is allowed in the IRP process.<sup>28</sup> The Department understands this requirement of the Company to serve customers and ensure reliable, safe, and affordable electricity service and reiterates here that the IDP process is intended to provide the venue for the identification, evaluation, and justification of distribution system projects in accordance with the Commission's Planning Objectives and IDP Filing Requirements.

As discussed above Minnesota Power's 2021 IDP proposed dramatic increases in its capital budget for grid modernization initiatives and asset renewal investments above and beyond the usual depreciation-level spending that established amounts for routine maintenance informed by historical spending. The Company specifically mentioned a suite of potential pilot programs or new technologies it is considering for deployment on its distribution system and enabled by foundational investments in asset health and reliability, age-related renewal projects, and new capabilities from AMI meters and associated data management systems. These projects are intended to leverage existing infrastructure to more efficiently manage existing and future customer loads and realize the full customer- and grid-facing benefits of DERs as they are interconnected to MP's system. Proposed pilots include:

---

<sup>27</sup> MP 2021 IDP, at 65.

<sup>28</sup> *Id.*

1. Residential and commercial customer demand response,
2. Renewable load optimization programs,
3. Selective customer sub-metering applications,
4. Solar and storage applications,
5. Conservation voltage reduction and volt-VAR optimization,
6. Battery energy storage systems, and
7. Microgrids.<sup>29</sup>

The Department finds that further discussion of this process of potential pilot program identification and selection would prove constructive in alleviating the information asymmetry that exists between utilities and stakeholders, and it is an area that the Department believes MP should take efforts to address to provide additional transparency regarding its budgeting process. To properly evaluate whether investments selected after this comparative analysis satisfy the Commission's Planning Objective of optimized utilization of grid assets at minimal system costs the Department would require access to information regarding the considered alternatives and their associated benefits and costs, forecasting assumptions, and the assumed time period over which scenarios are compared.

The Department understands that distribution system spending can fluctuate over the course of a year due to acute distribution system needs and the need for operational flexibility. It follows that projected spending levels would fluctuate and be inconsistent year-to-year as reported by MP in their 2019 and 2021 IDPs, as the Department summarized above in Section I.B of these comments. Thus far in MP's IDP proceedings the Department has been able to compare the budgeted and actual distribution system spending for the year 2020 by comparing the 5-year investment plan from DEA's 2019 IDP with the historical distribution system spending as reported in Section A.26 of the 2021 IDP.<sup>30</sup>

---

<sup>29</sup> *Id.*, at 76.

<sup>30</sup> *Id.*, at 22.

**Table 5. MP's 2020 Distribution System Investments, as Budgeted in 2019 IDP and Actual Reported Expenditures from 2021 IDP**

| IDP Budget Category                                                   | 2020                   |                      | Δ               |
|-----------------------------------------------------------------------|------------------------|----------------------|-----------------|
|                                                                       | Budgeted<br>(Millions) | Actual<br>(Millions) | (Millions)      |
| <i>Age-Related Replacement and Asset Renewal</i>                      | \$ 9.47                | \$ 10.55             | \$ 1.08         |
| <i>System Expansion or Upgrades for Capacity</i>                      | \$ 0.70                | \$ 0.81              | \$ 0.11         |
| <i>System Expansion or Upgrades for Reliability and Power Quality</i> | \$ 4.47                | \$ 6.14              | \$ 1.67         |
| <i>New Customer Projects and New Revenue</i>                          | \$ 4.41                | \$ 3.50              | \$ (0.91)       |
| <i>Grid Modernization and Pilot Programs</i>                          | \$ 1.75                | \$ 0.82              | \$ (0.94)       |
| <i>Projects related to Local (or other) Government Requirements</i>   | \$ 0.20                | \$ 2.12              | \$ 1.92         |
| <i>Metering</i>                                                       | \$ 4.65                | \$ 12.52             | \$ 7.87         |
| <i>Other</i>                                                          | \$ 2.48                | \$ 3.38              | \$ 0.90         |
| <b>Total Spending</b>                                                 | <b>\$ 28.13</b>        | <b>\$ 39.83</b>      | <b>\$ 11.71</b> |

The Department notes that generally MP has kept actual expenditures close to budgeted estimates for each category, with the notable exception of the Metering category. While the Department understands that projects included in the IDP Budget Category of Metering are generally associated with the procurement, installation, and communications and control of customer-sited energy measurement technologies or supporting systems for financial transactions, it is not clear at this time what specific project or projects led to the Company spending \$7.87 million over its allocated budget for Metering projects in calendar year 2020.

**The Department requests that MP provide additional information and/or discussion clarifying which specific projects or investments caused the Company to invest \$7.87 million over its allocated budget in the IDP Budget Category of Metering in the year 2020.**

Given MP's overlapping investments in the IDP Budget Categories of Age-Related Replacement and Asset Renewal, System Expansion or Upgrades for Reliability and Power Quality, and Grid Modernization and Pilot Programs discussed in Section II.C.3 above, the Department suggests that one approach to helping stakeholders understand spending on non-capacity related projects is to provide information that indicates that MP is "right-sizing" its system by demonstrating projects are designed to solve the problem that is identified, and in so doing, that MP is minimizing the amount of money being spent and can show that its spending is concomitant to the level of need.

Applied to the “System Expansion or Upgrades for Reliability” IDP Budget Category, MP could provide stakeholders with information proving that DEA’s spending on capacity-related projects is the “right size” for the problem identified. The Department asks the general question: is MP’s spending on specific components of the distribution system appropriate given the issue that the Company is trying to address or prevent?

The Department proposes “right-size analysis” as a way to help answer this question, defined as: the process of matching utility investments to the need identified by the engineering analysis of the distribution system so performance and reliability of the distribution system is achieved at the lowest possible cost. This also includes the process of looking at deployed equipment and identifying opportunities to eliminate redundancies, downsize components that may be no longer needed, repurpose and redeploy equipment, and/or incorporate NWA or DER to decrease loading thereby reducing thermal stress on components and extending the life of deployed assets, all without compromising performance or reliability with the express goal of reducing total system costs.

The Department’s experience in the distribution system, however, is limited, and invites Minnesota and other stakeholders to comment generally on this proposed analytical method. The preliminary theoretical approach articulated above can and should be scrutinized: is it the appropriate way to think about these issues and evaluate the general question articulated above?

The Department welcomes feedback and information on how to best approach answering this question.

5. *Planning Objective #5 - Provide the Commission with the information necessary to understand the utility’s short-term and long-term distribution system plans, the costs and benefits of specific investments, and a comprehensive analysis of ratepayer cost and value*

The fifth Planning Objective relates to whether the IDP provides the Commission with information necessary to understand MP’s short-term and long-term distribution system plans, the costs and benefits of specific alternatives to any proposed or anticipated investments, and a comprehensive analysis of ratepayer cost and value.

This planning objective articulates the expectation that utilities should prepare complete evaluations of planned investments, and particularly investments in grid modernization, to ensure that the Commission and stakeholders are provided with the necessary information to evaluate the reasonableness of these plans.

The Department emphasizes that information related to IDP Filing Requirement 3.D. is vital to understanding MP’s distribution system plans, specifically with regards to investments in technologies that the Company asserts is necessary to modernize its distribution system. There should be a clear connection between the information and analyses provided in response to IDP Filing Requirement 3.D.

and specific grid modernization proposals. The Department further addresses the value of IDP Filing Requirement 3.D., especially in the context of the Guidance Document's prescriptions for filing requirements related to a utility's grid modernization plans, in the Notice topics that follow.

The Department contends that certain elements of MP's IDP can be improved upon to assist with the evaluation of whether the IDP fulfills the Commission's Planning Objectives, particularly if the Department's and Synapse's recommendations for additional information and transparency are heeded. Overall, the Department concludes that MP generally provided relevant and sufficient information to assess whether the outcomes that the Planning Objectives articulate can materialize over time but emphasizes the need for additional information and transparency in some aspects of the IDP.

*D. IDP NOTICE TOPIC #3: WHAT IDP FILING REQUIREMENTS PROVIDE THE MOST VALUE TO THE PROCESS, AND WHY?*

*1. OVERVIEW*

In general, the Department reiterates its focus on three overarching themes regarding distribution system planning: (1) distribution system planning should itself be cost-effective and lead to outcomes that are also cost-effective; (2) distribution system planning reporting should correct a historic, long-term information asymmetry between regulators and utilities; and (3) IDP requirements between utilities should be consistent to the greatest extent practicable. IDPs should provide stakeholders with enough information to enable the evaluation of a utility's approach to distribution system planning.

The Department builds upon these three themes by articulating a fourth, which was also evinced in Xcel Energy's most recent Integrated Resource Plan proceeding in stakeholder comments and summarized in Staff Briefing Papers and is applicable to all utilities filing IDPs: utilities should undertake efforts to align the planning processes of integrated distribution system planning and integrated resource planning to the extent that such processes rely on tools, methods, data, and information (notably, forecasting of DERs) that can be shared in ways that lead to mutually beneficial outcomes for both processes and the consistent use of data and information in each process.<sup>31</sup>

*2. IDP FILING REQUIREMENT 3.C: DISTRIBUTED ENERGY RESOURCE SCENARIO ANALYSIS*

This filing requirement generally requires utilities to prepare for various scenarios of DER deployment and proactively identify and plan for mitigations or investments to facilitate increased DER adoption. Minnesota Power provided a discussion of its Distributed Resource Scenario Analysis process in Section

---

<sup>31</sup> *In the Matter of Xcel Energy's 2020 – 2034 Integrated Resource Plan (IRP)*, Docket No. E002/RP-19-368. Staff Briefing Papers, at 115, 125 – 126, and 181 – 184. January 18, 2022. Commission Order forthcoming.

IV.C of the 2021 IDP, and explained that the Company accounts for existing DERs on their system using one of two methods:

- DER is accounted for by reducing customer demand based on the historical measured DER usage or generation, or
- DER is accredited as a capacity resource and is used by the Company to meet its Planning Reserve Margin Requirement in MISO Module E-1 and the IRP.<sup>32</sup>

MP noted its belief that the above-listed methods for treating DER on the distribution system should be sufficient to capture impacts in resource planning and forecasting in the near future. The Company's 2021 IRP and IDP share the same three scenarios for the rate of new technology adoption (for EV and DG solar), with minor modifications for the IDP scenarios to include Company assumptions regarding the future impacts from the adoption of a default Time of Day (TOD) rate option for residential customers and the potential installation of 16 new Direct Current Fast Charging stations for EVs in MP's service territory. The Department reviewed the assumptions and design of the base, medium, and high adoption scenarios used in the 2021 IDP and found them to be reasonable and conducive to an informed comparative scenario analysis that will assist the Company in planning distribution system investments in the short and long term.

### *3. IDP FILING REQUIREMENTS 3.A.26-30 AND 3.E*

Additionally, the Department also continues to support and encourage further development of those sections of MP's IDP that elucidate the guiding philosophies and prioritization of variables in the creation of scenarios for analysis and ultimate selection of a final investment strategy.

MP provided a discussion of its financial planning process in Section IV.A of the 2021 IDP. The Company explained that the long-range plan generally utilizes historical spending to establish amounts for routine maintenance.<sup>33</sup> Specific projects are selected based on timing and need, as identified through internal analysis and asset renewal prioritization or in close coordination with customers, local government, or other business groups within the Company. As discussed below the Company is in the process of evaluating a cost-benefit analysis framework for NWA as it plans to increase investments in grid modernization technologies and programs leveraging MP's AMI system, and the Department expects that this process will yield the data and results called for by the Guidance Document to assess grid modernization projects and encourages the Company to be forthcoming in sharing the lessons learned from this study.

---

<sup>32</sup> MP 2021 IDP, at 77.

<sup>33</sup> *Id.*, at 71.

Recognizing that the Company does not have sufficient experience with the process of identifying, evaluating and implementing non-wires solutions, MP has contracted with a consultant to conduct a Distribution Non-Wire Alternatives Study that was initiated in mid-2021 to gain experience with the evaluation, development, and justification of non-wire solutions.<sup>34</sup> This consultant is being tasked with developing non-wire solutions for specific opportunities on MP's system where enhanced backup capability, feeder automation, or dynamic voltage control are or could become desirable. Once these opportunities and solutions have been identified the consultant will develop a framework for determining where and how these NWA solutions provide sufficient value to MP and produce the required technical scoping documentation to assist the Company in developing and procuring any or all of the solutions investigated.

MP stated that the study effort is expected to take the entirety of 2021 (and possibly in to 2022), with the earliest implementation opportunity for any projects selected through this process most likely to occur in 2023.

The Department anticipates that this study will provide MP with a wealth of knowledge that will be indispensable to the Company, regulators, and stakeholders as they evaluate future supply- and demand-side alternatives to address known reliability and load-serving issues on the distribution system.

**The Department requests that Minnesota Power provide an update on the current status of the Non-Wire Alternatives Study in Reply Comments.**

The Department reiterates the earlier discussion in Section 3.C.3 above regarding a potential recommendation for future IDPs to include some illustrative examples of detailed and complete BCAs for proposed projects within each of the IDP Budget Categories. While not necessarily related to grid modernization, such information would nevertheless be consistent with the Guidance Document's prescriptions regarding the provision of additional information regarding the evaluation of utility investments.

**4. IDP FILING REQUIREMENT 3.D**

Section 3.D of utility IDP Filing Requirements require utilities to provide a 5-year Action Plan as part of a 10-year long term plan for distribution system developments and investments in grid modernization, with sub-requirements for utilities to discuss topics and provide information that have parallels to the information that utilities are required to provide in utility IRPs, specifically related to requirements that a utility must identify resource options available to meet the service needs of its customers over the

---

<sup>34</sup> *Id.*, at 69.

forecast period and supporting information that utilities are required to provide to support the selection of its proposed resource plan.<sup>35</sup>

Once the Commission approves the resource plan that identifies generic resources that it needs to acquire over the forecast period, a utility then proposes to acquire specific resources based on the resource plan and in a CN proceeding that has its own extensive set of filing requirements and evaluation criteria upon which a decision to grant a CN must be made, all of which require a utility to demonstrate that it is making a reasonable, prudent decision in the public interest.<sup>36</sup>

As discussed in greater detail in Section II above, the Department contends that a meaningful connection between a utility's IDP and specific grid modernization proposals can and should be made in the same spirit of the IRP-CN connection. Section 3.D of a utility's IDP serves a similar planning function to the IRP process, and the Guidance Document serves a similar prudency determination and ratepayer protection function to the CN process.

It is in that spirit that the Department offers the Guidance Document for consideration and why the Department will evaluate grid modernization proposals based on the prescriptions of the Guidance Document.

*E. IDP TOPIC #4: ARE THERE FILING REQUIREMENTS THAT ARE NOT INFORMATIVE AND/OR SHOULD BE DELETED OR MODIFIED, AND WHY?*

*1. The Definition of "Non-Traditional" Distribution Projects*

**The Department recommends that the Commission further clarify its intent in Filing Requirement 3.A.28 which requires the utility to provide "[p]rojected distribution system spending for 5-years into the future for the categories listed above, itemizing any *non-traditional* distribution projects (emphasis added)."**<sup>37</sup>

Upon review of the utilities' response to this filing requirement it appears to the Department as if respondents are choosing to define this somewhat ambiguous term as being synonymous with Non-Wires Alternatives and are thus only presenting itemized cost data for those projects meeting NWA thresholds for consideration. This has greatly limited the amount of detailed financial information provided to the Commission for review and frustrates Department efforts to confirm that projected investments in MP's 5-year plan are indeed timed and sized appropriately to meet or otherwise respond to short-term distribution system needs.

---

<sup>35</sup> See generally Minn. R. 7843, accessed at: <https://www.revisor.mn.gov/rules/7843/full>.

<sup>36</sup> See generally Minn. R. 7849, accessed at: <https://www.revisor.mn.gov/rules/7849/full>.

<sup>37</sup> Commission's 2019 Order.

As a starting point for consideration, the Department invites feedback on a potential recommendation regarding the definition of “non-traditional” in the context of distribution system planning: should it be centered around the ability of a proposed project or technology to enable two-way information or power flows on the distribution system?

Such a definition would potentially capture the majority of technologies currently proposed as grid modernization projects that not only meet the Planning Objectives of enabling further customer engagement and options, but also enable the incremental deployment of additional technologies that each have their own unique set of costs and benefits that must be included in the immediate analysis of the proposal in front of the Commission.<sup>38</sup>

## 2. *Benefit-cost Analysis*

Benefit-cost analyses (BCAs) are fundamentally necessary in order to better understand why MP is proposing or planning to propose specific investments and determine whether the proposed investment is the most reasonable choice. This is especially true for grid modernization investments.

The Guidance Document affirms this view in Section 2.3:

BCA is a systematic approach for assessing the cost-effectiveness of investments by comparing benefits and costs of alternative options. The analysis entails identifying all the relevant benefits and costs of a project and determining whether the benefits exceed the costs over the lifetime of the expected program or project.

...

BCAs place the onus on the utility to demonstrate that an investment should be made, rather than starting from the assumption that it is necessary. By presenting and comparing the full range of costs and benefits to make the case for the utility investment in question, BCAs facilitate complete assessment of how a proposed investment will affect utility customers. BCAs...should be the primary means of evaluating grid modernization plans—even in instances where investments are claimed to be necessary.

The Guidance Document details how BCAs should be conducted by utilities so that the Commission and stakeholders can evaluate the reasonableness of the utility’s proposed investment.

---

<sup>38</sup> As an example, the Department notes that the Customer2Meter and Meter Data Management deployment, OMS upgrade, and EMS/DMS/DERMS upgrades currently under consideration by MP for deployment are enabled by the Company’s new AMI meters and load controllers.

Modifications of IDP Filing Requirements may be necessary if utilities are not furnishing appropriate levels of detail regarding their BCAs for proposed investments. However, at this time, the Department is not recommending any modifications of IDP Filing Requirements related to the provision of BCA information but will monitor future IDPs to ensure that Minnesota Power and utilities are providing BCA information consistent with the Guidance Document's prescriptions.

*F. IDP TOPIC #5: ARE THERE OTHER ISSUES OR CONCERNS RELATED TO THIS MATTER?*

As the Department explained in footnote 3, it was difficult to find a current version of utility IDP Filing Requirements. The Department suggests that IDP Filing Requirements should be published with each Commission Order that reflects any modifications so that stakeholders and utilities have an updated version of IDP Filing Requirements.

**The Department recommends that the Commission include MP's IDP Filing Requirements in its Order in this and subsequent IDP proceedings, including a red-line version if modifications are made to MP's IDP Filing Requirements.**

**IV. DEPARTMENT RECOMMENDATIONS**

The Department appreciates the opportunity to comment on Minnesota Power's 2021 IDP and looks forward to the review of other stakeholder comments. The Department commends MP for the quality of its IDP and requests that MP provide the following information in Utility Reply comments:

- **The Department requests that MP provide additional information and/or discussion clarifying which specific projects or investments caused the \$3.9 million increase in planned investments in the IDP Budget Category of Metering for the year 2022.**
- **The Department requests further discussion from Minnesota Power in reply comments regarding the specific reliability and resiliency targets used by the Company to select projects or sections of the distribution system to improve, and how MP intends to evaluate the performance of these projects and initiatives in improving system reliability and resiliency.**
- **The Department requests that MP provide additional information and/or discussion clarifying which specific projects or investments caused the Company to invest \$7.87 million over its allocated budget in the IDP Budget Category of Metering in the year 2020.**
- **The Department requests that in future filings regarding customer-facing utility offerings and programs that may be enabled by new investments in grid modernization technologies that Minnesota Power includes in the information provided in response to IDP Filing Requirement 3.D., Minnesota Power provides the following information:**

- Internal benefit-cost analyses for reference and investment case scenarios, including reasonably known and analyzed alternatives;
  - Assumptions and data supporting the projected customer participation rates;
  - Sensitivity analysis for varying rates of adoption of proposed programs; and
  - Discussion of how the proposed customer-facing utility offerings and programs may interact with existing or proposed Conservation Improvement Plan or Next Generation Energy Act programs.
- The Department requests that Minnesota Power provide an update on the current status of the Non-Wire Alternatives Study in Reply Comments.

The Department makes the following, initial recommendations:

- The Department recommends that the Commission require utility grid modernization proposals to adhere to the filing requirements, methods of evaluation, and ratepayer protections detailed in the Guidance Document.
- The Department recommends that the Commission require Minnesota Power to provide BCA information consistent with Section 2 of the Guidance Document (Grid Modernization Evaluation Framework), comply with Section 3 of the Guidance Document (Initial Filing Requirements), and propose an annual report of approved projects consistent with Section 4 of the Guidance Document (Ongoing Reporting Requirements) in future EUIC Rider proceedings for any projects that the Commission approves in those proceedings.
- The Department recommends that the Commission further clarify its intent in Filing Requirement 3.A.28 which requires the utility to provide “[p]rojected distribution system spending for 5-years into the future for the categories listed above, itemizing any *non-traditional* distribution projects (emphasis added).”
- The Department recommends that the Commission include MP’s IDP Filing Requirements in its Order in this and subsequent IDP proceedings, including a red-line version if modifications are made to MP’s IDP Filing Requirements.

## **CERTIFICATE OF SERVICE**

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

**Minnesota Department of Commerce**  
**Comments**

**Docket No. E015/M-21-390**

Dated this **16<sup>th</sup>** day of **May 2022**

**/s/Sharon Ferguson**

| First Name     | Last Name                      | Email                                | Company Name                       | Address                                                      | Delivery Method    | View Trade Secret | Service List Name      |
|----------------|--------------------------------|--------------------------------------|------------------------------------|--------------------------------------------------------------|--------------------|-------------------|------------------------|
| Generic Notice | Commerce Attorneys             | commerce.attorneys@ag.state.mn.us    | Office of the Attorney General-DOC | 445 Minnesota Street Suite 1400<br><br>St. Paul, MN 55101    | Electronic Service | Yes               | OFF_SL_21-390_M-21-390 |
| Sharon         | Ferguson                       | sharon.ferguson@state.mn.us          | Department of Commerce             | 85 7th Place E Ste 280<br><br>Saint Paul, MN 551012198       | Electronic Service | No                | OFF_SL_21-390_M-21-390 |
| Melinda        | Granley                        | mgranley@duluthmn.gov                |                                    | 411 West First St<br><br>Duluth, MN 55802                    | Electronic Service | No                | OFF_SL_21-390_M-21-390 |
| Alexander      | Jackson                        | ajackson@DuluthMN.gov                | Minnesota Power                    | 1532 W Michigan St<br><br>Duluth, MN 55806                   | Electronic Service | No                | OFF_SL_21-390_M-21-390 |
| David          | Moeller                        | dmoeller@allete.com                  | Minnesota Power                    | 30 W Superior St<br><br>Duluth, MN 558022093                 | Electronic Service | Yes               | OFF_SL_21-390_M-21-390 |
| Generic Notice | Residential Utilities Division | residential.utilities@ag.state.mn.us | Office of the Attorney General-RUD | 1400 BRM Tower<br>445 Minnesota St<br>St. Paul, MN 551012131 | Electronic Service | Yes               | OFF_SL_21-390_M-21-390 |
| Anne           | Rittgers                       | arittgers@mnpower.com                | Minnesota Power                    | 30 W Superior St<br><br>Duluth, MN 55802                     | Electronic Service | No                | OFF_SL_21-390_M-21-390 |
| Will           | Seuffert                       | Will.Seuffert@state.mn.us            | Public Utilities Commission        | 121 7th PI E Ste 350<br><br>Saint Paul, MN 55101             | Electronic Service | Yes               | OFF_SL_21-390_M-21-390 |