COMMERCE DEPARTMENT

July 31, 2024 **PUBLIC DOCUMENT**

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

RE: **PUBLIC Joint Comments of the Minnesota Department of Commerce, Division of Energy Resources, the Office of the Attorney General, and the Citizens Utility Board of Minnesota**
Docket No. E-002/M-23-467

Dear Mr. Seuffert:

Attached are the **PUBLIC** comments of the Minnesota Department of Commerce, Division of Energy Resources (Department),[1] the Office of Attorney General (OAG), and the Citizens Utility Board of Minnesota (CUB) (together, Joint Commenters) in the following matter:

> In the Matter of the Petition of Northern States Power Company d/b/a/ Xcel Energy for Approval of the Transmission Cost Recovery (TCR) Rider Revenue Requirements for 2023 and 2024, Tracker True-Up, and Revised Adjustment Factors

The Petition was filed by Xcel Energy on October 31, 2023.

These comments respond specifically to Topic 4 and Topic 5 from the Notice of Comment Period issued on November 22, 2023.

The Joint Commenters recommend that the Commission not accept as filed Xcel Energy's proposal for performance incentive mechanisms, but instead make certain modifications to this performance incentive framework. The Joint Commenters also offer other related recommendations in these comments. The Joint Commenters are available to answer any questions the Minnesota Public Utilities Commission may have.

Sincerely,

/s/ Sydnie Lieb
Assistant Commissioner of Energy Regulatory Affairs

/s/ Annie Levenson-Falk
Executive Director, Citizens Utility Board of Minnesota

/s/ Peter Scholtz
Assistant Attorney General, Office of the Attorney General - Residential Utilities Division

NC/MJ/PT/ar
Attachment

[1] The Department's consultant, Synapse Energy Economics, Inc. (Synapse), provided analysis and recommendations on behalf of the Department in this proceeding.

Before the Minnesota Public Utilities Commission

PUBLIC Joint Comments of the Minnesota Department of Commerce, Division of Energy Resources, the Office of the Attorney General, and the Citizens Utility Board of Minnesota

Docket No. E-002/M-23-467

I. INTRODUCTION

In these comments, the Joint Commenters responds to Topics 4 and 5 from the Commission's Notice of Comment Period. These topics are presented below:

> **Notice of Comment Topic #4**
> Does Xcel Energy's AGIS-related cost recovery request, in the instant docket and relevant filings cited below, comply with the Commission's June 28, 2023 Order, including Xcel's proposals for:
> - Baseline data for Advanced Metering Infrastructure (AMI)/Field Area Network (FAN) metrics
> - New metrics
> - Interim performance targets and evaluation methods for all metrics
> - PIM [performance incentive mechanism] structure, including penalties and incentives as well as dates when the PIMs will take effect and terminate
>
> **Notice of Comment Topic #5:**
> Are new metrics more appropriate to assess Xcel's AMI/FAN performance and to use as the basis for cost recovery than metrics listed in the Commission's June 28, 2023 Order?

A. OVERVIEW OF JOINT COMMENTS

Notice of Comment Topics 4 and 5 encompass two related issue areas: the Company's compliance with Order directives from the Commission's June 28, 2023, Order in Docket No. E002/M-21-814, and the merits of the Company's PIMs proposals. The Joint Commenters address these issues in turn and provide recommendations for modifications to the Company's proposed reporting and incentive frameworks, which the Joint Commenters believe will better achieve the Commission's objectives in promulgating performance measurement and accountability for Xcel's AMI and FAN investments.
These comments are ordered as follows:

2) Summary of Joint Commenters' Findings and Recommendations
3) Procedural History and Relevant Grid Modernization Regulatory Background
4) Xcel's Compliance with Commission Orders on Performance Mechanisms
5) Joint Commenters' Recommendations for Performance Metrics for AMI and FAN
6) Appendix A: Detailed Recommendations on PIMs
7) Appendix B: Detailed Analysis of Compliance with Commission Orders

B. SUMMARY OF JOINT COMMENTERS' FINDINGS AND RECOMMENDATIONS

This section summarizes the Joint Commenters' findings and recommendations covering three topic areas: the purpose of PIMs for grid modernization, the Company's compliance with Commission Order Points, the merits of the Company's proposals and necessary modifications.

1. Joint Commenters' Findings and Recommendations on the Purpose of PIMs for Grid Modernization

The Joint Commenters have carefully reviewed the relevant procedural history and grid modernization background in Minnesota to assess the purpose of PIMs development in the instant proceeding. The Joint Commenters aim to support a shared understanding of the purpose of the PIMs in the grid modernization context so that key issues of timing, value, and scope for the PIMs can more easily be resolved.

The Joint Commenters put forward one principal finding and one recommendation on PIMs for grid modernization. The Joint Commenters find that PIMs in the grid modernization context should be viewed as mechanisms for customer and consumer protection first. The impetus to develop these PIMs for AMI and FAN in the instant proceeding is part of a broader and still-ongoing regulatory project to rationalize, standardize, and enhance the evaluation of grid modernization investment proposals and provide for customer protections in the face of often costly modernization investments (discussed in greater detail in the section on procedural history, below). While customer protection is always a fundamental priority, it is a particular challenge with grid modernization investments, which are both essential—for a distributed grid, integrated planning, and the energy transition—and difficult to get right due to their complexity, interactivity, optionality, and expense. The Commission has met these challenges by promulgating various requirements through its Orders to enhance both the information available on grid modernization projects at all stages of deployment, and accountability for these investments.

Given that PIMs for grid modernization aim to enhance customer protection by making the Company accountable for the benefits of these investments, the aim should be for an expansive portfolio of PIMs covering key benefits of AMI and FAN. The Commission seems to share this view, since it has required Xcel to file detailed information (baselines, targets, PIM proposals) for the numerous claimed benefits of AMI and FAN. While it is not feasible to implement PIMs for each of these outcomes at present, the Joint Commenters submit that it is desirable to ultimately develop PIMs for as many of these outcomes as may be possible in the future, while the AMI and FAN investments are still in service. The Joint Commenters look ahead to the potential to continue to refine and expand the portfolio of grid-modernization-related PIMs in future years.

2. Joint Commenters' Findings and Recommendations on Compliance with Commission Orders

The Joint Commenters find that Xcel is generally in compliance with the filing requirements from the Commission's June 28, 2023, Order in Docket No. E002/M-21-814, with certain key exceptions that are described in Section III.A and Appendix B. While the Company has furnished the required historical performance data for each of the indicated metrics, the Company has not met the requirements to provide targets for certain metrics or to propose PIMs for each one. While the Company's justifications for *not* providing the required targets and PIM proposals are generally acceptable, in certain instances, which are noted in these comments, the Company has either not provided an explanation, or the explanation provided does not suffice.

3. Joint Commenters' Findings and Recommendations on Xcel's PIM Proposals

The Joint Commenters find the Company's PIM proposals to be deficient in several respects. First, as noted above, the Company has *not* proposed PIMs for all indicated outcomes. For instance, it has not proposed a PIM for peak load reduction, which represents a significant share of the total value of benefits associated with the AMI and FAN projects, per the Company's cost-benefit analysis (CBA).[2] The Joint Commenters do not find the Company's justifications for omitting certain PIMs proposals to be entirely sufficient; thus, the Company's PIM proposal should be viewed as incomplete.

Turning to the merits of what the Company has proposed (addressed in detail in Section D), the Joint Commenters are concerned about the structure of and attendant lack of transparency in the Company's proposals. The Company has put forward a composite PIM encompassing four distinct metrics that are equally weighted and jointly determine whether the Company is rewarded, penalized, or neither. These metrics are: percentage of disconnects done remotely, percentage of reconnections done remotely, usage on unassigned accounts, and number of theft/meter tampering cases completed. The evaluation approach proposed by the Company is unsupported and appears to be somewhat arbitrary. For example, Xcel proposes the same penalty and incentive value for each metric in its PIM proposal, yet the Company's CBA assumed different benefit levels across metrics. This discrepancy suggests that an equal weighting across metrics is both arbitrary and inappropriate. Further, the Joint Commenters are not supportive of establishing PIMs at this time for remote disconnections, remote reconnections, or theft/meter tampering case completion.

The Joint Commenters have other concerns about the Company's PIM proposal. Specifically, the overall value of the incentive appears to be too low and the timeline for deployment is needlessly delayed; the Joint Commenters do not believe that it is necessary or desirable to defer implementation of the PIMs until 2030 as the Company has proposed.

[2] Xcel Response to DOC Information Request 037, Attachment A Trade Secret (May 10, 2024) ("Xcel CBA").

i. Joint Commenters' PIM proposals

At this time, the Joint Commenters propose that three PIMs be established for the Company's AMI and FAN investments. The Joint Commenters' PIM proposals are presented below in Table 1.

Table 1. Joint Commenters' PIM Proposals

PIM Outcome	Definition (metric)	Year effective	Incentive (2030)
Unassigned usage	Percent reduction compared with pre-AMI baseline	2026	**[TRADE SECRET DATA HAS BEEN EXCISED]** (penalty only)
Meter failure rate	Percent of AMI meters failing prematurely	2026	To be determined
Load shifting/ reduction	Megawatts of peak load shifted/reduced through critical peak pricing (CPP) and peak time rebates (PTR)	2026	**[TRADE SECRET DATA HAS BEEN EXCISED]** (reward or penalty)

To provide for necessary review and updates to the AMI/FAN PIMs portfolio, the Joint Commenters recommend that the Commission establish an annual review process with scope for stakeholder participation, whereby Xcel's performance in the preceding year would be evaluated and any rewards and/or penalties assessed, and whereby modifications to the PIMs portfolio (additions, subtractions, other changes) could be considered and adopted as warranted. The Joint Commenters see the establishment of this annual process as key to expanding the scope of the AMI and FAN PIMs in the future to cover a greater share of the benefits underpinning the case for the Company's AMI and FAN investments.

II. PROCEDURAL HISTORY

The current efforts to develop PIMs for AMI and FAN should be viewed as one step in an extended process to improve the regulation of grid modernization investments in Minnesota. Charting the historical development of Xcel's AMI and FAN projects leading up to the instant TCR petition (the second cost recovery request for AMI and FAN) brings into view many of the critical regulatory developments that the Commission has undertaken to rationalize and standardize the review of grid modernization investments and to enhance customer protections. This section provides key procedural history related to the AMI and FAN projects, specifically noting regulatory developments relevant to the current PIM process.

The Company's first major foray into grid modernization was with its proposal for an Advanced Distribution Management System (ADMS), which was certified in an Order in Docket No. E002/M-15-962, issued on June 28, 2016.[3] The Commission granted cost recovery for ADMS in a September 27, 2019 Order in Docket No. E002/M-17-797.[4] Through this latter Order, the Commission promulgated specific requirements for cost-benefit analysis of grid modernization investments. Also in this Order, the Commission requested that the Department seek authorization to incur costs for specialized technical professional investigative services to investigate the costs and benefits of grid modernization investments proposed by Xcel and to formulate recommendations.

Next, Xcel sought certification for the AMI and FAN projects as part of its 2019 Integrated Distribution Plan (IDP). The Commission certified these investments in its July 23, 2020 Order in Docket No. E002/M-19-666. Through this Order, the Commission clarified the role of certification and promulgated various informational requirements and customer protections that would play a pivotal role in future stakeholder discussions and TCR Petitions.

First, on certification, the Commission clarified that it "does not constitute a pre-judgment of whether costs will be recovered through riders or base rates . . . [it] simply permits a utility to request rider recovery in the future, which the Commission may approve or deny based on the facts available at that time."[5] Similarly, the failure to achieve certification for a given project proposal does not foreclose cost recovery; it merely closes off the possibility of seeking recovery through the TCR.

The July 23, 2020 Order also established parameters around the recovery of AMI and FAN costs from ratepayers:

> Furthermore, the Commission finds that certification of the AMI and FAN projects in this order is made with the recognition that future cost recovery will be based

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[3] *In the Matter of Xcel Energy's Biennial Distribution-Grid-Modernization Report*, Docket No. E-002/M-15-962, ORDER CERTIFYING ADVANCED DISTRIBUTION MANAGEMENT SYSTEM (ADMS) UNDER MINN STAT. 216B.2425 AND REQUIRING DISTRIBUTION STUDY (June 28, 2016).

[4] *In the Matter of the Petition of Northern States Power Company for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2017 and 2018, and Revised Adjustment* Factory, Docket No. E-002/M-17-797, ORDER AUTHORIZING RIDER RECOVERY, SETTING RETURN ON EQUITY, AND SETTING FILING REQUIREMENTS (Sept. 27, 2019) ("ADMS Cost Recovery Order").

[5] ADMS Cost Recovery Order.

> upon a utility accomplishing Commission-approved metrics and performance evaluations for the certified projects. Any future proposals for cost recovery of investments certified in this order must be accompanied by a proposal for specific metrics and evaluation methods, and a detailed plan describing how the company will maximize the benefits of the investments for ratepayers.[6]

Finally, the July 23, 2020 Order also added informational requirements for future AMI and FAN cost recovery requests and directed the Department to file a report with recommendations on metrics, performance evaluations, and customer protections for AMI and FAN.

The Company later sought cost recovery for AMI and FAN in its TCR petition dated November 1, 2021.[7] After entering into a procedural agreement with the Department, Xcel filed a supplemental CBA in August 2022 that further detailed the scope of the Company's proposed investments.[8]

CUB subsequently submitted comments on the Company's petition in response to the Commission's Notice of Comment Period released on August 22, 2022.[9] CUB's comments focused on several overarching issues, including the need to implement cost caps on project expenditures, share project-related revenue with customers, and develop robust reporting requirements and performance evaluations.[10] These positions were designed to ensure ratepayers received the promised benefits of AMI infrastructure, while simultaneously limiting their exposure to cost overruns. The Department and the OAG recommended similar ratepayer protections in their respective comments. As a result, CUB, the Department, and OAG determined that filing joint reply comments would be an appropriate avenue for expressing their united support for project parameters.[11]

In its June 2023 Order approving TCR recovery of AMI and FAN investments, the Commission adopted several of the parties' joint recommendations. Specifically, the Commission established cost caps on the projects, required the Company to track and return incremental cost savings back to customers, set

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[6] *Id.*
[7] *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, Initial Petition (Nov. 24, 2021).
[8] *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, Supplement Filing (Aug. 17, 2022).
[9] *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, NOTICE OF COMMENT PERIOD (Aug. 22, 2022).
[10] *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, Initial Comments of the Citizens Utility Board of Minnesota at 6-9 (Oct. 17, 2022).
[11] *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, Joint Recommendation of the Minnesota Department of Commerce, Division of Energy Resources, the Office of the Attorney General – Residential Utilities Division, and the Citizens Utility Board of Minnesota (Nov. 16, 2022).

extensive reporting requirements, and directed the Company to propose interim performance metrics and evaluation methods.[12] Xcel was also ordered to propose PIMs for each performance target.

III. ANALYSIS OF JOINT COMMENTERS

A. XCEL'S COMPLIANCE WITH COMMISSION ORDERS ON PERFORMANCE MECHANISMS

This section addresses Xcel's compliance with the Commission's filing requirements from its June 28, 2023, Order in Docket No. E002/M-21-814, as prompted by Notice Topic 4:

> Does Xcel Energy's AGIS-related cost recovery request, in the instant docket and relevant filings cited below, comply with the Commission's June 28, 2023 Order, including Xcel's proposals for:
> - Baseline data for AMI/FAN metrics
> - New metrics
> - Interim performance targets and evaluation methods for all metrics
> - PIM structure, including penalties and incentives as well as dates when the PIMs will take effect and terminate

As discussed below, the Commission's Order in Docket No. E002/M-21-814 laid out a phased process for Xcel's PIM development, including two compliance filings, culminating with the requirement for PIM proposals in the Company's 2023 TCR filing. In this section, the Joint Commenters provide a high-level overview of Xcel's compliance with Commission directives. Detailed discussion of compliance is provided in Appendix B.

1. First Compliance Filing (September 25, 2023) – Baseline Data and Interim Targets

The Commission's June 28, 2023, Order in Docket No. E002/M-21-814 included two Order Points that were specifically relevant to the first compliance filing filed by Xcel on September 25, 2023. Order Point 14 required Xcel to "file an .xls spreadsheet containing data for at least the three previous years pertaining to all metrics in Attachment 1, Table 1 of Staff Briefing Papers–Volume 2 filed on April 26, 2023 ("Staff Briefing Metric and Target Table"), to the extent possible, and where the data cannot be provided, explain why."[13] Order Point 15 required Xcel to "[p]rovide interim performance targets for each of the performance metrics that are 'undefined' in [the Staff Briefing Metric and Target Table], based upon projected benefits used in the Company's benefit-cost analysis."[14]

The Joint Commenters find that Xcel has complied with Order Point 14. As summarized in Appendix B of this document, Xcel provides historical data for each metric for the previous three years, except for the three

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[12] *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, ORDER APPROVING RIDER RECOVERY, CAPPING COSTS, AND SETTING FILING REQUIREMENTS at 6-9 (June 28, 2023) ("TCR Order").
[13] TCR Order at 9.
[14] *Id.* at 9-10.

load flexibility metrics. However, Xcel explains that the Company has not had time-of-use ("TOU") or CPP rates in place over the past three years that rely on AMI and therefore cannot provide any associated historical data. The Joint Commenters find Xcel's explanation for why it cannot provide historical data for the three load flexibility metrics to be reasonable.

The Joint Commenters find that Xcel is not fully compliant with Order Point 15, since the Company did not put forward performance targets for two of the four required outcomes—customer energy price savings due to TOU rates and customer savings due to CPP. The Joint Commenters are not persuaded by Xcel's argument that it is not feasible to develop interim performance targets since Xcel has yet to deploy TOU or CPP *en masse*. For example, Xcel could have used the data provided by Brattle to develop annual enrollment or participation targets in future TOU, CPP, or PTR rates.

2. Second Compliance Filing (November 1, 2023) – Annual Report on AMI and FAN

The Commission's June 28, 2023, Order included two Order Points that were specifically relevant to the second compliance filing filed by Xcel on November 1, 2023. Order Point 9 required Xcel to file a set of information regarding the functionality, deployment, and benefits of AMI and FAN.[15] Order Point 10 requires that Xcel file "an annual report of the metrics outlined in the [Staff Briefing Metric and Target Table]."[16] Additionally, "[f]or metrics for which performance may not yet be tracked, the Company must specify when it expects to be able to begin tracking performance. For any metric that the Company is unable to provide data for, the Company must explain why it is unable to do so and what efforts can be taken to obtain that data in future reports."[17]

The Joint Commenters find that Xcel has complied with Order Point 9 and 10. As summarized in Appendix B of this document, Xcel provides the requisite information for each Order Point's sub-bullets. The Joint Commenters have also included specific requests that are detailed in Appendix B and summarized here: Xcel should provide further explanation of avoided meter reading costs, clarity on differently realized benefits, and reporting on specific metrics which have not to date been tracked.

3. 2023 TCR Filing

The Commission's June 28, 2023, Order included one Order Point relevant to the Company's PIM proposals in its TCR filing. Order Point 16 required Xcel to propose a PIM for each metric/target in the Staff Briefing Metric and Target Table. Per Order Point 16, the PIM proposal was to include the following: the PIM structure, PIM timing, quantifiable and verifiable incentive values, a penalty option of the incremental cost to the least-cost investment, a penalty option of a proportion of return on the incremental cost, a deadband, and a discussion of stakeholder engagement.
Xcel did not propose a PIM for each of the performance metrics listed in the Staff Briefing Metric and Target Table. This omission is non-compliant with Order Point 16. However, the Joint Commenters do not believe that PIMs are appropriate for each performance target listed in the Table at this time. For each of

[15] *Id.* at 8-9.
[16] *Id.* at 9.
[17] *Id.*

the PIM proposals put forward by the Company, the requisite information outlined as per Order Point 16 was provided. Additional details on Xcel's PIM proposals are presented in Appendix B.

B. PERFORMANCE INCENTIVE MECHANISMS FOR AMI AND FAN

This section of the comments addresses Xcel's PIMs proposal and puts forward new recommendations for PIMs as prompted by Notice Topic 5:

> Are new metrics more appropriate to assess Xcel's AMI/FAN performance and to use as the basis for cost recovery than metrics listed in the Commission's June 28, 2023, Order?

The Joint Commenters begin with a discussion on principles for PIMs design and the ongoing PIM development work in the separate PBR docket. Then, the Joint Commenters provide feedback on the Company's proposal, which the Joint Commenters conclude falls short for several reasons. Next, the Joint Commenters present their proposals, which include several modifications to the PIMs scope, timing, value, and other parameters. The Joint Commenters also present recommendations for new metrics to track, which may potentially be converted to PIMs in the future. Recognizing that PIMs are not a "set it and forget it" exercise, the Joint Commenters provide some initial recommendations for future processes that recognize the need to annually measure and review PIMs, modify and introduce new PIMs as data is tracked, and more comprehensively evaluate PIMs as they progress in implementation. A more detailed discussion of the Joint Commenters' PIM recommendations regarding structure, targets, and monetary incentives is presented in Appendix A.

1. Principles for Designing and Implementing PIMs

The Joint Commenters begin by acknowledging the Commission-established metric design principles from the PBR proceeding in Docket No. E-002/CI-17-401, which the Company presents in full in its September 25, 2023, Compliance Filing.[18] The Joint Commenters generally agree that these principles are applicable to the instant proceeding and the task of developing PIMs for AMI and FAN.

However, the Joint Commenters highlight a key distinction in the objectives for the ongoing process of developing PIMs in the performance-based regulation (PBR) proceeding and the work of developing PIMs for AMI and FAN. While the efforts to devise PIMs in the PBR proceeding are part of the broader project of performance-based ratemaking and modernization of rate regulation, PIMs for AMI and FAN are not principally about revisions to the regulatory construct. Rather, these mechanisms are about holding the utility accountable for delivering the promised benefits of its investment. In order to deliver benefits to ratepayers, it is critical to implement investment-specific PIMs for AMI and FAN *as soon as possible*, as these investments are being deployed and cost recovery has already commenced. At this time, ratepayers

[18] *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, Compliance Filing (Sept. 25, 2023) ("September 25, 2023, Compliance Filing").

face certain (and significant) costs but uncertain benefits—which is why the Commission ordered these investment-specific PIMs. Thus, while the PBR proceeding is still at a relatively nascent stage, it is not necessary or desirable to wait for that proceeding to progress before developing specific PIMs for grid modernization investments in the instant proceeding.

2. Response to Xcel's General Approach to PIMs

The Company's PIMs proposal falls significantly short of delivering the kind of accountability expected by the Commission to appropriately leverage the capabilities of AMI to achieve benefits for ratepayers. The Company's investment in AMI was largely predicated on achieving these customer benefits. Indeed, Xcel witnesses testified that its CBA is reasonable, and the positive benefit-cost ratio (BCR) of the CBA played a significant role in the approval of these investments. Xcel should be held to the promised benefits of these investments to ensure AMI investment benefits do not accrue solely to utility shareholders. Below, the Joint Commenters note several specific issues with the general PIM approach put forward by Xcel. The Joint Commenters also do not support incentives for remote reconnections, remote disconnections, or reduced theft and meter tampering at this time. These concerns with specific PIM outcomes are addressed further below in the comments.

First, the Joint Commenters find that Xcel's proposal is inappropriately structured. The Company's proposal to combine four metrics and equally weigh them to form a single PIM is unjustified and not in the interest of ratepayers. Under this structure, the Company could underperform and receive no penalty. Further, such a formulation is needlessly complex and lacking in transparency. The Company has not justified why each of the four outcomes included in its proposed PIM should be equally weighted, when Xcel found the benefits of each metric to differ in its CBA. For example, the Company's CBA shows a net-present value of **[TRADE SECRET DATA HAS BEEN EXCISED]** in benefits for theft/tamper detection reduction and **[TRADE SECRET DATA HAS BEEN EXCISED]** from cost savings from remote disconnects. The Joint Commenters recommend that each PIM in the AMI and FAN portfolio be individually evaluated to ensure adequate performance for key benefit areas.

Second, the Joint Commenters do not support the symmetrical approach to PIMs proposed by the Company in every instance. The appropriateness of this approach should depend on the individual PIM; in some cases, a penalty-only PIM may be appropriate. It is key to observe here that the Company is already earning significant returns on its AMI and FAN investments. The purpose of the PIMs to be deployed for these investments is primarily to ensure that these returns are only retained in full if the Company provides customers with the benefits expected from these investments. Rewards should only be given for exceptional performance that provides significant additional ratepayer benefits.

Finally, the Joint Commenters strongly oppose the deferred timeline for PIM deployment that Xcel proposes, with PIMs not taking effect until 2030. By contrast, the Company's CBA assumed substantial or complete achievement of benefits starting in 2024. The Company's proposal to wait until 2030 to be held accountable is unacceptable and not in the public interest.

3. Joint Commenters' PIMs Proposal

The Joint Commenters' PIMs proposal is presented below. The Joint Commenters then discuss which of the Company's proposed PIMs should not be adopted and conclude with a discussion of additional reporting and future PIM development.

While acknowledging the goal of ultimately developing additional PIMs to capture more of the benefits of AMI and FAN, at present, the Joint Commenters offer a limited proposal. The Joint Commenters have maintained one PIM from the Company's proposal while recommending that three PIMs from this proposal not be adopted. The Joint Commenters also present two new PIMs into our proposal, for meter failure rate and load reduction/shifting. The Joint Commenters emphasize that load shifting and load reduction is a significant and critical benefit for AMI and FAN underlying the value proposition for these investments.[19]

The Joint Commenters are optimistic that additional PIMs may be added to this portfolio in the future to capture other benefits of AMI and FAN. Of particular note are the efficiency benefits. As addressed above and in Appendix B, the Company maintains that certain efficiency benefits are not trackable. The Joint Commenters adopt an agnostic stance with respect to this claim, maintaining that the Company should work to develop methods to track all projected benefits to the extent practicable.

i. Joint Commenters' Proposal for Approach to Incentives and Deployment Timeline

As explained above, the Joint Commenters view the PIMs for AMI and FAN as critical for customer protection. As such, it is imperative that PIMs go into effect as soon as reasonably possible. The Joint Commenters recommend that PIMs be deployed beginning in 2026. It is not in the public interest to delay deployment of PIMs until 2030, as the Company proposes. The Joint Commenters provide recommendations below for an annual process whereby the PIM portfolio may be modified to incorporate additional PIMs or modify existing ones.

To ensure that these PIMs are effective, the incentive approach and total value of incentives should be sufficient to induce meaningful utility action. The Joint Commenters find the Company's total proposed incentive for its PIM to be too low. The total reward potential under the Joint Commenters' initial proposal for PIMs is approximately **[TRADE SECRET DATA HAS BEEN EXCISED]**in 2030, while the total penalty potential is approximately **[TRADE SECRET DATA HAS BEEN EXCISED]** in 2030, plus any incremental cost associated with excessive meter failures. In the Joint Commenters' view, this incentive level is large enough to be consequential to the Company without being excessive. The total valuation for these PIMs also comports with the Commission's directions for incentive-setting provided in the June 28, 2023, Order in Docket No. E002/M-21-814 based upon the Company's indications about the incremental cost of its selected AMI meters over lower cost AMI meters.

[19] While the Joint Commenters outline the primary aspects of its proposed PIMs in these comments, certain issues related to PIM implementation should be addressed in compliance filings. For example, the measurement of load reduction for the CPP/PTR PIM may be proposed by Xcel and is considered out of scope for these comments. Furthermore, it may be best for third parties, rather than the utility, to measure and determine PIM compliance, given the inherent conflict of interest for Xcel to do this itself.

While the Company proposed equal incentives and penalties for its PIM, the Joint Commenters do not consider such a blanket approach to be appropriate, as indicated earlier. Specific incentive specifications for each PIM are discussed in the corresponding sections below.

The Joint Commenters initially recommend a simple approach to an incentive structure, whereby crossing a PIM penalty or reward threshold will result in the Company incurring the full penalty or reward. However, the Joint Commenters are not wedded to this binary approach and are open to considering an alternative, continuous approach where the Company could stand to receive a portion of the penalty or reward based upon performance on a pro rata basis, should the Commission prefer it.

ii. Joint Commenters PIM #1: Unassigned Usage PIM

Unassigned usage is energy usage that is not linked to a customer account.[20] AMI supports reduction of unassigned usage primarily through its remote disconnection capabilities, which allows Xcel to "more quickly disconnect the meter, preventing additional usage."[21] While the Joint Commenters are generally opposed to PIMs that encourage faster disconnection of customers experiencing financial hardship or who have fallen into arrears for other reasons, addressing unassigned usage is more of an administrative issue that can benefit ratepayers by reducing uncollectable expenses that would otherwise be recovered from ratepayers. To this end, the Joint Commenters understand that the first goal in addressing cases of unassigned usage is to assign usage to a customer account for payment and not to disconnect customers.[22,23]

The Joint Commenters recommend a penalty-only PIM which would be evaluated based on the percentage reduction in unassigned usage with AMI relative to a pre-AMI baseline. This penalty-only approach is recommended because Xcel already receives an inherent benefit from remedying unassigned usage through the reduction of bad debt. The target for the PIM is based on the Company's projection to achieve a 20-percent reduction in unassigned usage with AMI meters by the year 2026. If Xcel does not achieve this target in a given year, then the Joint Commenters recommend that the Company incur a penalty equal to 50 percent of the expected value of this benefit or **[TRADE SECRET DATA HAS BEEN EXCISED]**. See Appendix A for additional discussion of targets and penalty values for this PIM.

Though the Joint Commenters are less concerned about impacts to vulnerable customers through targeting reduction of unassigned usage, some customer protections are still warranted. The Joint Commenters understand that while the Cold Weather Rule (Minn. Stat. § 216B.096) does not apply to unassigned usage cases since this usage is putatively occurring at vacant premises, the Company has nonetheless observed a

[20] Xcel refers to unassigned usage as "consumption on inactive meters."
[21] September 25, 2023, Compliance Filing at 17.
[22] To facilitate such assignment, the Joint Commenters understand that Xcel evaluates property records, sends communications to residences, attempts to contact the last-known owner and/or current occupants, and conducts further investigation as needed. Disconnection of unassigned usage is therefore a last resort if these methods of assigning usage are unsuccessful.
[23] If unassigned usage is not subsequently assigned to an account, then it is generally collectable from ratepayers as a bad debt expense.

moratorium against shutoffs of unassigned accounts during the cold weather period "out of an abundance of caution."[24] The Joint Commenters recommend that, in conjunction with implementing this PIM, the restriction against Cold Weather Rule period shutoffs be formalized so that shutoffs of unassigned usage not be permitted while the Cold Weather Rule is in effect.

In its September 25, 2023, Compliance Filing, the Company discusses a "ramp-up approach" to shutting off unassigned usage whereby disconnections are prioritized based upon a usage threshold and days of vacancy at the given premises. As of the date of this filing, Xcel's effective thresholds for disconnection were 500 kWh of consumption and 60 days vacancy.[25] The Joint Commenters recommend that these usage and vacancy duration thresholds be formalized as additional customer protections, whereby Xcel would not shutoff unassigned usage until *both* thresholds have been exceeded.

iii. Joint Commenters PIM #2: Meter Failure Rate PIM

In its CBA for AMI and FAN, Xcel incorporated a dollar benefit for reduced meter failures with AMI compared with its traditional meters.[26] As the Company states, "AMI meters are anticipated to have a lower failure rate than … legacy AMR [automated meter reading] meters."[27] Because Xcel does not separately track costs associated with meter replacements due to failure, it recommends reporting on actual observed failure rates instead.[28]

Because the failure rate is a "clearly defined, quantifiable, objective, and easily interpreted metric" the Company supports tracking and reporting the variable.[29] However, Xcel argues that establishing a PIM based on this metric inappropriately assumes the failure rate is within the Company's control.[30] Consequently, Xcel excludes "avoided meter purchases" from its PIM calculations.

The Joint Commenters disagree with Xcel and recommend establishing a PIM that would penalize the Company for an excessive rate of meter failures. While Xcel may not be able to control the rate of AMI meter failures and replacements, the Company did cite a lower failure rate as partial justification for the AMI investment. In the Joint Commenters' view, the risk –and associated incremental costs—of a greater-than-anticipated meter failure rate should be borne by the Company, not its customers. The proposed meter failure rate PIM would effectively transfer this risk to the Company.[31]

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[24] September 25, 2023, Compliance Filing at 18.
[25] Id.
[26] *In the Matter of the Petition of Northern States Power Company d/b/a Xcel Energy for Approval of the Transmission Cost Recovery (TCR) Rider Revenue Requirements for 2023 and 2024, Tracker True-Up, and Revised Adjustment Factors*, Docket No. E-002/M-23-467, Initial Petition, Attachment 15A at 3 (Oct. 31, 2023) (hereinafter "Xcel Performance Incentive Mechanism Proposal").
[27] Xcel Performance Incentive Mechanism Proposal at 3.
[28] September 25, 2023, Compliance Filing at 8-9.
[29] *Id.*
[30] *Id.* at 3-4.
[31] The basis for the Joint Commenters' PIM recommendation is that Xcel's customers would incur incremental expenses as a result of excessive meter failures. However, if Xcel has a warranty for excessive meter failures that would protect its customers from such incremental costs, then the Joint Commenters would consider modifying their recommendation for

The Joint Commenters propose that the penalty threshold for this PIM be set at 0.5 percent per-year, consistent with Xcel's CBA assumption and as reaffirmed in the Company's September 25, 2023, Compliance Filing. The Joint Commenters recommend adoption of Xcel's evaluation methodology from this compliance filing, which is given as:

$$Failure\ Rate = \#\ of\ failed\ meters\ \div total\ \#\ of\ AMI\ meters\ purchased$$

Under the Joint Commenters' proposal, the Company would incur a penalty in any year in which the failure rate exceeded the 0.5 percent threshold.
The Joint Commenters recommend that the penalty for this PIM for any year in which actual meter failures exceed the penalty threshold be calculated based upon the following formula:

$$Penalty = (Failure\ Rate - 0.5\ percent)\ \times total\ \#\ of\ AMI\ meters\ purchased \times Cost\ of\ Replacement\ Meter$$

Applying this penalty formula would result in Xcel incurring a penalty only for meter failures exceeding the projected failure rate of 0.5 percent per year, with the penalty amount set on a per-failed-meter basis at the cost of meter replacement, *inclusive of Xcel's return on the replacement meters*. The Joint Commenters recommend that Xcel be required to calculate any penalty amounts in its annual performance report, discussed below in Section D.6.

iv. Joint Commenters PIM #3: Load Shifting and Load Reduction PIM

Critical peak pricing (CPP) is a rate design that targets peak load shifting and reduction through high on-peak rates; peak time rebates (PTR) accomplish the same through rebates to customers for peak load shifting and reduction during peak hours. The Company is already piloting a CPP rate for the General Service class as part of its TOU pilot.[32] Further, Xcel administers the "Energy Action Days" demand response program for the Residential class, which is a PTR-like offering,[33] and has an additional proposed PTR-like program, the "Peak Day Partners" program, that is still under review.[34] Per the CBA, Xcel expects significant peak load shifting and reduction from CPP rates; **[TRADE SECRET DATA HAS BEEN EXCISED]** of

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the meter failure PIM. In such a case, however, it would be imperative that Xcel document the terms and costs for any such warranty. Further, if Xcel had already procured warranty coverage for excessive meter failures at the time that it prepared its CBA, then its decision to include avoided meter failures as a benefit in its CBA would have been methodologically questionable.

[32] Xcel Energy, Minnesota Electric Rate Book – MPUC No. 2, Section No. 5, 14th Revised Sheet No. 33 (Oct. 17, 2023). Accessed at: https://xcelnew.my.salesforce.com/sfc/p/#1U0000011ttV/a/8b000002fjAV/BD4.UWYqhUeD9gdYeltnN3efY8274cNpjireIfBgkU8.

[33] *2024-2026 Minnesota Electric and Natural Gas Energy Conservation and Optimization Plan*, Docket No. E,G002/CIP-23-92, 2024-2026 ECO Triennial Plan, Minnesota Electric and Natural Gas Energy Conservation and Optimization Program at 195 (June 29, 2023).

[34] *Xcel Energy's 2024-2026 ECO Plan: Program Modification Request for Inclusion of Peak Day Partners and Battery Connect Programs (Petition)*, Docket No. ECO-PD-23-92-MOD1, Analysis, Recommendations, and Proposed Decision (Proposed Decision) of the Staff of the Minnesota Department of Commerce, Division of Energy Resources (Staff) (May 10, 2024).

load shifting and reduction benefits and **[TRADE SECRET DATA HAS BEEN EXCISED]** of total AMI benefits were assumed to come from CPP rates in the Company's CBA.

The Joint Commenters strongly disagree with Xcel that a PIM is not warranted for load shifting and reduction benefits from AMI because the rates are currently unavailable on a broad basis and "evaluation of individual rates and programs, regardless of whether they are partly enabled by AMI or any other technology, should happen in the distinct dockets where the rate or program is proposed and approved."[35] When it proposed AMI, the Company effectively requested to raise rates for all ratepayers based in large part on the notion that ratepayers would receive net benefits. The Company estimated an average benefit of **[TRADE SECRET DATA HAS BEEN EXCISED]** starting in 2025 from load shifting and reduction due to CPP rates alone.[36] Now that it has received approval for ratepayer funding, a portion of which will begin flowing to utility shareholders, the Company wishes to excuse itself from delivering the benefits it claimed ratepayers would receive and upon which the Commission, in part, approved cost recovery. If anything, Xcel's position shows why a PIM is necessary here, as the Company should have prioritized delivering benefits in the same way it has prioritized installing meters. Therefore, a PIM to achieve load shifting and reduction benefits is warranted due to the need to quickly promote load flexibility and realize a key benefit from the CBA.

The Joint Commenters propose to implement a load shifting and reduction PIM, to become effective in 2026, that would be specified with both penalties and rewards. While the Company's CBA included only benefits from CPP, the Joint Commenters propose to also count load shifting and reduction from Peak Time Rebates (PTR) toward the PIM targets. Both of these rate designs are facilitated by AMI meters and appropriately capture the sort of load shifting envisioned by the Company and Commission when cost recovery was initially approved.

Under the Joint Commenters' proposal, separate reward and penalty thresholds would be established for each year. The reward threshold would be set at the level of benefits assumed by the Company in its CBA for CPP, based upon a study by the *Brattle Group* (See Appendix A).[37,38] Critically, the Company's benefit calculations for CPP assume implementation of this rate on an opt-out (default) basis, which the Joint Commenters view as unlikely to be implemented in the near term and which would introduce the risk of adverse and unwitting impacts on vulnerable customers.[39] Thus, the Joint Commenters submit that setting reward thresholds to reflect load shifting and reduction commensurate with a default CPP rate represents

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[35] September 25, 2023, Compliance Filing at 25-26.
[36] Xcel CBA, tab "SumAMIBENEFITS."
[37] Hledik, Ryan, Ahmad Faruqui, Pearl Donohoo-Vallet, and Tony Lee. The Brattle Group Report: The Potential for Load Flexibility in Xcel Energy's Northern States Power Service Territory (Jan. 2019) (Brattle Group Report). Accessed at: https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=478685.
[38] The achievable amounts of load shift from CPP are from a study conducted by Brattle for Xcel's Northern States Power (NSP) service territory, which estimated the amount of cost-effective demand response available in the Xcel NSP service territory. The Joint Commenters assume that this study accounts for load shift potential only in Xcel's service territory in Minnesota. If it includes other states (such as Wisconsin), Xcel should explain in its reply to these comments why load shift from other states was included in its CBA for AMI investments and provide the load shift potential results for Minnesota alone.
[39] This also represents a flawed assumption in the Company's CBA.

an appropriately ambitious approach, given that the Joint Commenters do not actually anticipate CPP and PTR being implemented on a default basis.

The Joint Commenters propose that the penalty threshold be set at a benefits level commensurate with an opt-in deployment of CPP and PTR, as per the same *Brattle Group* study. In the Joint Commenters' view, this level of benefits should be considered reasonably achievable rather than aspirational. Mindful of the fact that the Company has yet to broadly rollout CPP and PTR rates, the Joint Commenters recommend including a deadband so that the penalty threshold for this PIM is set *twenty percent* lower than the opt-in targets derived from this *Brattle Group* study – that is, the Company would be penalized only if it did not achieve at least eighty percent of the load shifting and load reduction associated with the opt-in targets derived from the *Brattle Group* study. Thus, under the Joint Commenters' proposal, the Company would only be penalized if it performed at a level substantially below that assumed in the Company's projection of benefits for AMI in its CBA.

For each year, the penalty and reward values are set equal to *fifty percent* of the monetary benefits from meeting the penalty threshold (80 percent of calculated opt-in load shifting and reduction benefits). These monetary benefit values are taken directly from the Company's CBA. The symmetrical penalty and incentive values increase to approximately **[TRADE SECRET DATA HAS BEEN EXCISED]** by 2030. See Appendix A for additional discussion of these calculations.

The Joint Commenters are aware that Xcel already stands to earn incentives for net benefits achieved through load management through its ECO portfolio under the current triennial plan in effect for 2024–2026. If the Commission were to approve a PIM reward earnings opportunity for the Company for reducing and/or shifting peak load through the instant proceeding, then the Joint Commenters note that this would raise the risk of doubly compensating the Company. To prevent double compensation, the Joint Commenters recommend that Xcel not be permitted to earn any incentives through ECO for CPP/PTR peak load reduction and peak load shifting for 2026 or in any future year in which this CPP/PTR PIM is in effect. The Joint Commenters further invite Xcel to comment in its reply on this issue of double compensation.

Details on the Joint Commenters' proposed PIMs are presented below in Table 2 and Table 3. In Table 2, the targets for each PIM are presented. Table 3 presents the incentives for each PIM.

Table 2. Joint Commenters Proposed PIMs for Approval – Performance Targets

		PIM Target						
PIM Category		**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Unassigned usage (kWh)	Penalty threshold	-	-	71,224,800	71,224,800	71,224,800	71,224,800	71,224,800
Meter failure rate	Penalty threshold	-	-	0.5%	0.5%	0.5%	0.5%	0.5%
Load shifting and load reduction (MW)	Penalty Threshold	-	-	76	79	83	86	89
	Reward Threshold	-	-	247	249	250	253	254

Table 3. Joint Commenters Proposed PIMs for Approval – Incentives

PIM Category	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Unassigned usage (penalty)	-	-	**[TRADE SECRET DATA HAS BEEN EXCISED]**				
Meter failure rate (penalty)	-	-	To be determined	To be determined	To be determined	To be determined	To be determined
Load shifting and load reduction (penalty/reward)	-	-	**[TRADE SECRET DATA HAS BEEN EXCISED]**				
Total Penalty	-	-					
Total Reward	-	-					

4. Joint Commenters' Findings Regarding Xcel's Proposed PIMs that Should Be Excluded from Initial PIM Deployment

In this section, the Joint Commenters explain their recommendations for excluding three PIMs proposed by Xcel from the final PIM portfolio for AMI and FAN. The Joint Commenters recommend that the associated outcomes still be tracked and reported as metrics.

i. Remote Disconnection PIM

Xcel originally proposed to incentivize the percentage of residential disconnections completed remotely.[40] In theory, utilizing the remote capabilities of AMI technology would allow the Company to reduce field and meter operations and maintenance ("O&M") expenses, which would filter back to customers through lower rates.[41] Remote AMI capabilities could also allow the Company to carry out disconnections at a faster pace. The Company estimates that disconnections will peak in 2025–2026 after full AMI deployment is completed.[42]

The Joint Commenters believe that it is inappropriate to incentivize remote disconnection since this outcome adversely affects certain customers. The Joint Commenters are particularly concerned that remote disconnections, even if providing monetary savings to all customers through reduced O&M, may unduly harm vulnerable customers. The Joint Commenters recommend that Xcel continue to track remote disconnections as a metric, but that no target or incentive be associated with this outcome.

ii. Remote Reconnection PIM

The Joint Commenters find the Company's proposed remote reconnection metric is representative of an important outcome worthy of tracking, but that no incentive should be associated with this outcome. Before AMI implementation, reconnecting customers required a field visit from a service representative. Such visits were typically carried out the day after resolving the customer's past-due balance. AMI now allows Xcel to reconnect service much faster and at a lower cost to the utility and customer. As part of a negotiated agreement approved by the Commission, Xcel committed to conducting disconnections on business days before noon, allowing customers an opportunity to attain reconnection on the same day. Such reconnections can be completed in as little as 15 minutes. Remotely reconnecting customers simultaneously reduces O&M associated with field visits, but benefits are small relative to disconnections for non-payment, as shown in the CBA. Nonetheless, the Joint Commenters see the percentage of reconnections conducted remotely as a tangible and trackable benefit of AMI, for which the development of a PIM may be proper at a future date once additional data have been collected.

iii. Reduced Theft and Meter Tampering PIM

Xcel explains that AMI meters have built-in theft and meter-tampering detection capabilities.[43] The ability to track the incremental benefit of this capability is difficult. The Company explains it does not know the exact dollar amount lost to theft and tampering in a given year, nor can it identify how much unauthorized usage would have occurred in the absence of AMI implementation.[44] For this reason, Xcel proposes to track

[40] September 25, 2023, Compliance Filing.
[41] See, e.g., *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, Staff Briefing Papers, Vol. II at 44 (Apr. 26, 2023).
[42] September 25, 2023, Compliance Filing, at 20.
[43] *Id.* at 23.
[44] *Id.*

and develop a PIM around the number of meter tampering or theft cases completed in a given year (an identifiable, objective metric). Although the actual prevalence of tampering and theft may not change, the Company expects AMI technology to identify more instances that can be subsequently evaluated and acted upon.[45]

There does not appear to be a method of distinguishing these contributing factors or isolating AMI benefits. The Joint Commenters thus question whether this metric effectively captures the theft and meter-tampering benefits provided by AMI meters. An increase in the number of identified and completed cases could be driven by enhanced detection capabilities; at the same time, the increase could be caused by external factors completely unrelated to AMI technology, such as if instances of theft and meter-tampering materially increase over time. Therefore, the Joint Commenters propose that the Company track this information and clarify the extent to which AMI contributes to the benefits of this metric. Once this has been better established, it may be appropriate to be included as a PIM.

5. Additional Metrics to Be Tracked and Potentially Developed into PIMs in the Future

The Joint Commenters are optimistic that their recommended PIMs will encourage the Company to leverage its AMI meters and FAN system to achieve meaningful benefits quickly. The Joint Commenters are also cognizant that the potential value associated with achieving the proposed PIMs is only a share of the total benefits projected for the AMI/FAN investments and will not alone result in net benefits to customers. Many meaningful benefits have not been included in this initial PIM portfolio, including, notably, those benefits associated with investment and operational efficiencies that the Company argues cannot be easily measured.[46] The Company has also not proposed PIMs for reliability benefits (reduced customer outage minutes) or for reduced meter reading expenses.

While the Joint Commenters grant that there may be measurement challenges attending some of these outcomes, it is premature to dismiss the potential to incentivize achievement of these benefits. The Joint Commenters therefore recommend that the Commission direct Xcel to track all benefits projected for AMI and FAN in the CBA to the extent practicable. Should the Company not be able to quantify each benefit from the CBA, it should look for reasonable proxy outcomes reflective of expected benefits of AMI and FAN that can be tracked. The Joint Commenters intend to revisit PIM development for excluded benefit categories when appropriate to better allocate the risks and rewards of these investments between ratepayers and shareholders.

Table 4 presents the set of outcomes for which the Joint Commenters recommend the Company develop metrics and report on in the Company's AMI annual report.

[45] *Id.* at 23-24.
[46] See, for example, September 25, 2023, Compliance Filing at 10-12.

Table 4. Additional Reporting Requirements for AMI Annual Report[47,48]

Category (Staff Briefing Papers)	Outcome
Reduced field and meter O&M	Percentage of disconnection completed remotely
	Percentage of reconnection completed remotely
	Reduced field trips due to customer equipment damage
	Reduced "Ok on arrival" outage field visits
	Reduction in field trips for voltage investigations
Reduced theft/meter tampering	Reduced theft/meter tampering (not cases completed)
	Reduced meter reading expenses
	Reduced outage duration
Distribution management efficiency	Reduced O&M spending on asset health and reliability and capacity projects
	Reduced capital spending on asset health and reliability and capacity projects
Outage management efficiency	Reduced O&M spending on storm recovery
	Reduced capital spending on storm recovery
Reduced bad debt expense	Reduced uncollectable/bad debt expense

6. Future Process Recommendations

Finally, the Joint Commenters provide additional process recommendations for the future administration of AMI and FAN PIMs. PIMs are not a "set it and forget it" construct: PIM targets, penalties, and incentives may need to be adjusted over time to reflect issues with the Company's performance or due to changes in technologies or policy goals. It is important that changes to PIMs occur at a frequency that balances the need to provide Xcel with regulatory certainty while ensuring PIMs continue to incentivize behavior that is in the ratepayer interest. The Joint Commenters request that the Commission adopt the following process recommendations:

- The initial PIMs should become effective January 1, 2026, for a first measurement year running from January 1, 2026, through December 31, 2026.

[47] The Joint Commenters are aware that certain outcomes from Table 4 may already be tracked and reported by Xcel. In the interest of comprehensiveness, the Joint Commenters have included in this table all outcomes for which there is any doubt about current reporting practices. The Joint Commenters further stress that the goal of this benefit reporting is to isolate the effect of AMI and FAN to the extent possible; thus, for example, it is more desirable for Xcel to report the reduction in capital spending on storm recovery *attributable to AMI and FAN* than simply to report total storm recovery spending.
[48] Staff's categorization is indicated only for those outcomes included in Staff Briefing Papers. Thus, not all outcomes in this table have an associated category.

- The Company should be required to submit an annual performance report by February 28 of the following year. The first annual performance report would be due by February 28, 2027.
- Within the annual performance report, Xcel should provide performance results and incentive calculations for all effective PIMs.
- The Commission should establish procedures and a timeline for review of the annual performance report, with scope for intervenor participation.
- The Commission should establish the conditions under which modifications to the PIMs portfolio might be made in conjunction with the review of the annual performance report, and the Commission should also establish the extent of permissible modifications to the PIMs portfolio allowed in conjunction with the review of the annual performance report.
- The Commission should establish the terms of any "off ramps" for individual PIMs, whereby individual PIMs would be terminated if not functioning as intended.
- The Commission should establish a cadence for a comprehensive review—a more intensive and holistic review of the PIMs portfolio. The Commission should also establish the scope and timeline for the comprehensive review and should establish any other relevant procedures for this review.

APPENDIX A: DETAILED RECOMMENDATIONS ON PERFORMANCE INCENTIVE MECHANISMS

A. UNASSIGNED USAGE

1. Background and Rationale for Inclusion

Xcel anticipates that AMI will aid in reducing unassigned usage by expediting disconnection through AMI's remote disconnection functionality. While the Joint Commenters oppose a PIM for remote disconnection (as proposed by Xcel), the Joint Commenters are supportive of a PIM, on a penalty-only basis, for reduced unassigned usage. The Joint Commenters observe that there are key distinctions between remote disconnections for non-payment and remote disconnections for unassigned usage; the Company's objective for unassigned usage cases is to recover payment for this usage by assigning it to a customer account. Thus, the objective for unassigned usage cases is not to shut off the usage as such but rather to assign it to a customer account, permitting the customer to continue receiving electric utility service. The Joint Commenters have recommended certain customer protections in the main body of these comments to help ensure that promulgating a PIM for reduced unassigned usage will not result in the Company expediting shutoff of service to vulnerable customers.

2. Baseline and Targets

In its September 25, 2023, Compliance Filing, Xcel proposes baselines and targets for unassigned usage. The Joint Commenters agree with the Company's proposed baseline of 89,031,000 kWh for unassigned usage, which was based on calculated unassigned usage for the year 2022 after instances of remote disconnection were removed from the data set.[49] The Joint Commenters' recommended targets for 2026-2030, presented below, reflect Xcel's assumption, from its CBA model, that AMI will enable a 20-percent reduction in unassigned usage relative to the baseline by 2026.[50]

The Joint Commenters propose that PIM targets be denominated in kilowatt-hours (kWhs) rather than based upon the value of unassigned usage reductions, since variations in customer class rates can affect the total monetary value of reductions in unassigned usage. In other words, the Joint Commenters wish to incentivize reductions in unassigned usage equally, irrespective of which customer class said unassigned usage is associated with. Thus, the Joint Commenters set the penalty threshold equal to a 20 percent reduction in unassigned usage relative to the baseline value.

The Joint Commenters propose that this PIM become effective in 2026.

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[49] September 25, 2023, Compliance Filing at 17, 19.
[50] *Id.* at 19.

3. Incentives

The Joint Commenters propose a penalty-only specification for this PIM, with the Company subject to a total financial penalty of **[TRADE SECRET DATA HAS BEEN EXCISED]** for failing to achieve target performance (i.e., total unassigned usage above penalty threshold) which is equal to 50 percent of the value of this benefit in 2026, per the Company's CBA.[51]

Table 5. Unassigned Usage PIM: Targets and Incentives

	2024	2025	2026	2027	2028	2029	2030
Penalty Threshold (kWh)[52]	-	-	71,224,800	71,224,800	71,224,800	71,224,800	71,224,800
Penalty	-	-	**[TRADE SECRET DATA HAS BEEN EXCISED]**				

B. METER FAILURE RATE

1. Background and Rationale for Inclusion

Xcel cites avoided meter purchases as a benefit of its AMI investments owing to the lower failure rate of AMI meters relative to AMR meters. While Xcel does not support inclusion of a PIM for reduced meter failure rate since the Company does not have control over this outcome, the Joint Commenters disagree and recommend a penalty-only PIM for this outcome. While the Joint Commenters do not contest the Company's claims about lack of control, the Joint Commenters nonetheless view this PIM as a mechanism for transferring the financial risk of excessive failures. If the benefit of reduced meter failures projected in the Company's CBA does not materialize, then the Company should be made to bear the costs of excessive meter replacements.

2. Baseline and Targets

The Joint Commenters accept the Company's baseline of 1.84 percent, which reflects eight years of data. The target for this PIM is set at 0.5 percent per-year, to be calculated using the following formula provided by the Company in its September 25, 2023, Compliance Filing:

$$Failure\ Rate = \#\ of\ failed\ meters\ \div total\ \#\ of\ AMI\ meters\ purchased$$

Under the Joint Commenters' proposal, the Company would incur the penalty for this PIM in any year in which the failure rate exceeded 0.5 percent.

[51] Xcel CBA, tab "BenefitsInputs," row 26.
[52] Unassigned usage above this level incurs penalty.

3. Incentives

The Joint Commenters recommend that this PIM be specified as penalty-only, since the purpose of the PIM is to transfer financial risk to the Company for a meter failure rate in excess of that forecast in the CBA (which provided justification for the overall investment).

Under the Joint Commenters' proposal, the Company would incur a penalty in any year in which the failure rate exceeded the 0.5 percent threshold. The Joint Commenters recommend that the penalty for this PIM for any year in which actual meter failures exceed the penalty threshold be calculated based upon the following formula:

$$Penalty = (Failure\ Rate - 0.5\ percent) \times total\ \#\ of\ AMI\ meters\ purchased \times Cost\ of\ Replacement\ Meter$$

Applying this penalty formula would result in Xcel incurring a penalty only for meter failures exceeding the projected failure rate of 0.5 percent per year, with the penalty amount set on a per-excessive-meter-failure basis at the cost of meter replacement, *inclusive of Xcel's return on the replacement meters*. The Joint Commenters recommend that Xcel be required to calculate any penalty amounts in its annual performance report, discussed in Section D.6 of the main comments.

Table 6. Meter Failure Rate PIM: Targets and Incentives

	2024	2025	2026	2027	2028	2029	2030
Penalty Threshold (percent of meters failing)	-	-	0.5%	0.5%	0.5%	0.5%	0.5%
Penalty	-	-	To be determined	To be determined	To be determined	To be determined	To be determined

C. PEAK LOAD SHIFTING AND LOAD REDUCTION

1. Background and Rationale for Inclusion

Critical peak pricing (CPP) is a rate design that targets peak load shifting and reduction through high on-peak rates in conjunction with events called by the Company. Per the Company's CBA, the Company expects significant load shifting and reduction from AMI-enabled CPP rates— **[TRADE SECRET DATA HAS BEEN EXCISED]** of load shifting and reduction benefits, which comprise **[TRADE SECRET DATA HAS BEEN EXCISED]** of total AMI benefits, were assumed to come from CPP.[53] The Company's CBA includes CPP load shifting and reduction benefits for all customer classes. The Joint Commenters therefore assume that the Company's investment enables CPP rates for all classes.

[53] Xcel CBA, tab "SumAMIBENEFITS."

The benefits achieved by CPP can also be achieved with Peak Time Rebates (PTR), which are essentially the inverse of CPP: they provide a rebate to customers for shifting load to off-peak periods during critical events, rather than subjecting customers to a higher price for peak usage. The Company may wish to explore this rate structure in addition to CPP. The Joint Commenters' proposed targets, discussed below, are intended to apply to both CPP and PTR rate structures ultimately offered by Xcel.

2. Baseline and Targets

The Joint Commenters agree with Xcel that the appropriate baseline for a CPP/PTR PIM is zero since the rates are not yet widely deployed.[54] The Company's CBA indicates CPP rates are expected to decrease peak load by 245-255 megawatts in total, shown below by class.

Table 7. Megawatts of Peak Load Reduction from CPP (opt-out)[55]

[TRADE SECRET DATA HAS BEEN EXCISED]

These figures are reflected in the Company's CBA and assume adoption of "opt-out" (default) CPP rates, based upon a study by the *Brattle* Group.[56,57] Implementing default CPP rates would be a fundamental revision to the current rate structure that would necessitate significant deliberation by the Commission.[58] That the Company assumes a default CPP rate in calculating AMI costs and benefits is unfortunate, since the resulting peak load reduction comprised a large share of the benefits Xcel used to justify its investment in AMI though both the likelihood and reasonableness of implementing such a rate structure on an opt-out basis is questionable. Forcing customers to pay high penalty amounts during called events could be particularly detrimental to vulnerable residential customers.

Despite the unrealistic assumptions employed in the Company's CBA, these promised load shifting benefits are crucial to realizing the net benefits from AMI deployment. Thus, even in the absence of a default CPP rate, it is crucial that the utility be properly incentivized to leverage AMI's load shifting and reduction benefits. As reflected in the CBA, load shifting accounts for a substantial portion of expected benefits; it is likely impossible for AMI to provide net benefits to ratepayers if load reductions fail to materialize. In consideration of the importance of load shifting and load reduction for AMI cost effectiveness, the Joint Commenters' find it is appropriate implement a PIM on load shifting and reduction potential with penalties

[54] September 25, 2023, Compliance Filing at 25.
[55] XCEL CBA, tab "TOU table."
[56] *See* Brattle Group Report at 6.
[57] The achievable amounts of load shift from CPP are from a study conducted by Brattle for Xcel's Northern States Power (NSP) service territory, which estimated the amount of cost-effective demand response available in the Xcel NSP service territory. The Joint Commenters assume that this study accounts for load shift potential only in Xcel's service territory in Minnesota. If it includes other states (such as Wisconsin), Xcel should explain in its reply to these comments why load shift from other states was included in its CBA for AMI investments and provide the load shift potential results for Minnesota alone.
[58] We note the Company's CBA also assumes load shifting from opt-out TOU rates as well as CPP rates. Of course, it is not possible to implement two default rates for each customer. This appears to be an incorrect assumption in the Company's CBA that is beyond the purview of these comments.

established for not meeting performance targets reflecting *opt-in* CPP and PTR rates, based upon the same *Brattle Group* study.[59] The following table shows the study's assumptions for potential load shifting and reduction under opt-in rates.[60]

Table 8. Megawatts of Peak Load Shifting and Reduction from CPP (opt-in)[61]

[TRADE SECRET DATA HAS BEEN EXCISED]

Given the nascent state of CPP and PTR rates in Xcel's Minnesota service territory, the Joint Commenters propose to include a deadband such that no penalty be assessed if 80 percent or more of opt-in rate load shifting and reduction potential is achieved.

[59] These estimates are provided in a table from a study used by Xcel. *See* Xcel CBA, tab "TOU table."
[60] Brattle Group Report at Appendix D.
[61] Xcel CBA, tab "TOU table."

Table 9. Megawatts of Peak Load Shifting and Reduction from CPP/PTR – PIM Target (80 percent of opt-in potential)[62]

[TRADE SECRET DATA HAS BEEN EXCISED]

Furthermore, the Joint Commenters recommend including a reward earnings opportunity for this PIM given its importance for leveraging the capabilities of AMI and increasing the cost-effectiveness of AMI deployment. Therefore, we propose that Xcel should receive a reward if it meets or exceeds the peak load reduction forecast in the Company's CBA (see tables 9 and 10).

3. Incentives

The Joint Commenters find that both penalties and rewards are reasonable in this case. The Joint Commenters propose an overall (all customer classes) load shifting and reduction target. The Joint Commenters do not believe further delay of this PIM is necessary or prudent given its importance in providing AMI benefits to ratepayers.

Penalty and reward incentives are based on a calculation of monetary benefit of load reduction/shifting in the Company's CBA, applied to the penalty threshold for each year.[63] These were calculated by multiplying the target shown above for CPP opt-in rates by the Company's assumed avoided peak generation cost in its CBA, and then scaling the result down by *fifty percent*.[64] If the Company achieves load-shifting benefits above the forecast in its CBA, the same total incentive amounts should apply as a reward.

[62] Xcel CBA, tab "TOU table."
[63] *Id.*
[64] *Id.*

Table 10. Peak Load Shifting and Load Reduction PIM: Targets (MW) and Incentives[65]

[TRADE SECRET DATA HAS BEEN EXCISED]

[65] Xcel CBA, tab "TOU table."

APPENDIX B: DETAILED EVALUATION OF COMPLIANCE WITH COMMISSION ORDER POINTS

i. First Compliance Filing (September 25, 2023) – Baseline Data and Interim Targets

a. Baselines

Order Point 14 of the Commission's June 28, 2023, Order required Xcel to file an Excel spreadsheet within 60 days of this Order with data reflecting at least the three previous years for each metric in Attachment 1, Table 1 of Staff Briefing Papers–Volume 2 filed on April 26, 2023,[66] to inform the development of baselines and targets for the AMI and FAN performance metrics. The Commission further directed Xcel to explain any gaps where the required data could not be provided.[67]

In accordance with Order Point 14, Xcel made a compliance filing on September 25, 2023. Attachment A to that filing includes the required data ("where possible") for all metrics in Attachment 1, Table 1 of Staff Briefing Papers–Volume 2 filed on April 26, 2023. Xcel explains that where data for 2022 is provided, it is for illustrative purposes because AMI deployment began in 2022 and therefore cannot be used for developing a pre-AMI baseline. [68] Instead, Xcel sets baselines based on historical information from years with AMR meters to facilitate a comparison of metrics before and after AMI deployment.[69]

Table 11 below provides each metric from Attachment 1, Table 1 of Staff Briefing Papers–Volume 2 filed on April 26, 2023, and identifies whether Xcel (1) provides the required historical data for each metric, (2) includes historical data to support an alternative approach to setting the baseline; (3) uses the historical data to establish the baseline; and (4) includes the proposed baseline.

Table 11. Xcel's Historical Data and Baselines for Staff Briefing Performance Metrics

April 26, 2023 Staff Briefing		**Xcel September 2023, Compliance Filing**		
Benefit	**Performance Metric**	**Historical Data Provided**	**Used to Inform Baseline**	**Proposed Baseline**
Distribution Management Efficiency	Capital and O&M $ spent on Asset Health and Reliability and Capacity projects	Capital spent ($) on Asset Health, Reliability, and Capacity projects (2014-2022)	No	None
Avoided Meter Purchases	$ spent on meter replacement due to failure	Alternative approach: % AMR meter failure rate (2014-2022)	Yes (average 2014-2021)	1.84% AMR meter failure rate

[66] *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021- 2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, Briefing Papers—May 4, 2023 Agenda, Volume 2 at 9 (Apr. 26, 2023).
[67] *Id*.
[68] *Id.* at 2.
[69] *Id.* at 6.

April 26, 2023 Staff Briefing		**Xcel September 2023, Compliance Filing**		
Benefit	**Performance Metric**	**Historical Data Provided**	**Used to Inform Baseline**	**Proposed Baseline**
Outage Management Efficiency	Capital and O&M $ spent on storm recovery	Annual capital and O&M $ spent on storms (2014-2022)	No	0 canceled outage orders
Reduced Field and Meter O&M	Field trips due to customer equipment damage	Number of truck rolls resulting in a finding of "ok on arrival" or "customer equipment damage" (2014-2022)	No	
	"Ok on arrival" outage field visits			
	Percent of disconnects and reconnects done remotely	Number of credit disconnections by year (2014-2021)	No	0%
Reduced Consumption on Inactive Meters	Usage on unassigned accounts ($)	($) usage on unassigned accounts (Average for 2014-2018) and (annually 2019-2022) Alternative approach: Unknown user kWh (2019-2022)	Used alternative approach	89,031,000 kWh
Reduced Bad Debt Expense	$ of bad-debt write-offs	$ of bad-debt write-offs (2014-2022) Alternative approach: Days to complete credit disconnection (2019-2022)	Used alternative approach	11.8 days
Reduced Theft/Meter Tampering	Increase in retail revenue	($) increase in Retail Revenue (Average for 2014-2018) and (annually 2019-2022) Alternative approach: Number of meter tampering cases (2018-2022)	Used alternative approach	30 theft/meter tampering cases completed
Load Flexibility Benefits	Customer energy price savings due to time-of-use (TOU) rates	No	N/A	0
	Avoided tons of CO_2 emissions due to TOU rates			
	Customer savings due to critical peak pricing (CPP)			

Sources: Attachment 1, Table 1 of Staff Briefing Papers – Volume 2 filed April 26, 2023, modified to match Xcel's proposed metrics, Xcel September 25, 2023, Compliance Filing, pages 8-27 and Attachment A.

The Joint Commenters find that Xcel is in compliance with Order Point 14. As summarized in Table 11, Xcel provides historical data for each metric for the previous three years, except for the three load flexibility

metrics. However, in Order Point 14, the Commission directs Xcel to include an explanation for any metrics where the Company is not be able to provide historical data. Xcel explains that the Company has not had TOU or CPP rates in place over the past three years that rely on AMI and therefore cannot provide any associated historical data.[70] The Joint Commenters find that Xcel's explanation for why it cannot provide historical data for the three load flexibility metrics to be reasonable.

b. New Metrics, and Interim Performance Targets and Evaluation Methods for All Metrics

Order Point 15 of the Commission's June 28, 2023, Order required Xcel to make a compliance filing that provides interim performance targets for each of the performance metrics that are "undefined" in Attachment 1, Table 1 of Staff Briefing Papers–Volume 2 filed on April 26, 2023, requiring that those interim performance targets be based upon projected benefits used in the Company's CBA of the AMI and FAN Projects. The Commission also directed Xcel to propose evaluation methods for each metric.[71]

Attachment 1, Table 1 of Staff Briefing Papers–Volume 2, filed on April 26, 2023, indicates there are four performance metrics that have "undefined" performance targets:

- Spending on meter replacement
- Increase in retail revenue resulting from reduced theft/meter tampering
- Customer energy price savings due to TOU rates
- Customer savings due to CPP[72]

In accordance with Order Point 15, Xcel made a compliance filing on September 25, 2023, proposing interim targets and evaluation methods.[73] However, Xcel only proposes interim performance targets for two of the four "undefined" performance targets (spending on meter replacement and increase in retail revenue).[74]

Table 2, below, provides a comparison between the AMI and FAN performance metrics and targets as included in Attachment 1, Table 1 of Staff Briefing Papers – Volume 2 filed April 26, 2023, and Xcel's proposal from its compliance filing dated September 25, 2023. This table also indicates whether the metric was included in the PIM proposal in the instant proceeding.

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[70] *Id.* at 27.
[71] *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, ORDER APPROVING RIDER RECOVERY, CAPPING COSTS, AND SETTING FILING REQUIREMENTS at ordering paragraph 15 (June 28, 2023).
[72] Attachment 1, Table 1 of Staff Briefing Papers – Volume 2 filed April 26, 2023.
[73] September 25, 2023, Compliance Filing, Attachment A; *In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the Transmission Cost Recovery Rider Revenue Requirements for 2021-2022, and the Resulting Adjustment Factors by Customer Class*, Docket No. E-002/M-21-814, Compliance Filing, Attachment A (Nov. 1, 2023) ("November 1, 2023, Compliance Filing").
[74] September 25, 2023, Compliance Filing at 8-27.

As shown in Table 12, Xcel proposes interim performance targets for five of the 12 performance metrics in the compliance filing. In addition to not providing interim performance targets for the "undefined" metrics of customer energy price savings due to TOU rates and customer savings due to CPP, Xcel neither adopts Staff's targets nor proposes alternative interim targets for the following metrics that originally had targets set forth in in Attachment 1, Table 1 of Staff Briefing Papers – Volume 2 filed April 26, 2023: capital and O&M dollars spent on asset health and reliability and capacity projects, capital and O&M dollars spent on storm recovery, field trips due to customer equipment damage, "Ok on arrival" outage field visits, and avoided tons of CO_2 emissions due to TOU rates.

Table 12. Comparison of Xcel's Proposed AMI and Fan Performance Metrics and those Contained in the April 2023 Staff Briefing

April 26, 2023 Staff Briefing			**Xcel's Proposal**	
Benefit	**Performance Metric**	**Target**	**Metric**	**Interim Target**
Distribution Management Efficiency	Capital and O&M $ spent on Asset Health and Reliability and Capacity projects	1% reduction	None – will provide narrative on use of AMI to inform system investment plans	None
Avoided Meter Purchases	$ spent on meter replacement due to failure	Undefined	% meter failure rate	0.5% AMI meter failure rate
Outage Management Efficiency	Capital and O&M $ spent on storm recovery	10% Capital reduction .1% O&M reduction	# of canceled outage orders due to AMI	None
Reduced Field and Meter O&M	Field trips due to customer equipment damage	50% reduction		None
	"Ok on arrival" outage field visits	50% reduction		None
	Percent of disconnects and reconnects done remotely	70% of disconnects 90% of reconnects	% of disconnects and reconnects done remotely	Disconnects: 50% in 2023 up to 70% in 2026 Reconnects: 70% in 2023 up to 95% in 2026
Reduced Consumption on Inactive Meters	Usage on unassigned accounts ($)	20% reduction	kWh reduction on inactive meters	2023: 87.3 GWh 2024: 83.8 GWh 2025: 77.1 GWh 2026-28: 71.2 GWh
Reduced Bad Debt Expense	$ of bad-debt write-offs	8% Reduction	# of days to complete credit disconnection	2023: 9.6 days 2024: 8.4 days 2025: 7.8 days 2026-28: 7.1 days

April 26, 2023 Staff Briefing			**Xcel's Proposal**	
Benefit	**Performance Metric**	**Target**	**Metric**	**Interim Target**
Reduced Theft/Meter Tampering	Increase in retail revenue	Undefined	# of theft/meter tampering cases completed	2023: 34 cases 2024: 38 cases 2025: 42 cases 2026: 48 cases 2027: 54 cases 2028: 60 cases
Load Flexibility Benefits	Customer energy price savings due to time-of-use (TOU) rates	Undefined	None	None
	Avoided tons of CO_2 emissions due to TOU rates	4,500 tons annual reduction		None
	Customer savings due to critical peak pricing (CPP)	Undefined		None

Sources: Attachment 1, Table 1 of Staff Briefing Papers – Volume 2 filed April 26, 2023, modified to match Xcel's proposed metrics, Xcel September 25, 2023, Compliance Filing, pages 8-27, and Xcel 2023-2024 TCR Rider, Attachment 15.

For each instance where Xcel declines to adopt Staff's target or propose an interim performance target, the Joint Commenters summarize Xcel's justification for excluding the target and provide an assessment of the merits of the omission.

c. Benefit: Distribution Management Efficiency

i. Performance Metric: Capital and O&M Dollars Spent on Asset Health and Reliability Projects and Capacity Projects

In its September 25, 2023, Compliance Filing, Xcel clarifies that the CBA model assumed a one percent efficiency improvement for capital spend (not O&M) on asset health and reliability projects and capacity projects. However, the Company does not propose any interim performance target for this outcome. Instead, Xcel indicates it will provide the Commission with narrative updates on the Company's efforts "to implement and utilize software and processes that leverage AMI data in Distribution Planning with future AMI annual reports".[75] The Company also commits to trying to develop methods to quantify this benefit as it operationalizes AMI in its planning.

The Company explains that it is not currently able to quantitively measure or monetize the value of the capital efficiency gains resulting from AMI and would need at least two full years of AMI data to inform planning where efficiency gains would be realized. Xcel also explains that this benefit is an efficiency, and not a direct cost savings or net budget reduction, and therefore it does not anticipate that its capital spend

[75] *Id.* at 28.

will necessarily decrease due to AMI. Instead, Xcel states that it expects its capital spend to be lower than it may have otherwise been without AMI.[76]

For the near term, the Joint Commenters find the Company's justification for why it is unable to quantitively measure, monetize, and track efficiency gains for capital spend in these categories to be reasonable. The Joint Commenters concur that increased efficiency in capital spend is a real benefit that is difficult to measure without developing a counterfactual level of spend for each category.

While the Joint Commenters agree that narrative updates on the use of AMI in Distribution Planning is an appropriate near-term solution, the Joint Commenters recommend that Xcel provide updates on its efforts to develop methods to quantify this benefit as part of future AMI annual reports and propose a performance target after the Company quantitatively tracks this data for two years. This should occur by the end of 2026.

d. Benefit: Outage Management Efficiency

i. Performance Metric: Capital and O&M Dollars Spent on Storm Recovery

e. Benefit: Reduced Field and Meter O&M

i. Performance Metric: Field Trips Due to Customer Equipment Damage
ii. Performance Metric: "Ok on Arrival" Outage Field Visits

Xcel included a 10-percent efficiency on capital spent on storm recovery and a 0.1-percent efficiency on O&M spent on storm recovery in the CBA to represent the AMI benefit of outage management efficiency. While Xcel monetized outage management efficiency in its CBA, it now indicates that this benefit is an efficiency, not a direct cost savings or net budget reduction, and clarifies that the benefit of more efficient storm recovery relies mostly on the avoidance of truck rolls.[77]

Xcel also included the benefit of a 50-percent reduction in both "field trips due to customer equipment damage" and "OK on arrival outage field visits" in the CBA to represent the benefits of reduced field and meter O&M.

Xcel proposes to combine these three performance metrics because they are all based on a reduction in truck rolls. However, instead of tracking a reduction in truck rolls, Xcel proposes an alternative performance metric based on the "number of canceled outage orders due to AMI, all days," indicating that when an outage order is cancelled a truck roll is avoided.[78] The Company states it will be able to track the number of outage orders canceled due to the use of AMI through the recent implementation of a new cancelation code. Xcel does not propose to differentiate between storm-related and non-storm-related outage orders because storms and Major Event Days (MED) are determined after the fact.[79]

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[76] *Id.* at 27-28.
[77] *Id.* at 11-12.
[78] *Id.* at 10-11.
[79] *Id.* at 11-13.

In the Joint Commenters' view, Xcel has not fully complied with Order Point 15 for these three performance metrics. While the Company proposes a reasonable alternative performance metric and evaluation method, it has not put forward an interim performance target. Xcel explains that it cannot set targets because it is not possible to predict the weather due to annual variations and unpredictability and the Company is still deploying AMI and adjusting operational practices.[80] While the Joint Commenters find this explanation to be reasonable, the Joint Commenters recommend the Company provide an update on the feasibility of developing a performance metric for the number of cancelled orders in future AMI annual reports as it gains experience with AMI meters.

f. Benefits: Load Flexibility Benefits

i. Performance Metric: Customer Energy Price Savings due to TOU Rates
ii. Performance Metric: Avoided Tons of CO2 Emissions due to TOU Rates
iii. Performance Metric: Customer Savings Due to CPP

The Company monetized the load flexibility benefits of AMI in its CBA based on expected customer response to TOU and CPP rates developed by The Brattle Group (Brattle). These benefits included $1.8 million per year in customer energy price savings due to TOU rates beginning in 2024, 45,000 tons per year of avoided tons of CO2 emissions due to TOU rates, and $20 million per year in customer savings due to CPP beginning in 2024.[81]

Despite the significance of TOU and CPP benefits in Xcel's justification for AMI and FAN, the Company does not propose an interim target for these load flexibility performance metrics in its September 25, 2023, Compliance Filing. The Company explains that TOU and CPP rates are not broadly available in Minnesota, and the advanced rates that are currently available do not rely on Itron AMI meters. Xcel has not provided evaluation methods for these three performance metrics. The Company explains that an evaluation of rates should happen in the distinct dockets where they are proposed and approved, regardless of whether they are partly enabled by AMI. The Company also indicates that the PBR docket already includes metrics related to the outcome "Cost Effective Alignment of Generation and Load."[82]

Xcel fails to comply with Order Point 15 because it does not provide interim performance targets or evaluation methods for the customer energy price savings due to TOU rates and customer savings due to CPP benefits claimed in the CBA. The Joint Commenters are not persuaded by Xcel's argument that it is not feasible to develop interim performance targets. For example, Xcel could use the data provided by Brattle to develop annual enrollment or participation targets in future TOU and CPP rates. Yet the Company believes it should not be held accountable for achieving any of these benefits in the near term. Further discussion of targets for load flexibility is provided in Section D.3.iv. The Joint Commenters find that there was sufficient information available to develop interim performance targets, and thus Xcel was not compliant with Order Point 15 for this specific target.

[80] *Id.* at 14.
[81] *Id.* at 25.
[82] *Id.* at 25-26.

ii. Second Compliance Filing (November 1, 2023) – Annual Report on AMI and FAN

Xcel filed a second compliance filing on November 1, 2023 as per Order Points 9 and 10 of the June 28, 2023, Order Approving Rider Recovery, Capping Costs, and Setting Filing Requirements in Docket No. E002/M-21-814.

Table 13 provides a point-by-point description of the Joint Commenters' evaluation of Xcel's compliance with Order Points 9 and 10 and their sub-points.

Table 13. Xcel's November 1, 2023 Filing: Compliance with the Commission's June 28, 2023, Order

Requirement	Xcel's Response	Joint Commenters' Assessment
9(a) A comprehensive account of all functionalities achieved and any changes to functionality or potential future uses.	Xcel provided a list of all functionalities as well as whether they were enabled by AMI and/or enhanced or enabled by DI. Xcel then provides narrative descriptions of each service and whether they are currently available or available in the future.[83]	The Joint Commenters find that Xcel was compliant with Order Point 9(a).
9(b) The Company's plan and scope for implementation in the upcoming year.	Xcel provided an AMI meter deployment schedule for 2022 through 2025. Xcel also provides the status of FAN deployment and notes that deployment should be complete by the end of the year in 2024.[84] Further Xcel provided more detailed deployment values as metrics in the "Install and Deployment" tab of Attachment A.	The Joint Commenters find that Xcel was compliant with Order Point 9(b).
9(c) Implementation and integration status of related information technology systems in comparison to the Company's plans and scope.	Xcel provides a timeline of AMI software development from pre-2022 through 2024.[85] The Joint Commenters concur that AMI software is the information technology that needs to be integrated with the deployment of physical meters.	The Joint Commenters find that Xcel was compliant with Order Point 9(c).
9(d) Description and explanation of any AMI or FAN functionalities that have been disabled and the number of impacted meters.	Xcel stated that no AMI and FAN functionalities have been disabled.[86]	The Joint Commenters find that Xcel was compliant with Order Point 9(d).
9(e) Revenue-generating opportunities identified or engaged that relate to the use of AMI, FAN, or the use of associated data or distributed intelligence technologies.	Xcel stated that they have no plans to monetize the use of data related to AMI, FAN, or DI.[87]	The Joint Commenters find that Xcel was compliant with Order Point 9(e).

[83] November 1, 2023, Compliance Filing at 3-10.
[84] *Id.* at 11.
[85] *Id.* at 11-12.
[86] *Id.* at 10.
[87] *Id.* at 13.

Requirement	Xcel's Response	Joint Commenters' Assessment
9(f) All entities with whom the Company shares AMI data.	Xcel stated that third-party data requests are reported in a different compliance filing in Docket Nos. E999/CI-12-1344 & E999/M-19-505. Xcel stated that aside from the information reported in those dockets, there are no additional entities with which it shares AMI data.[88]	The Joint Commenters find that Xcel was compliant with Order Point 9(f).
9(g) Any metrics derived from the quantitative benefits assumed in Xcel's benefit-cost analysis of the AMI and FAN projects that are not represented in Attachment 1, Table 1 of Staff Briefing Papers–Volume 2 filed on April 26, 2023.	Xcel stated that the four metrics which are derived from the CBA, but not present in Attachment 1 are: • Reduced field trips for voltage investigations • Reduced outage duration • Avoided meter reading costs (O&M), and • Avoided drive-by meter reading capital investment Xcel could not quantify reduced field trips for voltage investigations in time for this report but may be able to in the next annual report.[89] Estimates of reduced outage duration will be reported in future annual reports as the requisite tracking and reporting capabilities were not released until Fall 2023.[90] Avoided meter reading costs were approximated to $1.7 million, without additional explanation. Xcel stated that drive-by meter reading capital investments were not made, and thus were avoided. The Joint Commenters agree with Xcel's logic.	The Joint Commenters find that Xcel was compliant with Order Point 9(g). However, the parties request that Xcel provide further explanation of its avoided meter reading costs in the next annual report.
9(h) An explanation of why any benefits Xcel had promised for AMI and FAN do not materialize.	Xcel stated that all benefits in the CBA model will be realized, although the benefits may follow a different timing than modeled and may be "realized differently" than described in the CBA.[91] Additionally, Xcel does not present any benefits that it believes are not realized.	The Joint Commenters find that Xcel was compliant with Order Point 9(h). Parties request that Xcel provide a summary of benefits that are included in the CBA model but will accrue under a different timeline or differently

[88] *Id.* at 13.
[89] *Id.* at 14.
[90] *Id.* at 14.
[91] *Id.* at 15.

Requirement	Xcel's Response	Joint Commenters' Assessment
		than modeled in the CBA model. This would provide clarity as to whether a benefit will eventually materialize after a multi-year delay, compared to never materializing.
10(a) For metrics for which performance may not yet be tracked, the Company must specify when it expects to be able to begin tracking performance. 10(b) For any metric that the Company is unable to provide data for, the Company must explain why it is unable to do so and what efforts can be taken to obtain that data in future reports.	There are four metrics which the Company is not able to provide data for and does not provide a plan of providing data for: Metrics 51, 53, 70, and 71. Metrics 51 and 53 are from the category Customer-Site Asset Effectiveness. Metric 51: DER: MWh generated as percentage of sales, by class. Metric 53: Storage: MWh installed energy capacity as percentage of sales, by class. Xcel does not provide information on these metrics because "MWh is not currently reported and would be overly burdensome to provide."[92] Metrics 70 and 71 are from the category AMI (Other). Metric 70: CMO-single customer events Metric 71: CMO-tab level events Metrics 70 and 71 are unreported because "[s]ingle customer events and tap level events are not reported elsewhere and would be overly burdensome to provide, and potentially misleading as reliability metrics are affected by many factors unrelated to AMI."[93] In the case of all four metrics, Xcel does not provide what efforts can be taken to obtain that data in future reports. Outside of the four metrics, Xcel provides detailed notes describing when and how metrics will be developed if they are not reported.	The Joint Commenters find that Xcel is compliant with Order Points 10(a) and 10(b). However, parties request that Xcel describe the steps that would be required to report metrics 51, 53, 70, and 71. Then, describe why such a process is overly burdensome, as claimed. The parties agree with Xcel that non-AMI effects may cause changes to Metrics 70 and 71. However, rather than not reporting the metrics, Xcel should provide a narrative explanation of the non-AMI factors that could cause changes to Metrics 70 and 71.

[92] *Id.*, Appendix A, Tab Customer-Site Asset Effect.
[93] *Id.*, Appendix A, Tab AMI (Other).

iii. 2023 TCR Filing

The Commission required Xcel to propose performance incentive mechanisms (PIMs) in its next TCR Rider proceeding for each of the twelve evaluation metrics and targets reflecting AMI/FAN benefits as included in Attachment 1, Table 1 of Staff Briefing Papers–Volume 2 filed on April 26, 2023, using the PIM Design Process outlined in Docket No. E-002/CI-17-401.

Per Order Point 16 in the Commissions June 28, 2023, Order, in Docket No., E-002/M-21-814, the Company's PIM proposal was to include the following elements:

a. *PIM structure.*
b. *The dates when the PIMs will take effect and terminate.*
c. *Determination of the quantifiable and verifiable incentive values associated with each PIM for performances above and below future associated targets. This may include a neutral zone around any particular target for acceptable performance.*
d. *Determination of the incentive values to be associated with each PIM.*
e. *Specific mechanisms for effectuating a penalty or incentive on the Company.*
    i. *Xcel's PIM proposal must include at least two penalty options: one that calculates the penalty as a proportion of the incremental costs of the proposed investments compared to the least-cost alternative, and another that calculates the penalty as a proportion of the return on these incremental costs.*
    ii. *Xcel's PIM proposal must consider Hawaii's approach with use of penalties and incentives for performance at certain thresholds and a "deadband," a neutral zone around the target for acceptable performance with no attached penalty or incentive.*
f. *An explanation of how stakeholders were engaged in the creation of PIMs.*

Xcel proposes one PIM containing four performance metrics: (1) percentage of disconnections completed remotely; (2) percentage of reconnections completed remotely; (3) usage on unassigned accounts; and (4) number of theft/ meter tampering cases completed.[94] The Joint Commenters will assess the merits of each performance metric for inclusion in a PIM as well as the overall structure, financial incentives and penalties, and timeline below.

Order Point 16 required that Xcel "propose Performance Incentive Mechanisms (PIMs) for each performance target listed in Attachment 1…"[95] By not proposing a PIM for each of the performance metrics listed in Attachment 1, the Joint Commenters find that Xcel is not in compliance with Order Point 16. Nonetheless, the Joint Commenters do not believe that performance incentive mechanisms are appropriate for each performance target listed in Attachment 1 at this juncture. Thus, Xcel's noncompliance should be

[94] Xcel Performance Incentive Mechanism Proposal at 4.
[95] TCR, Attachment 15 at 1.

viewed with this context in mind, as discussed further in Section D.4, where the Joint Commenters present their PIMs recommendations.

Xcel's PIM proposal is summarized below in three tables. Table 14 presents those metrics for which Xcel did not propose any PIM. Table 15 lists the metrics for which Xcel did propose PIMs. Finally, Table 16 provides details on the structure of Xcel's PIM proposals.

Table 14: Metrics without Corresponding PIM Proposal from Xcel

Benefit	Performance Metric	PIM Proposed
Distribution Management Efficiency	Capital and O&M $ spent on Asset Health and Reliability and Capacity projects	No
Avoided Meter Purchases	$ spent on meter replacement due to failure	No
Outage Management Efficiency	Capital and O&M $ spent on storm recovery	No
Reduced Field and Meter O&M	Field trips due to customer equipment damage	No
Reduced Field and Meter O&M	"Ok on arrival" outage field visits	No
Load Flexibility Benefits	Customer energy price savings due to load shifting from time-of-use (TOU) rates	No
Load Flexibility Benefits	Avoided tons of CO_2 emissions due to TOU rates	No
Load Flexibility Benefits	Customer savings due to load shifting from critical peak pricing (CPP)	No

Sources: Attachment 1, Table 1 of Staff Briefing Papers – Volume 2 filed April 26, 2023, modified to match Xcel's proposed metrics, Xcel September 25, 2023, Compliance Filing, pages 8-27, and Xcel 2023-2024 TCR Rider, Attachment 15.

Table 15: Metrics with Corresponding PIM Proposal from Xcel

Benefit	Performance Metric	PIM Proposed	PIM Structure [a]	Effective and Termination Date [b]
Reduced Field and Meter O&M	Percent of disconnects done remotely	Yes	Symmetrical incentive and penalty based on performance relative to the target, buffered by a symmetrical deadband.	PIM applied for 2030 - 2040
Reduced Field and Meter O&M	Percent of reconnects done remotely	Yes		
Reduced Consumption on Inactive Meters	Usage on unassigned accounts ($)	Yes		
Reduced Theft/Meter Tampering	Increase in retail revenue	Yes		

Sources: Attachment 1, Table 1 of Staff Briefing Papers – Volume 2 filed April 26, 2023, modified to match Xcel's proposed metrics, Xcel September 25, 2023, Compliance Filing, pages 8-27, and Xcel 2023-2024 TCR Rider, Attachment 15.

Table 16: Structure of Xcel's PIM Proposals

Benefit	Performance Metric	Determination of Incentive Values [c,d]	Determination of Penalty Values [e.i]	Neutral Zone for Acceptable Performance [e.ii]
Reduced Field and Meter O&M	Percent of disconnects done remotely	Set equal to the penalty value.[96]	Compared to least-cost alternative via relative cost of DI-enabled meters to non-DI-capable meters. "Calculated net present value difference in returns between the selected AMI meters and least cost alternative when adjusting the CBA" appropriately.[97]	Individually for each PIM, 1.5 standard deviations. Combined across all four PIMs, non-zero net score. Score is calculated as [-1,0,1] for [penalty performance, deadband performance, incentive performance] for each metric.
Reduced Field and Meter O&M	Percent of reconnects done remotely			
Reduced Consumption on Inactive Meters	Usage on unassigned accounts ($)			
Reduced Theft/Meter Tampering	Increase in retail revenue			

Sources: Attachment 1, Table 1 of Staff Briefing Papers – Volume 2 filed April 26, 2023, modified to match Xcel's proposed metrics, Xcel September 25, 2023, Compliance Filing, pages 8-27, and Xcel 2023-2024 TCR Rider, Attachment 15.

The Joint Commenters find that Xcel has provided the requisite information from Order Point 16 for the PIMs that were proposed. The Joint Commenters further concur with Xcel that Order Points 16(c) and 16(d) are equivalent in the information that each request.[98]

Concerning Order Point 16(f), regarding the involvement of stakeholders, the Joint Commenters find that this is relevant to the proposed PIMs in aggregate rather than individually for each proposed PIM. Xcel offers some discussion of collaboration with stakeholders, specifically relating to the decision to *not* include any incentive to complete disconnections more quickly.[99]

[96] *Id.* at 8.
[97] *Id.* at 7.
[98] *Id.* at 6.
[99] *Id.* at 12.

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
Public Comments

Docket No. E002/M-23-467

Dated this **31st** day of **July 2024**

/s/Sharon Ferguson

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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Eric	Swanson	eswanson@winthrop.com	Winthrop & Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_23-467_M-23-467
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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