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Fargo, North Dakota 58402

December 21, 2022

—VIA ELECTRONIC FILING AND U.S. MAIL—

Steven M. Kahl, Executive Director
North Dakota Public Service Commission, Dept. 408
State Capitol, 600 E. Boulevard
Bismarck, ND 58504-0480

RE: SUPPLEMENTAL INFORMATION: MANUAL METER READING COSTS
ADVANCED METERING INFRASTRUCTURE TARIFF AND RATES
CASE NO PU-22-180

Dear Mr. Kahl:

Northern States Power Company, doing business as Xcel Energy (the Company), submits to the North Dakota Public Service Commission (Commission) this Letter containing supplemental information regarding the Company's manual meter reading charges and costs. We are providing this information in response to the Commission's desire to lower the monthly manual meter reading charge for customers who choose to opt out of Advanced Metering Infrastructure (AMI) and instead have their meters manually read.

On October 17, 2022, the Commission held a Work Session and discussed our proposed Manual Meter Reading (MMR) tariff, and the \$15 per month Fixed Charge, which covers the cost to manually read a customer's meter if they choose to opt out of an AMI smart meter.

We appreciate the Commission's desire to ensure opting out of an AMI meter – thereby electing a non-standard service in its place – is an accessible option for any eligible customer. The Company's original proposal was based on the cost-causative principle of rate design, to ensure only customers electing this non-standard service pay the actual costs associated with providing it. The Company's objective with offering this non-standard service option is to ensure customers who do not wish to have an AMI meter have the choice to opt-out, maintain efficient operations and customer satisfaction, and recover our costs to provide the service.

At the Work Session, Commissioners indicated a desire to reduce the costs to customers who opt out of an AMI meter by having the Company manually read meters on a quarterly basis instead of monthly. As discussed further below, manually reading meters quarterly instead of monthly will not reduce costs and would introduce *additional* costs and complexities that would either raise the cost of service for all North Dakota customers or increase costs for opt-out customers. Further, quarterly meter reading introduces operational risks and would negatively impact the customer's experience.

In this Letter, we provide:

- Illustrative cost information of the quarterly meter reading approach, which shows that quarterly reading would be unlikely to result in cost savings and would in fact add approximately \$11 to the monthly cost-based \$15 Fixed Charge for opt-out customers;
- Discussion of alternative MMR tariff options with a \$5 or \$10 monthly Fixed Charge for monthly meter reading; and
- Industry benchmarking information that shows our original proposal for a \$15 monthly Fixed Charge is below the nationwide average for other utilities.

Should the Commission determine that a lower monthly Fixed Charge be implemented, more customers would likely choose to opt out. Therefore, in our discussion of costs, we compare impacts under three customer opt-out scenarios: 0.5 percent (our assumption based on a monthly Fixed Charge of \$15), one percent, and two percent – with our overall cost conclusions presented in this filing based on the middle scenario, a one percent opt-out rate.¹

Reading customer meters monthly is a fundamental and essential utility service. Monthly reads facilitate a timely match of customers' energy usage with their bills – providing customers actionable, timely information, and reasonable, manageable billing amounts. For the Company, monthly meter reads are operationally efficient and result in an overall higher level of satisfaction with our service. So, as an alternative to the Company's proposed \$15 monthly Fixed Charge, the Company respectfully offers an alternative that would set the monthly Fixed Charge at \$10 for customers who choose to opt-out of an AMI meter. As we will illustrate in this

¹ We assume approximately 90,126 total customers will be eligible to elect the Manual Meter Reading tariff, based on the number of residential and small business electric customers assumed in the 2021 test year of our last electric rate case. With a Fixed Charge of less than \$15 per month, we believe a one percent opt-out rate is likely.

Letter, reducing the monthly fee from the \$15 cost-causative Fixed Charge to \$10 accomplishes the Commission’s goal of reducing the monthly cost of opting out of an AMI smart meter, while limiting subsidization by other customers, ensuring meter deployment remains on schedule, and providing customers with better service than would be possible with quarterly meter reads.

I. CUSTOMER IMPACTS OF QUARTERLY METER READINGS

In this section, we provide background and information on the additional costs and customer and Company impacts associated with quarterly meter readings of non-standard meters.

A. We Would Not Anticipate Labor Savings

Due to the dispersed nature of our North Dakota service territory, we employ one meter reader in each major city we serve: Fargo, Minot, and Grand Forks. Billing cycle dates vary by customer, so meters are read throughout the month. Regardless of meter reading frequency, at least one meter reader per city is needed to conduct meter readings safely and efficiently.

Further, with quarterly meter reading, the non-standard/opt-out meter would need to store three times the volume of data than if meters were read monthly. Likewise, for meter readers to download this volume of data from the meter, they would need to spend close to three times the amount of time at the customer premise.

For these reasons, we would not expect a reduction in labor costs as a result of quarterly meter readings; a Fixed Charge of \$15 per month would be appropriate regardless of meter reading frequency. Even if some labor savings were possible, those savings would be more than offset by the additional costs required to enable quarterly meter reading, which we discuss in the sections below.

B. Significant Information Systems Development Would Be Required

With new meters – whether a customer has an AMI meter or a non-standard meter – residential customer bills will be based on the sum of electric usage from 15-minute increments. As noted in our August 4, 2022 Letter, this shift to interval billing creates new challenges with bill estimates and true-ups. Our Meter Data Management system is not designed to systematically true-up estimated interval bills to actual usage. Therefore, to bill opt-out customers accurately each month without reading meters monthly, the Company would need to make significant additions to our billing system

software to, in part, automatically cancel the customer’s previous two monthly bills once an actual read is received, and then rebill the customer in a timely manner for the prior three months based on actual usage data. We estimate this information systems development work would require an upfront capital investment of \$450,000 to \$750,000, in addition to ongoing annual O&M costs. This investment would be necessary regardless of the number of customers electing the MMR tariff.

In order to provide an estimate of the customer impact of this additional cost, we calculated the total revenue-requirement impacts using a capital cost assumption of \$600,000 for this project (the midpoint of our \$450,000 to \$750,000 estimated investment) recovered over a six-year period. Table 1 shows the estimated average monthly cost-causative, incremental impact on individual customer bills for each customer electing the non-standard manual meter reading service.

**Table 1: Quarterly Meter Reading with Monthly Billing–
IT Investment Estimated Monthly Bill Impact to Opt-Out Customers**

	Percentage of Eligible Customers Electing MMR Tariff		
	0.5%	1%	2%
Monthly Bill Impact of IT Investment to Enable Monthly Billing with Quarterly Meter Reading	\$22.35	\$11.17	\$5.59
Total Fixed Charge with Quarterly Meter Reading, assuming \$15 monthly charge to cover labor and other costs for quarterly meter reading	\$37.35	\$26.17	\$20.59

Note: Assumes a total revenue requirement of \$725,000 over six years. Does not include ongoing, annual O&M expenses.

As shown above in Table 1, the additional information systems investment cost represents an incremental monthly cost of between \$22 and \$6 depending on the number of customers electing to take service under the MMR tariff. As discussed above, labor savings are an unlikely result of quarterly meter reading. That said, even if quarterly meter reading were to reduce the monthly cost to approximately \$5 per month, the additional systems investment more than offsets the savings under a 0.5 percent and one percent assumption of customers electing service under the MMR tariff. As discussed above, we do not expect labor savings as a result of quarterly meter reading and therefore total customer costs are expected to be between \$20 and \$38 a month.

Even more importantly than these incremental costs, quarterly meter reading would negatively impact the customer experience due to the estimated bills and may place additional burden on customers who have come to expect consistent and accurate billing. We discuss these customer experience impacts later in this section.

C. Meter Deployment Would Be Delayed, Increasing Installation Costs and Delaying Cost Savings

We anticipate that the billing systems work described above would take at least one year to complete and may not be able to be started until sometime in 2023 or 2024, given the other AMI deployment-related systems work that is underway to support all Xcel Energy states. This means that we would not be able to begin installing non-standard meters when AMI meter deployment begins in North Dakota in July 2023, creating a disjointed customer experience and increasing costs.

After completion of the billing system IT project, a second round of meter deployment would be required to install non-standard meters for customers electing the MMR tariff. That second round of deployment would be outside the scope of our existing contract with our meter installation vendor, and we expect there would be higher costs to install the non-standard meters compared to the current contract. We estimate an additional one-time installation cost of \$75 to \$100 per non-standard meter.

This delay would mean that customers electing the MMR tariff could not take advantage of the efficiencies of opting out early. Under our proposed tariff, a customer could avoid an additional \$40 upfront charge for Non-Standard Meter Installation by opting out before an AMI installation, which would obviate the need for an extra visit by a meter installation technician. With the delay of non-standard meter deployment necessitated by the information systems project, all opt-out customers would be subject to the higher \$75-\$100 one-time cost-based Non-Standard Meter Installation Charge.

In addition, we would need to create a new method to track customers electing the MMR tariff for later implementation. We would also need to implement a second round of customer communications and notifications for opt-out customers. Those costs are not reflected in the estimates in Table 2 below. It is likely this disjointed deployment would create customer confusion, increase calls to the Company's contact center, and increase customer complaints.

Finally, we note that this delayed deployment of the non-standard meters would also delay the cost savings we would realize by avoiding payments to our current automated meter reading (AMR) vendor. We estimate the value of the delayed cost savings would be between approximately \$3,000 and \$11,600 per year.²

Table 2 shows the estimated cost-causative bill impact of this delayed installation on customers electing the non-standard manual meter reading.

Table 2: Estimated One-Time Cost of Delayed Installation of Non-Standard Meters

	Percentage of Eligible Customers Electing MMR Tariff		
	0.5%	1%	2%
One-Time Cost to Install Non-Standard Meter Installation	\$75-\$100 per meter plus administrative costs to track the opt-out customers and legacy meter reading charges		

D. Total Cost Impact of a Quarterly Meter Read Cadence for Opt-Out Customers

A cost-causative rate design would ensure that the customers electing to take the non-standard MMR service pay the full cost of providing that non-standard service. As discussed above, quarterly meter reading and monthly billing would not only fail to yield cost savings, but would also lead to three distinct costs for customers choosing to opt-out:

1. An IT investment, with an estimated incremental bill impact of approximately **\$11 per month per opt-out customer**, resulting in a Fixed Charge of approximately \$26 per month.³
2. Delayed deployment of meters, with an estimated one-time cost of **\$75-\$100 per opt-out customer**.
3. Delayed removal of AMR meters, with an estimated total delayed cost savings of **\$3,000 to \$11,600 per year**.

These estimates demonstrate that the actual monthly cost associated with quarterly meter reading would exceed the \$15 monthly Fixed Charge originally proposed by the Company, and the Non-Standard Meter Installation and Removal Charge would

² Low estimate assumes a 0.5 percent opt-out rate; high estimate assumes a two percent opt-out rate. Based on a monthly avoided cost of \$0.54 per opt-out customer.

³ Reflects costs assuming a one percent opt-out rate.

increase for all MMR tariff customers, regardless of when they opt out. Further, these estimates are low because they do not include costs associated with (1) ongoing O&M costs to maintain the billing system update; (2) an additional customer communications campaign required due to the delay in non-standard meter deployment; or (3) administrative costs to track MMR customers during AMI deployment and reschedule non-standard meter installations for those customers. To fully develop a cost-causative monthly rate for quarterly meter reading, the Company would need to scope those items further to develop actual costs.

If a non-cost-causative approach with quarterly meter reading was implemented, we would include the unrecovered cost of this non-standard service in a future rate case.

E. Our Customer's Experience Would Be Negatively Impacted

Moving to quarterly meter reading for customers electing a non-standard meter would not only increase costs, as detailed above, but would also negatively impact the overall experience of those customers.

First, quarterly meter reading would most likely result in financial variability for customers. Monthly bills based on an actual reading once per quarter requires two months of estimated bills. Estimated bills will differ from actual usage requiring a true-up when an actual read is obtained. This may result in a negative customer experience that the customer will attribute to Xcel Energy and is likely to result in calls to the Company and increased levels of complaints – even if the customer agrees to the Terms & Conditions of the MMR Tariff.

II. LOWER MONTHLY METER READING FIXED CHARGE

In this section, we offer alternative options to lower the monthly manual meter reading Fixed Charge for customers electing the MMR tariff. We have evaluated two additional options, \$10 per month and \$5 per month. We note these alternative fixed charges are not cost causative, as we estimate the actual cost to manually read a customer meter each month to be approximately \$15, assuming 0.5 percent of customers choose to opt-out.

Table 3 shows the range of potential costs for customers electing the MMR tariff that we estimate would be unrecovered using a Fixed Charge of \$10 per month and \$5 per month.

Table 3: Potential Unrecovered Meter Reading Costs (Annual)

	Percentage of Eligible Customers Electing MMR Tariff		
	0.5%	1%	2%
Annual unrecovered costs @ \$5 monthly charge (\$10 unrecovered)	\$54,076	\$108,151	\$216,303
Annual unrecovered costs @ \$10 monthly charge (\$5 unrecovered)	\$27,038	\$54,076	\$108,151

As discussed above, lower monthly charges may lead to a larger portion of customers choosing to opt out. We anticipate that even a one percent opt-out rate could necessitate hiring additional meter reading staff, the costs for which are not reflected in the costs in Table 3.⁴

However, we also acknowledge that our costs and opt out rates are estimated. Should the Commission determine that a lower monthly Fixed Charge be implemented, we would plan to reevaluate and share with the Commission the actual cost of manual meter reading – which would consider actual opt-out rates, labor costs, and other costs – once we have accumulated sufficient actual data. Depending on the actual monthly customer costs we observe, we could revisit the monthly Fixed Charge and propose changes as necessary.

III. Industry Point of Reference for Opt-Out Charges

At \$15 per month, the Company’s proposed, cost-causative Fixed Charge is below the industry average. In 2019, the Company conducted a survey of utilities of various sizes, types, and locations across the United States, seeking information on their AMI opt-out fees. Based on the results of our survey, the average manual meter reading charge in 2019 was approximately \$25 per month. In addition, our survey showed that the average charge for non-standard meter installation/removal is approximately \$125, significantly higher than the Company’s proposed cost-based charge of \$40. Table 4 shows the results of our survey of monthly manual meter reading charges.

⁴ Due the geographic dispersion of our North Dakota service territory, staffing needs would in part depend on the specific locations of opt-out customers.

Table 4: Utility AMI Opt-Out Charges Survey Results (2019)

	Meter Install/ Removal	Monthly Manual Read
Texas	\$201.58*	\$23.95
Texas	\$105.00	\$36.00
Chicago	\$77.47	\$21.53
Kansas/Missouri	\$150.00	\$40.00
Florida	\$89.00	\$13.00
North Carolina	\$150.00	\$11.75
Maryland	\$80.00	\$20.00
Missouri	\$150.00	\$45.00
Oklahoma	\$115.00	\$15.66
Average	\$124.23	\$25.21

** Note: this result averages three different Meter Install/Removal rates from a single utility with different charges based on meter type.*

Further, a 2019 review of smart meter opt out policies by the National Conference of State Legislatures also shows that the Company’s originally proposed \$15 monthly Fixed Charge is on the lower end of the range of AMI meter opt-out policies by state.⁵

CONCLUSION

We appreciate the Commission’s objective to ensure that choosing a non-standard meter is accessible for any customer. The Company’s objective is to offer customers options, while ensuring we maintain efficient operations, customer satisfaction, and reliable and affordable service for all customers. We believe that quarterly meter reading of non-standard meters is counter to these objectives.

Instead, reading non-standard meters quarterly instead of monthly has the following impacts:

- Increases costs, requiring a higher cost-causative monthly meter reading charge for customers opting out, or necessitating recovery of increased costs from other North Dakota customers.
- Delays necessary replacement of aging meters.
- Is operationally inefficient.
- May result in inconsistent and unpredictable bills for opt-out customers due to estimation and true-ups.

⁵ NCSL found that manual meter reading charges ranged from about \$9 to \$32 per month. *See* <https://www.ncsl.org/research/energy/smart-meter-opt-out-policies.aspx>.

Therefore, we respectfully request that the Commission approve our Manual Meter Reading Rider Tariff as revised in our August 4, 2022 filing, including the \$15 per month Fixed Charge to cover the costs of monthly manual meter reading. As an alternative, the Company offers that a \$10 Fixed Charge could be implemented. The Company would collect data on actual costs, including opt out rates, and would propose changes to the monthly Fixed Charge if necessary.

We respectfully request Commission approval by February 28, 2023 to ensure customers can choose to opt-out as soon as they receive notification of their meter installation. Please feel free to contact me at (701) 241-8632 if the Commission requires additional information or has any questions.

Sincerely,

/s/

ALEX NISBET
REGULATORY POLICY SPECIALIST