

February 5, 2018

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101

RE: **Comments of the Minnesota Department of Commerce, Division of Energy Resources**
Docket No. E002/M-17-775

Dear Mr. Wolf:

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

Petition of Northern States Power Company, doing business as Xcel Energy (Xcel), for Approval of a Residential Time of Use Rate Design Pilot Program.

The petition was filed on November 1, 2017 by:

Holly Hinman
Manager, Regulatory Affairs
Xcel Energy
401 Nicollet Mall, 7th Floor
Minneapolis, MN 55401.

The Department's team of Nancy Campbell, Mark Johnson, Stephen Collins and myself request additional information from Xcel and will provide a final recommendation after reviewing Xcel's reply comments. The Department is available to respond to any questions the Minnesota Public Utilities Commission may have.

Sincerely,

/s/ SUSAN PEIRCE
Coordinator

SP/lt
Attachment



Before the Minnesota Public Utilities Commission

Comments of the Minnesota Department of Commerce Division of Energy Resources

Docket No. E002/M-17-775

I. INTRODUCTION

On November 1, 2017, Northern States Power Company doing business as Xcel Energy (Xcel or the Company) filed a petition in Docket No. E002/M-17-775 requesting that the Minnesota Public Utilities Commission (Commission) do the following by June 1, 2018:

- Certify as a distribution project under Minnesota Statute §216B.2425 the Company's proposed residential time-of-use (TOU)¹ rate design pilot program (Pilot),
- Approve the Company's proposed implementation plan for the Pilot,
- Approve the Company's proposed tariff for the Pilot, and
- Approve the Company's proposed accounting treatment for the Pilot.

II. BACKGROUND

Xcel, the Commission, and interested parties have long considered experimenting with default TOU rates for Xcel's residential customers.² The Minnesota Department of Commerce, Division of Energy Resources (Department) provides a brief review of the relatively recent history on this issue, below.

A. EARLY 2000'S TOU PILOT PROPOSAL

On July 20, 2001, the Commission issued an *Order Opening Investigation* in Docket No. E002/CI-01-1024 opening the "docket to investigate the use of rate and tariff design to promote DSM [demand-side management] goals and send appropriate pricing signals to rate payers."

¹ Time-of-use rates are energy charges that vary by hour, with hours grouped into categories such as on-peak, mid-peak, and off-peak.

² Currently, Xcel's default base rates for residential customers only vary by season, with a slightly higher charge of 10.9 cents per kilowatt-hour (kWh) in summer months and a slightly lower charge of 9.0 cents per kWh in all other months. While Xcel's residential customers have the option to opt-in to a TOU rate with a 9AM-9PM non-holiday weekday on-peak period and a 3:1 on-peak/of-peak price ratio, an option that has existed for over 35 years, Xcel states that participation in this voluntary TOU rate has been low.

On November 1, 2002, in response to the *Order Opening Investigation*, Xcel filed a residential time-of-use pilot project. Xcel's proposal involved rolling out mandatory (or standard) TOU rates to 4,800 randomly selected customers, divided into four groups with different types of rates. The first group would have two-part TOU rates consisting of an on-peak period and an off-peak period. The second group would be subject to three-part TOU rates with an on-peak period, mid-peak period, and off-peak period. The third group would have two-part rates with Critical Peak Pricing, a rate design that would allow Xcel to charge customers even higher rates during on-peak periods on up to 10 days per year, with advance notice. The fourth and final group would have non-TOU rates with Extreme Day Pricing, a rate design that would allow Xcel to charge customers higher rates for an entire 24-hour period up to 10 days per year, with advance notice. The idea behind Critical Peak Pricing and Extreme Day Pricing was that it made sense to give customers an extra incentive to reduce consumption on days with particularly high usage.

On June 23, 2003, the Commission issued an Order rejecting Xcel's proposal (*Order Declining to Proceed with Pilot Project*, issued in Docket Nos. E002/CI-01-1024 and E002/M-02-1894). The Commission's reasons for rejecting Xcel's proposal were as follows (with footnotes omitted):

... in Xcel's current situation, the energy efficiency benefits of mandatory residential time-of-use rates would not outweigh their costs in confusion, inconvenience, and customer dissatisfaction. The Company's preliminary calculations suggest that the only scenario under which mandatory time-of-use rates would out-perform its existing, voluntary Saver's Switch program would be with the institution of Extreme Day Pricing and Critical Peak Pricing, rate structures that pose unresolved public health and safety issues.

Further, the data from Washington, the state with the most extensive and recent experience with mandatory residential time-of-use rates, is not encouraging. Ninety-four percent of the residential customers who participated in that time-of-use pilot project paid higher than standard rates, and the project was discontinued before its conclusion at the request of the utility. While one state's experience is not directly transferrable to another, it is instructive, and here it does not militate in favor of investing more resources in this project.

In fact, the record as a whole does not demonstrate any reasonable likelihood that the pilot project would yield data establishing that moving to mandatory time-of-use rates in the near term would serve the public interest. The data the pilot project would yield would pertain to the elasticity of residential demand in the abstract, which is not sufficient grounds to support mandatory ratepayer participation.

The data and analysis submitted in this case have been extremely useful. On the basis of that data and analysis the Commission concludes that at this time it should not proceed with the pilot project or otherwise pursue mandatory time-of-use rates for Xcel's residential customers.

B. ALTERNATIVE RATE DESIGN DOCKET

Time-of-use rates resurfaced a decade later in Xcel's 2013 rate case, Docket No. E002/GR-13-868. The Commission's May 8, 2015 Order in that case approved an Inverted Block Rate (IBR) Stipulation put forward by Xcel, the Clean Energy Intervenors, Energy CENTS Coalition, and the Suburban Rate Authority. In light of the Commission's Order on the Stipulation, the Department agreed to initiate a stakeholder process to consider "alternative rate designs that result in rates that promote energy conservation, reduce peak demand, and/or send more accurate, useful price signals to customers" (Order Point 45).

On July 13, 2015, the Department initiated the stakeholder process in a new docket, Docket No. E002/CI-15-662 (the Alternative Rate Design Docket). Following several months of discussions, on November 10, 2015, the Department presented the Commission with a *Report on Alternative Rate Design Options* summarizing the proceedings of the stakeholder group, including stakeholders' comments on the various rate designs considered such as Inverted Block Rates, TOU rates, Critical Peak Pricing, and Demand Charges. The Commission reviewed the Department's Report, and directed Commission Staff to convene additional workshops to discuss rate design alternatives. Additional comments from parties were solicited and received. On March 31, 2017, Xcel filed comments, submitted jointly with the Center for Energy and Environment (CEE) and Great Plains Institute (GPI), stating that the Company had begun developing a TOU pilot. The Department's comments recommended that the Commission direct Xcel to develop one or more TOU Pilot programs.

On November 1, 2017, Xcel filed its petition for approval of its TOU Pilot in this case.

III. SUMMARY OF XCEL'S PETITION

The key aspects of Xcel's TOU Pilot proposal are as follows.³

- Beginning in 2020, Xcel would enroll 10,000 customers in the Twin Cities area in a TOU rate: 5,000 in Eden Prairie and 5,000 in south Minneapolis. Customers would have the option to opt-out and return to non-TOU residential rates at any time. The Pilot would end after two years.
- Xcel categorizes its proposed TOU rates as On-Peak (3PM to 8PM weekdays), Off-Peak (midnight to 6AM all days) and Mid-Peak (all other hours).
- The energy charge in on-peak hours would be about twice as high as the mid-peak energy charge, and four times as high as the off-peak energy charge.
- The customer charge would not change and Xcel intends for the TOU energy charges to recover the same revenue as the prior (non-TOU) energy charges.
- Xcel would install advanced metering infrastructure (AMI) meters on the premises of all participating customers. The AMI meters would be able to measure kWh in 5- or 15-minute increments for all selected customers. Xcel indicates that these new meters would be necessary because existing residential meters do not have the ability to measure sub-hourly usage.
- Xcel would also give AMI meters to 7,500 non-participating customers, to control for the effect of AMI meters when measuring the pilot's effectiveness in shifting demand.
- Xcel would provide an initial report on the pilot after 15 months and a final report after 27 months.

Xcel states that the goals and objectives of its TOU Pilot are to:

- Better understand the effectiveness of price signals at shifting customer energy usage to lower-peak periods;
- Identify effective customer engagement strategies for deploying TOU rates and technologies;
- Better understand how different customer segments respond to TOU price signals, and to various messaging on those price signals;
- Support achievement of the Company's demand response goals; and
- Gain useful information to assist in a larger deployment of TOU rates within its service territory.

³ The analysis section of these comments reviews Xcel's proposal in more detail.

IV. DEPARTMENT ANALYSIS

As stated earlier, Xcel requested that the Commission approve Xcel's proposed implementation plan, approve Xcel's proposed tariff, and approve Xcel's proposed accounting treatment, and certify the Residential TOU Pilot as an eligible project under Minnesota Statute §216B.2425. Such certification would allow Xcel to request recovery of incremental costs of the project under Minnesota Statute §216B.16, subd. 7b, Transmission Cost Adjustment. The Department analyzes and provides recommendations on each of these four requests as well as cost-recovery issues.

A. IMPLEMENTATION PLAN

Xcel's first request is that the Commission approve the Company's proposed implementation plan for the Pilot. The Department reviews the key components of Xcel's proposed implementation plan: the selection of customers, timing, management, technology procurement, customer treatment at the end of the pilot, customer engagement, and evaluation and reporting.

1. Selection of Customers

As stated earlier, Xcel proposes to roll out the Pilot to 10,000 customers, half in Eden Prairie, served from the Westgate substation, and the other half in south Minneapolis, served from the Hiawatha West or Midtown substations. Xcel also proposes to include 7,500 customers in a control group, again split half-and-half between the two areas. The two areas capture the diversity of Xcel's metro-area service, with the south Minneapolis area generally reflective of lower-income, lower-usage customers, with older and more multifamily housing stock, and the Eden Prairie area generally consisting of higher-income, higher-usage customers, with newer and more single-family housing stock. While these two samples do not capture any rural customers, because Xcel's service territory largely reflects more densely populated areas, the Department concludes that they are sufficiently diverse and representative for the purposes of the Pilot.

As indicated on page 18 of the petition, Xcel proposes to select the 10,000 treatment-group customers and 7,500 control-group customers based on the practicality of installing AMI meters on the customers' premises. While it would be ideal to select customers randomly, the Department concludes that cost and practicality considerations outweigh the need for a purely random sample. Therefore, the Department concludes that Xcel's proposed method for selecting customers is reasonable.

Xcel also proposes to exclude certain customers from the pilot, specified in Attachment F of the petition as “customers that are on net metering service or have other interconnected distributed generation on their premise, or customers that also receive Energy Controlled (Non-Demand Metered) Service, Residential Electric Vehicle Service, or Limited Off-Peak Service.” Xcel estimates that these customers represent about 1 to 2 percent of the potential eligible populations. Xcel’s reasoning for excluding these customers is that including them would create “additional complexity based on limitations to [Xcel’s] current billing system capabilities as well as the incompatibility of existing rate designs with the TOU pilot structure.”

The Department concludes that Xcel’s proposal to exclude certain customers from the TOU Pilot appears to be reasonable. However, the Department requests that Xcel clarify, for each class of customer that Xcel proposes to exclude, the precise reasons Xcel proposes to exclude them from participation and more specifics on why inclusion would create the “additional complexity” cited in Xcel’s petition. The Department will provide a final recommendation on Xcel’s customer-exclusion proposal after reviewing Xcel’s reply comments.

2. Timing

Xcel proposes to begin developing the AMI system in 2018, begin customer engagement in 2019, complete meter installations towards the end of 2019, collect baseline customer data shortly thereafter, and then begin the Pilot at the beginning of 2020. The Department concludes that this proposal appears to be generally reasonable, but requests that Xcel provide more information on how the Company intends to collect sufficient baseline data given the short anticipated timeframe between when meters would be installed and TOU rates would go into effect.

3. Management

Xcel proposes assigning one dedicated staff member to provide overall management of the Pilot, with the assistance of a part-time staff member. The costs of these staff members are presumably included in the \$675,000 nominal “program management labor” costs that Xcel anticipates over the course of the Pilot. The Department requests that Xcel clarify why it would need a dedicated staff member, whether this proposal would use (transfer) existing staff or require hiring new staff, and why Xcel would need to recover additional internal labor costs beyond what is recovered in base rates.

4. Technology Procurement

Xcel states that both the sample and control groups would need new meters since Xcel’s current residential meters cannot measure sub-hourly usage, which is necessary to implement

TOU rates. To achieve this needed functionality, Xcel presents two options: install new meters using the existing automated meter reading (AMR) system, with total costs of \$9.8 million in nominal dollars, or install new meters with an advanced metering infrastructure (AMI) system, with total costs of \$11 million in nominal dollars. Xcel proposes to use the AMI system because it believes that AMI has additional benefits and is more compatible with Xcel's envisioned future endeavors.⁴

While the AMR-upgrade alternative appears to be cheaper for the limited purposes of this Pilot, the Department concludes that money spent on upgrading meters within the AMR system would be wasted in the long run if Xcel rolls out widespread implementation of AMI. While widespread rollout of AMI is uncertain at this time, and in the Department's view would need to be supported by a thorough cost-benefit analysis and be found to be in the public interest, such rollout is a possibility. Moreover, the 12 percent difference in costs between the two options appears to support movement to the more advanced technology. Therefore, to avoid potential wasted money in the long run, the Department supports Xcel's proposed use of AMI meters in this limited case.

5. Customer Treatment at the End of the Pilot

In response to a Department Information Request (IR) asking what rate schedule will apply to Pilot participants after the Pilot is completed, Xcel stated:⁵

The Company has not pre-determined the post-pilot outcome at this time, and whether or not a broader or extended implementation of the TOU pilot rates will be appropriate. We intend to generate and report on learnings that will inform any rate succession plans.

Given the delay between when the end of the Pilot and when the Commission decides on whether or not to roll out TOU rates to other residential customers, the Department concludes that a more concrete post-pilot plan would be helpful and therefore requests that Xcel's reply comments provide a more concrete post-pilot plan for treating customers. Alternatives may include either temporarily extending the pilot to the period when any new rates would take effect or returning participating customers to default rates until the Commission issues its Order following the completion of the Pilot. The Department will provide a final recommendation on this issue after reviewing Xcel's reply comments.

⁴ Xcel's response to Department IR No. 14, included in Attachment 1 to these comments.

⁵ Xcel response to Department IR No. 3, included in Attachment 1 to these comments. See also pages 29-31 of Xcel's petition.

6. Customer Engagement

Xcel proposes various customer-engagement strategies. The Department concludes that Xcel's proposal in this regard appears to be reasonable.

7. Evaluation and Reporting

Xcel proposes to "file a mid-point report approximately 15 months from the launch" of the Pilot, "and a final report approximately 27 months from the launch." The reports as proposed by Xcel would provide: "key indicators, including participation metrics, peak demand savings achieved, customer bill impacts, ... customer satisfaction learnings" and "an evaluation of the pilot toward achieving its key objectives as known at that time, including an analysis of the price signal effectiveness, the outreach and engagement strategy effectiveness, and learnings about impacts by customer segment." Xcel's measurement would include usage analysis using the sample and control groups, as well as customer surveying to measure data such as demographic info and customer satisfaction. To assist in these "measurement and verification" efforts, Xcel proposes to hire an outside expert by issuing a Request For Proposals (RFP).

The Department concludes that Xcel's proposed information to be reported and reporting schedule are both generally reasonable, but that more specifics would be useful. The Department requests that Xcel's reply comments provide a list of the exact metrics the Company proposes to report and more information on how Xcel expects the metrics to inform future decisions.

B. TARIFF

Xcel's second request is that the Commission approve the Company's proposed tariff for the Pilot. The Department reviews the key aspects of Xcel's proposed tariff: peak periods, seasonal differentials, peak-period price differentials.

1. Selection of Peak Periods

Xcel proposes three pricing periods for each week: an on-peak period consisting of all hours between 3PM-8PM on non-holiday weekdays, an off-peak period consisting of all hours from midnight to 6AM on all days, and mid-peak period consisting of all other hours. Given the best practices cited in Xcel's petition and the reasonable overlap between the peak periods and Xcel's expected peak load during the Pilot period, the Department concludes that Xcel's proposal is reasonable for the purposes of the Pilot. The 3PM-8PM weekday period appears to

be long enough to capture a significant amount of peak hours, but not so long as to limit customers' opportunity to shift discretionary consumption to hours outside the period.

2. Seasonal Price Differentials

Xcel proposes the following seasonal price differentials:

- For the mid-peak period, which encompasses the majority of hours, and for which the proposed rate is most similar in level to existing non-TOU rates, Xcel would use the same seasonal price differential as applied to non-TOU default rates;
- For the off-peak period, Xcel would not apply a seasonal differential;
- For the on-peak period, Xcel would apply a seasonal differential so that the overall seasonal differential (the weighted average differential for mid-peak, off-peak, and on-peak periods) matches the seasonal differential for existing non-TOU rates, thus offsetting the lack of seasonal differential for the off-peak period and resulting in a higher seasonal differential than that for the mid-peak period.

The Department concludes that Xcel's proposed seasonal price differentials are reasonable. It is reasonable to use the existing seasonal differential for the mid-peak period since the rates for this period are similar to the existing flat rates. Taking Xcel's statement that energy costs and load do not vary in the off-peak period across seasons as true, it is also reasonable to not include a seasonal differential for off-peak periods. Last, it is reasonable that the overall seasonal differential across all periods matches the seasonal differential of existing flat rates, necessitating a higher seasonal differential for the on-peak period to account for the lack of differential for the off-peak period. This approach gives a stronger signal to reduce consumption at peak and helps ensure revenue neutrality.

3. Peak-Period Price Differentials

Xcel proposes that on-peak rates be approximately four times as high as off-peak rates, and about twice as high as mid-peak rates.⁶ This relative pricing is perhaps the key aspect of Xcel's proposal, as the Department expects residential customers to respond to relative price signals, not absolute price signals. The simple math of Xcel's proposal—the on-peak price being twice as high as mid-peak prices, and four times as high as off-peak prices, provides a relatively straightforward way for customers to interpret the TOU rates. These ratios also appear to strike a reasonable balance between being high enough to provide an adequate price signal to reduce rates, but not too high to severely harm customers with highly inelastic demand during

⁶ These rates include the fuel clause and are shown in Table 5 on page 20 of Xcel's petition. The rates in Xcel's proposed tariff (Attachment F to Xcel's petition) do not include the fuel clause. The Department agrees with Xcel's implication that it is appropriate to analyze the TOU rates in terms of their effect combined with the fuel clause.

Xcel's proposed on-peak period of 3PM-8PM weekdays. Lastly, Xcel's proposed charge for the mid-peak period, which encompasses most hours, is slightly lower than Xcel's standard energy charge—meaning customers will receive a slight discount for consumption in most hours. For these reasons, the Department concludes that Xcel's proposed price differentials are reasonable.

4. Customer Charge

Xcel proposes no changes for the customer charge for customers participating in the Pilot. Since Xcel states it would request recovery of meters and other equipment needed for the Pilot using the Company's Transmission Cost Recovery Rider, the Department concludes that maintaining the customer charge is reasonable.

5. Opt-Out

Xcel proposes to allow customers to opt-out of the Pilot and return to non-TOU rates at any time. Thus, any customer who doesn't benefit from TOU rates can simply leave the program. While this design should decrease any customer dissatisfaction with the Pilot, it would also reduce the usefulness of the Pilot in measuring customer impacts—as only customers who benefit from TOU rates have an incentive to remain enrolled. The latter effect is a significant disadvantage; ideally, for measurement purposes, all customers would remain enrolled in the Pilot. However, the Department understands the need to protect against customer backlash. Given these two balancing concerns, the Department concludes that Xcel's opt-out proposal is reasonable for the purposes of the Pilot.

6. Bill Protection

Xcel proposes to provide some bill protection to TOU Pilot participants during the first year of the Pilot to mitigate adverse bill impacts. The amount of bill protection differs for LIHEAP recipients and non-LIHEAP recipients.

For non-LIHEAP customers, Xcel proposes to grant a one-time credit 12 months into the Pilot for the total 12-month "billing charge in excess of 10 percent of the corresponding billing charge that would have been applied had the customer not been a pilot participant will be credited to the customer's account, including any applicable taxes." The credit would only be available to customers who remained on the Pilot for the first 12 months and stayed at the same location during that time. No bill protection would be available in the second year.

For LIHEAP customers, Xcel proposes to grant full monthly 'true-ups' to what the customers would have paid under flat rates during each of the first 12 months of the pilot, if those

customers would have paid less under flat rates. If a LIHEAP customer remains on the Pilot at the same location for the remaining 12 months of the Pilot, Xcel would then grant the customer a bill credit at the end of the second year for the amount billed exceeding more than 10 percent of the flat rate (the same bill protection applied to non-LIHEAP customers after the first year).

The Department generally supports the bill protection proposals put forward by Xcel. While bill protection may limit customers' responses to the TOU rates, Xcel's proposal is structured to encourage shifting usage to off-peak periods by simply capping the amount of any increase customers may see, and in the case of non-LIHEAP participants providing the true-up only once.

However, the Department notes that the language proposed in Xcel's proposed Pilot tariff (Attachment F) does not accurately reflect Xcel's LIHEAP bill-protection proposal. The language is not specific (it only states that bill protection will be "determined on a monthly basis" during the first year and "provided on an annual basis" during the second year) and refers to customers receiving a discount through the Low Income Energy Discount Rider, not customers receiving LIHEAP. The Department recommends that the Commission require Xcel to modify the language in the tariff to accurately reflect the proposal in the body of Xcel's petition (on page 27), which the Department quotes below:

For customers identified in our system as energy assistance (LIHEAP) recipients [footnote omitted], the Company will provide a full "true-up" to flat rates on a monthly basis for the first year. For the second year, LIHEAP recipients enrolled in the pilot will receive annual bill protection for the amount of difference from flat rates greater than 10 percent. Customers who opt out or leave the pilot area will forego this Year 2 annual protection.

Another concern is the Company's treatment of customers owing past-due amounts, and customers in bill payment programs under the TOU Pilot. The Department is concerned with the potential for customers, particularly low-income customers, falling behind in their payments solely as a result of the TOU rates, and an inability to respond to those rate signals. While dropping out of participation in the TOU Pilot is certainly available to all customers at any time, information on the reasons for those dropping participation is important to capture in evaluating the Pilot. The Department recommends that Xcel address the treatment of such customers in reply comments, how it will gather information about their usage and participation, and any changes Xcel proposes for its disconnection policy for TOU Pilot participants. Finally, for customers participating in bill repayment programs such as the Low-Income Discount Rider, the Department requests that Xcel provide additional clarification as to how the discounts and repayment provisions will apply under the TOU Pilot.

7. Saver's Switch

Saver's Switch is an Xcel program that gives residential customers a discount on base energy and fuel rates in exchange for Xcel being allowed to control customers' central air conditioning and/or water heating during peak periods. The air-conditioning benefit for participating customers is a 15-percent discount applied to a maximum of 4,000 kWh per month during the months of June, July, August, and September; and the water-heating benefit to participating customers is a 2-percent discount applied to a maximum of 4,000 kWh per month during all months, with customers required to consume at least 300 kWh in a given month to receive the benefit.⁷

Since Xcel expects Saver's Switch customers to be able to achieve additional bill savings by enrolling in the TOU Pilot, Xcel proposes to limit the Saver's Switch discount of any customers participating the Pilot to \$10 per month for control of air conditioners (applied to only the four summer months) and \$2 per month for control of water heaters (applied to all months)—a policy that Xcel states has been used and "well received in Xcel Energy's Colorado service territory." Xcel expects that this flat credit, combined with the savings from TOU rates, will be comparable to what Saver's Switch customers would have saved otherwise. Xcel also considered the alternative of reducing the percent discount, but concluded that doing so would not be "administratively practical."⁸ The Department is not aware of a preferable way to combine the Saver's Switch discount with TOU rates and therefore does not object to Xcel's proposal.

8. Revenue Neutrality

Xcel states that it intends the TOU Pilot to be revenue neutral, but expects that revenue reduction may occur if participating customers on the whole "develop a lower-cost usage pattern." Nonetheless, the Company indicates that its exposure to any revenue reductions would be limited by the Revenue Decoupling Rider, which is currently in-effect on a pilot basis and grants full decoupling to Xcel through at least 2019, the end of Company's ongoing multiyear rate plan. However, since Xcel proposes to launch the Pilot in 2020, it is uncertain whether decoupling will be in place at the time of the Pilot.

Given the limited nature of Xcel's Pilot, the Department concludes that, regardless of whether decoupling will be in place, the Pilot does not present serious risks of under- or over-recovery. Nonetheless, it would be helpful for Xcel to report on actual revenues collected under the Pilot and compare these revenue to the revenues Xcel would have recovered if non-TOU rates had

⁷ The Saver's Switch program is implemented in Xcel's Minnesota rate book as the Residential Controlled Air Conditioning and Water Heating Rider.

⁸ Xcel's response to Department IR No. 7, included in Attachment 1 to these comments.

been in effect (assuming the same usage). The Commission would then have the option to act on any significant discrepancies that occur. Therefore, the Department recommends that the Commission require Xcel to report on actual revenues collected under the Pilot and compare these revenue to the revenues Xcel would have recovered if non-TOU rates had been in effect (assuming the same usage).

9. Overlay of Other Alternative Rate Designs

Xcel indicates that in the future the Company may propose additional alternative rate designs to compliment TOU rates, such as demand charges, peak rebates, or demand response. Before proposing any additional options, Xcel would “likely issue an RFI or RFP to the market to fully understand the latest in vendor capabilities and costs.” The Department agrees that the overlay of other alternative rate designs could be beneficial and requests that Xcel’s reply comments provide more information on what the Company proposes to do in this regard (when the Company would issue the RFI/RFP, what the RFI/RFP would request, when Xcel would come forward with additional rate design offerings to compliment TOU rates, and how Xcel contemplates complimentary offerings interacting with TOU rates). The Department will analyze Xcel’s exact proposal after reviewing Xcel’s reply comments.

C. ACCOUNTING TREATMENT

Xcel’s third request is that the Commission approve the Company’s proposed accounting treatment for the Pilot. Xcel’s proposed accounting treatment has three components:

- (i) allocating the carrying cost of the “AMI Head End System,” which would be shared with other utilities owned by Xcel Energy Inc., based on the number of AMI meters in each utility,
- (ii) treating “internal labor expenses consistent with the Commission’s Order in Docket No. E002/M-12-50,” and
- (iii) amortizing the costs for external consulting over the length of the Pilot development and deployment period (2018 through 2022).

Department generally supports the proposed accounting treatments for components (i) and (ii). However, as noted in the cost recovery section below, the Department does not support Xcel’s proposal to recover ongoing program operating and maintenance costs (labor costs) for Stratagen Consulting, Program Management Labor, Marketing Communications, M&V Consultant, and Customer Data Presentment. However, if the Commission approves recovery of the ongoing program operation and maintenance costs despite the Department’s concerns, the Department supports recovering these costs over an appropriate amortization period.

Finally, the Department notes that final decisions regarding rate recovery should be addressed in Xcel's rate recovery petition.

D. CERTIFICATION

Xcel's fourth request is that the Commission certify the TOU Pilot investments (the FAN system, AMI meters, and any other "investments" cited in Xcel's petition) under Minnesota Statutes section 216B.2425, subdivision 3 (the Certification Statute), which states in relevant part as follows:

By June 1 of each even-numbered year, the commission shall ... certify, certify as modified, or deny certification of the ... distribution projects proposed under subdivision 2.

The applicable paragraph of subdivision 2 (paragraph (e)) states:

... a utility operating under a multiyear rate plan approved by the commission under section 216B.16, subdivision 19, shall identify in its report investments that it considers necessary to modernize the ... distribution system by enhancing reliability ... and by increasing energy conservation opportunities by facilitating communication between the utility and its customers through the use of two-way meters, control technologies ... technologies to enable demand response, and other innovative technologies.

In the Commission's most recent Order regarding certification,⁹ the Commission appears to have interpreted the Certification Statute to mean that, if a project satisfies the definition under subdivision 2, then the statute requires that the Commission certify the project:

Having carefully reviewed the record and having considered the arguments of the parties, the Commission agrees with Xcel that the ADMS project is consistent with Minn. Stat. § 216B.2425 and should be certified.

Section 216B.2425 requires Xcel to identify "investments that it considers necessary to modernize the ... distribution system by enhancing reliability ... and by increasing energy conservation opportunities by facilitating communication between the utility and its customers through the use of two-way meters,

⁹ *In the Matter of Xcel Energy's 2015 Biennial Distribution-Grid Modernization Report*, Docket No. E002/M-15-962, Order Certifying Advanced Distribution-Management (ADMS) Project under Minnesota Statute section 216B.2425 and Requiring Distribution Study (June 28, 2016).

control technologies, energy storage and microgrids, technologies to enable demand response, and other innovative technologies.”

The project falls squarely within this definition. ADMS is a suite of software that will enable expanded distributed generation while creating a grid that is more transparent, reliable, and efficient. It is an investment necessary to “modernize the ... distribution system” that will “enhanc[e] reliability” and “increas[e] energy conservation opportunities” using “control technologies ... and other innovative technologies.”

Applying this same logic to the TOU pilot investments, the question to answer in determining eligibility for certification is whether the TOU pilot investments satisfy the potentially applicable definitions in section 216B.2425—that is, whether they are “investments ... necessary to modernize the ... distribution system by enhancing reliability ... and by increasing energy conservation opportunities by facilitating communication between the utility and its customers through the use of two-way meters, control technologies ... technologies to enable demand response, and other innovative technologies.”

Xcel believes that the TOU Pilot investments are indeed “investments necessary to modernize the distribution system by enhancing reliability ...” stating on page 8 of its petition:

In addition to energy conservation and communication benefits, the features of the pilot also modernize the grid by enhancing reliability. The technology selected for this pilot, Advanced Metering Infrastructure (AMI), provides data to the ADMS to improve grid operations. AMI also includes outage reporting functionality that enhances outage response capability and improves reliability.

The Department agrees that, to the extent installation of AMI meters for the purposes of the Pilot enhances the Company’s ability to respond to outages, the TOU Pilot complies with the requirement that the investment enhances reliability.

Xcel also believes that the TOU Pilot investments are “investments necessary to modernize the distribution system by increasing energy conservation opportunities ...” stating on the same page of its petition:

... the pilot will increase conservation opportunities for customers, as participants receive advanced metering capabilities to facilitate communication between the utility and customer, in service of driving on-peak energy efficiency and load-shifting behaviors. It also enables demand response activities through

increased communication capabilities, customer information and education, and targeted price signals.

The purpose of the TOU Pilot investments is to facilitate the TOU Pilot. Therefore, the investments are only “necessary” to achieve the purposes of the TOU Pilot itself. In this case, the only relevant goal with respect to conservation opportunities is to support achievement of the Company’s demand response goals. The installation of AMI meters will facilitate “increased communication capabilities, customer information and education, and targeted price signals.” Consequently, while the TOU Pilot is intended to promote load-shifting from on-peak to off-peak periods and not necessarily to reduce energy usage, the Department concludes that it is reasonable to permit recovery of the capital investment necessary to carry out the Pilot (the AMI meters). Moreover, this pilot would help establish whether or not TOU rates are likely to reduce overall energy consumption.

E. COST RECOVERY

Xcel intends to request approval to recover the “the majority” of the Residential TOU Pilot’s costs through the Company’s Transmission Cost Recovery (TCR) Rider under Minnesota Statutes section 216B.16, subdivision 7b(b)(5). As indicated earlier in these comments, the Company estimates that TOU pilot costs (assuming installation of new AMI meters instead of the slightly cheaper alternative of upgrading existing AMR meters) will total \$10.95 million—\$8.06 million in capital costs and \$2.89 million in non-capital costs.

Minn. Stat. §216B.16, Subd. 7b (b)(1) sets forth the costs that may be recovered through a TCR Rider. Specifically, the statute permits “the utility to recover on a timely basis the costs net of revenues of facilities... certified or deemed to be certified under section 216B.2425.” As noted earlier, as part of this filing, Xcel requests certification of its TOU Pilot project as a distribution project under section 216B.2425, which would permit the Company to request cost recovery through its TCR Rider.

The Department interprets Minn. Stat. §216B.2425 as permitting recovery for the physical installation of facilities needed to modernize the grid, and not as a venue for the recovery of ongoing program costs for which the facilities may be used. The Department notes that some, but not all, of the costs identified by Xcel in its TOU Pilot filing are facilities and investments identified by Minn. Stat. §216B.2425 as investments for grid modernization as shown on Table 6 on page 34 of the Petition. Xcel’s cost estimate for its TOU Pilot identifies ongoing program operating and maintenance costs (labor costs) for Strategen Consulting, Program Management Labor, Marketing Communications, M&V Consultant, and Customer Data Presentment. While the cost of AMI meters and their installation may reasonably be considered investment in the

modernization of Xcel's grid, Xcel has not shown how TOU Pilot marketing costs can reasonably be recovered through the TCR Rider.

Consequently, the Department recommends that if the Commission approves Xcel's petition, including the certification request, the Commission should note that it is only certifying costs associated with actual equipment (capital investment), and not the more general costs associated with offering the TOU Pilot to customers. Furthermore, the Department recommends that the Commission limit recovery of TOU Pilot costs to the reasonable costs identified by Xcel in this proposal unless or until the Company provides the Commission with additional cost justification.

In its petition, Xcel states that "to the extent any of these costs are not approved in the TCR, the Company would stop the pilot process and wait for a future rate case to bring the pilot and any remaining costs forward." The Department notes that Xcel is currently under a multi-year rate plan that permits rate increases over several years, and as such should be expected to manage its costs and expenses in such a way as to permit the Company to provide new rate offerings without recovery of every cost component through a Rider. Moreover, Xcel's multiyear rate case extends through 2019, by which time Xcel expects to have installed all AMI meters and before Xcel expect to begin implantation of the TOU Pilot; as a result, recovery of costs of AMI meters through the TCR rider should coincide with the expected implementation of the TOU Pilot.

Thus, the Department agrees that with certification, the Company is free to request TCR Rider recovery of its proposed investments in grid modernization equipment and facilities necessary to offer the TOU Pilot. However, the ongoing operating and maintenance costs of the TOU Pilot should be within the scope of costs the Company should be able to manage in the course of general business operations and its multi-year rate plan.

V. DEPARTMENT RECOMMENDATION

The Department requests that Xcel's reply comments:

- Address the Company's proposed treatment and handling of Pilot participants who become past due customers during the Pilot;
- Clarify how customer arrears repayment programs and low-income discounts will be applied to eligible TOU participation;
- Clarify, for each class of customer that Xcel proposes to exclude, the precise reasons Xcel proposes to exclude them from participation and more specifics on why inclusion would create the "additional complexity" cited in Xcel's petition;

- Provide more information on how the Company intends to collect sufficient baseline data given the short anticipated timeframe between when meters would be installed and TOU rates would go into effect;
- Clarify whether why it would need a dedicated staff member, whether this proposal would use existing staff or require hiring new staff, and why Xcel would need to recover additional internal labor costs beyond what is recovered in base rates;
- Provide a more concrete post-pilot plan for treating customers;
- Provide more information on what the Company proposes regarding the potential overlay of other alternative rate-design options—when the Company would issue the RFI/RFP, what the RFI/RFP would request, when Xcel would come forward with additional rate design offerings to compliment TOU rates, and how Xcel contemplates complimentary offerings interacting with TOU rates); and
- Provide a tentative list of the exact metrics the Company proposes to report in its two TOU reports (to be filed 15-months and 27-months after the TOU pilot begin) and more information on how Xcel expects the metrics to inform future decisions.

The Department will provide complete recommendations after reviewing Xcel's reply comments.

/lt

CERTIFICATE OF SERVICE

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

**Minnesota Department of Commerce
Comments**

Docket No. E002/M-17-775

Dated this 5th day of February 2018

/s/Sharon Ferguson

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Xcel Energy

Docket No.: E002/M-17-775

Response To: Department of Commerce Information Request No. 3

Requestor: Sue Peirce / Stephen Collins

Date Received: January 5, 2018

Question:

Once the TOU Pilot is completed, what rate schedule will apply to TOU Pilot participants? Provide an explanation of how Xcel proposes to treat customers participating in the TOU Pilots, and the timing of any rate changes and customer notifications.

Response:

The Company has not pre-determined the post-pilot outcome at this time, and whether or not a broader or extended implementation of the TOU pilot rates will be appropriate. We intend to generate and report on learnings that will inform any rate succession plans.

As described in our Petition, we intend to communicate with customers about the timing and impacts of the pilot through Web content, emails, mailings, door hangers, social media and/or community outreach starting prior to the installation of new metering technology and continuing throughout the participation process. Customers will have advance notice of physical changes and rate changes, along with information on how to succeed on the new rates, tools such as appliance clings and online data, and information on their ability to opt-out. The exact timing and delivery of these items will be dependent on the outcome of the regulatory proceeding and the anticipated pace of the pilot's pre-launch initiatives, but Xcel Energy intends to work well in advance of customer impacts to the extent the regulatory process allows.

Preparer: Holly Hinman/ Kerry Klemm

Title: Regulatory Manager/ Manager, Renewable Choice Programs

Department: Regulatory Affairs/ Customer Solutions

Telephone: 612.330.5941/ 612.330.6285

Date: January 16, 2018

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- Public Document**

Xcel Energy

Docket No.: E002/M-17-775

Response To: Department of Commerce Information Request No. 7

Requestor: Sue Peirce / Stephen Collins

Date Received: January 5, 2018

Question:

Reference: Initial Filing, page 25

Provide supporting analysis demonstrating that the \$10 monthly bill credit for Saver’s Switch is comparable to the existing 15 percent discount on energy and fuel rates. Please also explain the rationale behind the modified \$10 for only June-September discount, including why \$10 is a reasonable amount and why the months of June-September were chosen.

Response:

The context of the comparable term on page 25 of the initial filing was that the proposed credit for the TOU Pilot is the same rate design and amount as used in Xcel Energy’s Colorado service territory. The proposed Pilot \$40 annual credit is nominally less than current credit, assuming an average summer month use of 868 kWh that is based on 2015 participating Saver’s Switch customers (not weather-normalized), which at the current rate level is an annual credit of \$55.20. However, this difference is not directly comparable, as it excludes the incrementally greater savings available to TOU customers from reduced on-peak or mid-peak energy use that results from the central air conditioner cycling from the Saver’s Switch program, and additional peak energy saving incentives inherently provided by TOU pricing.

The existing Saver’s Switch program provides a 15 percent discount to base energy and fuel rates only during the months of June through September. These are the same months proposed for application of \$10 monthly credit for TOU Pilot customers that also participate in the Saver’s Switch program. The incremental bill savings by TOU Pilot customers in the Saver’s Switch program by reduced on-peak and mid-peak energy use, combined with the proposed \$10 monthly credit, is expected to be reasonably close to the current Saver’s Switch credits.

The Company’s petition explains that applying the current percent-based Saver’s Switch rate design, which is only available to standard flat-rate customers, to three

period TOU energy rates would be exceptionally complex and is not administratively practical.

Preparer: Steve Huso
Title: Pricing Consultant
Department: Regulatory Analysis
Telephone: 612-330-2944
Date: January 16, 2018

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- Public Document – Not Public Data Has Been Excised
- Public Document

Xcel Energy

Docket No.: E002/M-17-775

Response To: Department of Commerce Information Request No. 14

Requestor: Sue Peirce / Stephen Collins

Date Received: January 5, 2018

Question:

Reference: Initial Filing, page 30 and Attachment I

Please explain how the “significant benefits contemplated through the Company’s AGIS strategy, as described in the Grid Modernization Report, strongly favor AMI deployment” to offer TOU rates instead of the cheaper “alternative of upgrading current technology to be able to offer TOU rates.” Has Xcel done any quantitative cost-benefit analysis to support this assertion? If so, provide it.

Response:

The analysis we provided as Attachment I to our Petition compares only the costs of a limited AMI deployment to using our present AMR system as an alternate approach to accomplish the pilot. The costs are similar, with the AMI approach estimated at approximately \$11 million, and the alternate approach at \$9.8 M.

As discussed in our Petition, the pilot was developed partially in response to customer and stakeholder feedback about the benefits of alternative rate designs as developed in a prior regulatory proceeding. This combined with our ongoing grid modernization efforts led to the development of our Pilot proposal, which includes use of a limited deployment of AMI. The purpose of this proposal is to explore the proposed rate design, and the implementation and a limited set of system benefits of AMI meters.

Our present AMR system relies on a proprietary fixed wireless network to collect usage from the meters and transmit it ultimately to our data centers. While the AMR system has been updated periodically, it is rooted in 1990s technology, which is when we first deployed it to customers. The meters at customers’ homes and businesses vary in sophistication based on the information needed to support their rates. Any changes to the requirements for those meters, such as to add the ability to track usage by time of day, or track additional usage attributes such as demand, require a field visit to either reprogram or upgrade the meter. Further, the density of the fixed, wireless network depends on the amount of data communicated by the meters. While the

AMR system has provided significant benefits to the Company and our customers over a long period of time, it is limited to one-way communications and lacks flexibility to meet future customer and company needs.

Further, as discussed in our Petition, we would have to install more sophisticated meters capable of communicating customer usage in more granular intervals at each customer location in order to use our present AMR for the Pilot. We would also have to work with our AMR vendor to assess and potentially upgrade the network to handle the additional data in the Pilot areas. However, perhaps most importantly, our AMR vendor has told the Company that the network supporting our present AMR is approaching the end of its life. Even sooner, we are approaching the end of our present agreement with our AMR vendor.

This combined with industry trends has driven the Company to review and update its metering strategy. We believe AMI is the right solution for the future. We also believe it will be important for our future field communications, including for meter reading information, to rely on an open, standard platform that is vendor-neutral, rather than proprietary to a single vendor as our meter reading is today. This aligns with the Field Area Network (FAN) strategy we discuss in our certification request in Docket No. E002/M-17-776. The FAN we have proposed to support the Pilot and the Fault Location Isolation and Restoration (FLISR) project in our certification request is, among other things, scalable to also support a full AMI deployment.

Because we are not yet ready to propose full AMI deployment, and because by definition, the pilot program is intended to better understand AMI on our system, we have not quantified benefits associated with using AMI to facilitate this Pilot. However, as discussed above, we have qualitatively examined the important learnings we will gain. Further, given the limited future of our present AMR, using the AMR system for the Pilot would mean investing in a system that is certainly not in our future – and missing out on any learnings that could translate to our future full AMI implementation. Finally, the FLISR project we have also proposed for certification relies on a portion of the contemplated FAN to support the Pilot. Therefore, if we were to use the existing AMR system for the Pilot, it would increase the costs of our FLISR implementation. Given the relatively small difference in Pilot cost alternatives, we believe AMI is the right strategy for our Minnesota customers.

Preparer: Russ Borchardt
Title: Director
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Date: January 16, 2018