

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Nancy Lange	Chair
Dan Lipschultz	Commissioner
Matthew Schuerger	Commissioner
Katie J. Sieben	Commissioner
John A. Tuma	Commissioner

In the Matter of Xcel Energy’s Petition for Approval of a Residential Electric-Vehicle Service Pilot Program

ISSUE DATE: May 9, 2018

DOCKET NO. E-002/M-17-817

ORDER APPROVING PILOT PROGRAM, GRANTING VARIANCE, AND REQUIRING ANNUAL REPORTS

PROCEDURAL HISTORY

On November 17, 2017, Xcel Energy (Xcel or the Company) filed a petition for approval of a residential electric-vehicle (EV) service pilot program (the pilot). The pilot would provide an alternative to Xcel’s existing EV service by reducing the upfront cost to meter EV usage separately from other electricity usage.

In February 2018, the following stakeholders filed comments recommending approval of the pilot, in some cases with modifications:

- Fresh Energy, Minnesota Center for Environmental Advocacy (MCEA), and the Sierra Club
- ChargePoint, Inc.
- Greenlots
- Institute for Local Self-Reliance

On March 5, the Minnesota Department of Commerce filed comments recommending that the Commission approve the pilot with certain reporting requirements.

On March 15, Xcel filed reply comments.

On April 12, the matter came before the Commission.

FINDINGS AND CONCLUSIONS

I. Summary of Commission Action

In this order, the Commission approves Xcel’s EV pilot program with modifications, grants a

variance to the Commission's metering and billing-error rules for purposes of the pilot, and specifies content requirements for annual reports on the program.

Xcel will also be required to make a compliance filing with updated tariff sheets reflecting the Commission's decisions, as well as a set of evaluation criteria to assess the pilot's outcomes.

II. Background

A. Xcel's Current EV Service Offering

In 2014, the Minnesota Legislature passed Minn. Stat. § 216B.1614, which directs each public utility selling electricity at retail to file, by February 1, 2015, a tariff enabling customers to purchase electricity solely for the purpose of recharging an electric vehicle.

Xcel filed a residential EV tariff in January 2015 in compliance with Minn. Stat. § 216B.1614, and the Commission approved it in June 2015.¹ The tariff gives customers the option to have their EV charging separately metered and billed based on time of use, with off-peak usage receiving a lower per-kilowatt-hour rate.²

Residential customers taking service under Xcel's current EV tariff must supply premises wiring for a second electric meter, as well as equipment for charging their vehicle (known as electric-vehicle supply equipment, or EVSE). The result is that customers typically spend between \$1,725 and \$3,525 to enroll in Xcel's current EV tariff.

In response to stakeholder feedback that these upfront costs are a barrier to participation in its EV service offering, Xcel proposed the pilot program now under review.

B. Xcel's EV Pilot Proposal

Overview

Xcel's EV pilot would address upfront cost barriers by employing EVSE that sends usage data to the utility via the customer's home wireless network, removing the need to install a second meter. Moreover, customers would have the option to pay for EVSE over a period of time through a fixed monthly charge, further reducing upfront costs.

In addition, Xcel has endeavored to ease the process of EVSE acquisition and installation by negotiating with a handful of competitively selected vendors to supply and install utility-approved charging equipment.

The Company intends to enroll up to 100 customers in the pilot for two-year terms. After the pilot ends, Xcel hopes to evaluate, among other things, the extent to which the pilot's rate

¹ *In the Matter of the Petition of Northern States Power Company for Approval of a Residential Electric Vehicle Charging Tariff*, Docket No. E002/M-15-111. The current residential EV tariff can be found at section 5, sheets 5–6 of Xcel's Minnesota Electric Rate Book.

² Generally, off-peak hours include weekends, holidays, and weekdays from 9 p.m. to 9 a.m. *See* Minnesota Electric Rate Book, section 5, sheet 6.

structure and other features entice customers to participate, the pilot’s cost compared to the existing EV service option, and the billing reliability of wireless-capable EVSE.

Outreach

If the pilot is approved, Xcel will invite residential customers who own or lease an EV to enroll in the program. The Company will also use targeted marketing, such as search-engine advertising, and social media to reach potential pilot participants. Finally, Xcel plans to incentivize car dealers to promote the pilot program by offering them a \$100 referral payment for each customer that enrolls in the program.

Rate Options

The pilot program, like the current EV tariff, offers a lower per-kilowatt-hour (kWh) rate during off-peak hours. Participants may choose to pay for EVSE either through the monthly customer charge under a “bundled service” rate option, or up front under a “prepay” option, which has a correspondingly lower customer charge.

Table 1 summarizes the various pilot costs and rate options as currently proposed:

**Table 1
EV Pilot Rate Options and Costs**

<u>Rate Option</u>	<u>Upfront Expenses</u>	<u>Customer Charge³</u>	<u>Energy Charge</u>	<u>Illustrative Monthly Bill⁴</u>
Bundled Service	<ul style="list-style-type: none"> • Premises wiring 	\$17–\$19	<ul style="list-style-type: none"> • On-peak, summer \$0.21096/kWh 	\$41.64–\$43.64
Prepay Option	<ul style="list-style-type: none"> • Purchase and installation of EVSE • Premises wiring 	\$7–\$8	<ul style="list-style-type: none"> • On-peak, winter \$0.16968/kWh • Off-peak \$0.04260/kWh 	\$31.64–\$32.64

EVSE Installation and Ownership

Pilot participants will be able to choose an EVSE unit from a list of equipment that meets Company requirements. Xcel will then purchase the EVSE and have it installed at the customer’s home by a qualified contractor. The contractor will also provide an estimate of the cost to install a second meter, which will be used to determine the cost savings associated with the pilot.

³ Xcel initially proposed a customer charge of \$27.45 per month for bundled service and \$13.88 per month for prepay service. However, at the Commission meeting, the Company stated that, through further negotiations with its equipment vendors and as a result of a federal tax cut, it anticipated final customer charges in the ranges shown above.

⁴ Assuming 1,000 miles of driving per month at 3.3 kWh per mile and 95% of charging off-peak. See Xcel’s petition, at 16.

The Company proposes to own all EVSE during the term of the pilot, with the equipment vendor responsible for collecting customer energy usage through the customer's home wireless network and transferring the data to Xcel. At the end of the pilot's two-year term, customers paying for EVSE through the customer charge will have three options with respect to ownership of the equipment:

- Have the EVSE removed at no cost and return to their previous rate;
- Purchase the EVSE for a cost equal to its undepreciated balance and either (a) move back to their previous rate or (b) move to any new EV charging tariff offered by Xcel that is compatible with the EVSE; or
- Have the EVSE replaced or upgraded if Xcel offers a new tariff requiring different technology.

Customers who prepaid for the EVSE will have two options:

- Take ownership of the EVSE at no cost and move back to their previous rate or to any new EV charging tariff offered by Xcel that is compatible with their EVSE; or
- Have the EVSE replaced or upgraded if Xcel offers a new EV charging tariff requiring different technology.

III. Pilot Program Approved

A. Positions of the Parties

Commenting parties were generally supportive of the pilot, viewing it as a valuable step toward integrating more EV load into Xcel's system.

Fresh Energy, MCEA, and the Sierra Club praised the pilot for removing a major cost barrier to participation. And they maintained that the pilot would allow Xcel, the Commission, and stakeholders to gain familiarity with a new EVSE technology while offering customers a simple process for installing the equipment.

The Institute for Local Self-Reliance (ILSR) expressed concern that the pilot's monthly customer charges would erase most of the savings that an EV customer might hope to realize by charging a vehicle off peak. It recommended that the Commission approve the pilot without the monthly charge as a further incentive for customers to participate.

Xcel opposed eliminating the monthly customer charge, arguing that doing so would prevent the pilot from achieving one of its key goals, which is to evaluate how customers respond to the price signals associated with spreading out upfront costs.

Finally, the Department recommended that the Commission approve the pilot and add the following language to the proposed tariff for consistency with Xcel's existing EV tariff:

Customers have the option to elect all or a portion of the supply of electricity under this schedule from renewable energy resources. The renewable energy supply option is available subject to the provisions contained in the Voluntary Renewable and High-Efficiency Energy Purchase (Windsor Program) Rider, or other available rate schedule for voluntary renewable energy supply that is applicable.

B. Commission Action

The Commission agrees with the parties that Xcel's EV pilot proposal is in the public interest and will approve it with the conditions discussed below.

Xcel's current EV-service tariff provides a time-of-use rate designed to incentivize off-peak charging; however, the tariff's second-meter requirement and the associated upfront costs may deter some customers from selecting EV service. The pilot will test whether and to what extent limiting these upfront costs spurs adoption of time-of-use rates by EV customers. It will therefore benefit all ratepayers by aiding Xcel in its efforts to integrate EV load as cost-effectively as possible.

The Commission appreciates Xcel's efforts to negotiate more favorable EVSE prices with its vendors, which will allow the Company to offer lower customer charges than it identified in its initial filing. Negotiations are ongoing, but Xcel expects that the bundled customer charge will end up between \$17 and \$19 and the prepay customer charge between \$7 and \$8.

At hearing, the Company committed that the final customer charges would not exceed the high end of these ranges. The Commission accepts this commitment and expects the Company to continue negotiating to keep the charges as low as possible.

ILSR argues that the terms of the pilot are not favorable enough to attract a significant number of customers, and it advocates eliminating the customer charges entirely. However, the purpose of the pilot program is not to subsidize EV charging; it is to learn how customers respond to an EV tariff that reduces upfront costs. Even if ILSR is correct, and Xcel is unable to fully subscribe the pilot, the Company will have learned something about the incentives needed to drive adoption of time-of-use rates for EV charging.⁵

The EV pilot will require customer usage data to be shared with third-party contractors and transmitted to the Company via the internet. Such information sharing, while necessary to achieve the goals of the pilot, also carries a risk that unauthorized parties may gain access to customer data. The Commission expects Xcel to immediately notify customers of any unauthorized access to data obtained through the pilot, consistent with its existing obligations to customers to protect their data.

⁵ To help derive the greatest possible benefit from the pilot, the Commission will require Xcel to identify, as part of its compliance filing, a set of evaluation criteria to assess the outcome of the pilot and what success would entail.

Finally, the Commission will require Xcel to standardize the proposed tariff language pertaining to a customer’s option to select a renewable-energy supply, as recommended by the Department. This change will help ensure that related service offerings have consistent terms and conditions.

IV. Accounting Treatment Approved

Xcel proposed to own all EVSE during the term of the pilot program, to capitalize the EVSE costs as distribution plant, and to earn a return upon the capitalized amounts. In the case of bundled service, the Company also proposed to recover a carrying charge on the unpaid balance of the EVSE purchase price during the term of the pilot.

In addition, Xcel expects to incur the following costs for its planned customer-outreach initiatives:

**Table 2
EV Pilot Education and Information Budget, Year One**

	Estimated Amount
Dealer and Trade Outreach	\$10,000
Dealer Referral Incentive	\$10,000
Events/Collateral	\$7,000
Digital Channels	\$6,700
Direct Mail	\$4,500
Bill Onserts	\$3,000
	\$41,200

The Company sought permission to include these costs in the communications-cost tracker account for its existing EV tariff.⁶ Xcel stated that it intends to request recovery of qualifying costs from this account in a future rate proceeding.

The Department agreed with Xcel’s proposed accounting treatment of both EVSE costs and communications costs and recommended approval. The Commission, likewise, finds this accounting treatment reasonable and will approve it.

V. Rule Variance Granted

A. Introduction

In lieu of a traditional electric meter, the pilot program will rely on wireless-capable EVSE and a customer’s home wireless network to gather electricity-usage data. This data will then be used to separately calculate charges for EV usage on the customer’s bill.

Xcel’s proposed Customer Agreement requires participants to maintain the connection between the EVSE and an internet service provider, and provides that “[l]ate, incomplete, or inaccurate EVSE usage information will be disregarded where the lack of Wi-Fi service is the cause of the

⁶ See Docket No. E-002/M-15-111.

data transmission failure” and that “any actual EV charging during these intervals will be billed at the Participant’s current rate and will not be adjusted in any future bills if any EV usage data is subsequently received.”

Xcel requested that the pilot EVSE units be exempted from the Commission’s metering and billing-error rules, Minn. R. 7820.3700 and .3800, which set forth the remedies for inaccurate metering and other billing errors by electric utilities.

The Department found the terms of Xcel’s Customer Agreement reasonable and recommended that the Commission grant a variance to Minn. R. 7820.3700 and .3800, limited to errors occurring due to the pilot participant’s wireless internet connection. The Department also requested that Xcel provide reporting on the extent to which wireless connections impact pilot participation, including billing.

B. Commission Action

The Commission must grant a variance to its rules when the following requirements are met:

1. enforcement of the rule would impose an excessive burden upon the applicant or others affected by the rule;
2. granting the variance would not adversely affect the public interest; and
3. granting the variance would not conflict with standards imposed by law.

The Commission finds that the three requirements for a variance have been met in this case and will therefore grant Xcel’s request to vary Minn. R. 7820.3700 and .3800. Specifically, the Commission finds as follows:

Enforcing Minn R. 7820.3700 and .3800 in this case would impose an excessive burden upon Xcel by holding the Company responsible for the reliability of its customers’ wireless networks and internet service. Moreover, granting a variance limited to this pilot program would not adversely affect the public interest but rather would further the public interest by making it possible for Xcel to offer an innovative program that will provide useful information about the reliability of a novel metering method, and whose success will benefit all ratepayers. And, finally, varying these rules would not conflict with any standards imposed by law.

Accordingly, the Commission will grant Xcel’s request to vary Minn R. 7820.3700 and .3800 for purposes of the EV pilot program. The Commission will require Xcel to report on wireless connectivity issues as detailed in the following section.

VI. Annual Reporting

A. Introduction

In its initial filing, Xcel proposed to file annual reports by June 1, beginning after the first full year of the pilot, with the following information:

- number of participating customers and amount of electricity sold in the program;

- tracker balances;
- analyses of customer cost savings; and
- lessons learned regarding customer experience and pilot performance under Xcel's safety and reliability standards

The Department recommended that Xcel be required to provide additional detail in its reports, including the number of customers choosing the bundled option and the associated costs and revenues, the number of customers choosing the prepay option and the associated costs and revenues, the types of EVSE chosen by participants, and the estimated cost of installing a second meter instead of wireless-enabled ESVE. Xcel did not object to providing this information.

Fresh Energy, MCEA, and the Sierra Club recommended that Xcel be required to include a plan in its 2019 report to transition the EV pilot to a permanent program no later than June 2020. They argued that the sooner the program is opened to wider participation, the sooner Xcel can realize greater benefits from new EV load.

Xcel responded that it would prefer to keep the scope of the pilot focused and consider the appropriate next steps for future developments after gaining experience with this program. The Company stated that ultimately it hopes to work with stakeholders on scaling the pilot offering to something broader.

B. Commission Action

To ensure that the Commission and stakeholders benefit from the data that Xcel gleans from the EV pilot, the Commission will require the Company to make the annual reports it proposed, adding the following items to the reports:

- the number of customers choosing the bundled option and the costs and revenues associated with this option,
- the number of customers choosing the pre-pay option and the associated costs and revenues,
- the types of EVSE equipment chosen by pilot participants,
- contractors' estimated second-meter installation costs,
- the impact of wireless connectivity issues on pilot participation and billing, and
- an analysis of the effectiveness of car-dealer incentives.

Moreover, the Commission agrees with Fresh Energy, MCEA, and the Sierra Club that Xcel's first annual report should include a plan to transition the pilot to a permanent program. Xcel, understandably, would like to gain experience with the pilot before moving toward a broader, permanent service offering. However, the Commission concludes that one year will give the Company and stakeholders enough experience with the pilot to inform a discussion about how to transition to a permanent offering.

The Commission will so order.

ORDER

1. Xcel Energy's proposal for implementing a residential EV-service pilot is hereby approved.
2. The pilot's monthly customer charge shall be no higher than \$19 for bundled service and \$8 for prepay service.
3. Xcel shall immediately notify customers of any unauthorized access to data obtained through the pilot, consistent with its existing obligations to customers to protect their data.
4. Xcel shall modify its proposed tariff to add the following sentence to the Renewable Energy Supply Option section: "The renewable energy supply option is available subject to the provisions contained in the Voluntary Renewable and High-Efficiency Energy Purchase (Windsorce Program) Rider, or other available rate schedule for voluntary renewable energy supply that is applicable."
5. Xcel's proposed accounting treatment of EVSE costs is approved.
6. Xcel is authorized to place costs incurred for customer education and information initiatives in the communications-cost tracker account for its existing EV tariff.
7. Xcel's request to vary Minn. R. 7820.3700 and .3800 is granted.
8. Beginning in 2019, Xcel shall file, by June 1, an annual report on the pilot, including at a minimum:
 - a. the number of participating customers and amount of electricity sold in the program, reported on a monthly basis;
 - b. tracker balances;
 - c. analyses of customer cost savings;
 - d. lessons learned regarding customer experience and pilot performance under Xcel's safety and reliability standards;
 - e. the number of customers choosing the bundled option;
 - f. the costs and revenues associated with the bundled option;
 - g. the number of customers choosing the pre-pay option;
 - h. the costs and revenues associated with the pre-pay option;
 - i. the types of EVSE equipment that are chosen by the participants;
 - j. the contractors' estimated second-meter installation costs;
 - k. the extent to which wireless connections impacted pilot participation;
 - l. how often wireless connectivity issues prevented billing under the pilot; and
 - m. analysis of the effectiveness of car-dealer incentives.

9. Xcel shall, in its June 1, 2019 annual report, include a plan to transition the pilot into a permanent program.
10. Within 45 days of the date of this order, Xcel shall submit compliance filings in the current docket and updated tariff sheets to reflect the Commission's decisions. As part of that filing, Xcel shall identify a set of evaluation criteria to assess the desired outcomes of the pilot and what success would entail.
11. This order shall become effective immediately.

BY ORDER OF THE COMMISSION

Daniel P. Wolf
Executive Secretary



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