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Minneapolis, MN 55401

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December 11, 2017

—Via Electronic Filing—

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

RE: RESPONSE TO MPUC INFORMATION REQUEST NOS. 1-6 PUBLIC
PETITION FOR APPROVAL OF A RESIDENTIAL EV SERVICE PILOT PROGRAM
DOCKET NO. E002/M-17-817

Dear Mr. Wolf:

At the request of Commission staff, we enclose our PUBLIC responses to the Minnesota Public Utilities Commission information requests in the above-noted docket for e-filing.

Portions of our responses to MPUC-1, 2 and 5 have been marked as "Not Public" as they contain information the Company considers to be trade secret data as defined by Minn. Stat. § 13.37(1)(b). The information contains confidential vendor pricing and sensitive competitive bidding information that derives an independent economic value from not being generally known or readily ascertainable by others who could obtain a financial advantage from its use. Thus Xcel Energy maintains this information as a trade secret pursuant to Minn. Rule 7829.0500.

Please contact me at (612) 330-5953 or cynthia.d.harrington@xcelenergy.com if you have any questions regarding this submission.

Sincerely,

/s/

CYNTHIA D. HARRINGTON
REGULATORY CASE SPECIALIST

Enclosure
cc: Service List

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Xcel Energy
Docket No.: E002/M-17-817
Response To: Minnesota Public Utilities Commission Information Request No. 1
Requestor: Hanna Terwilliger
Date Received: November 22, 2017

Question:

Please provide a detailed accounting and cost breakdown for the bundled and pre-pay monthly charge options, including the identified monthly costs for "Load Monitoring and Data Management" and "Maintenance Service."

Please include any other supporting materials used to develop the proposed charges and costs for the pilot.

Response:

The monthly charges are based on a levelized annual revenue requirement for the equipment, installation, and ongoing services. We also provide a detailed breakdown of the components of the monthly charge options for both the bundled and pre-pay options below:

Bundled Service Cost per Participant - Estimate

Equipment and Services	Upfront Cost	Annual Expense	Monthly Charge
	[PROTECTED DATA BEGINS		
EVSE with embedded load monitoring			
EVSE Installation			
Load Monitoring and Data Management			
			PROTECTED DATA ENDS]
Maintenance Service		$53.08	$4.42
Customer Accounting and Information		$23.52	$1.96
Total	**$1,061.50**		**$27.45**

EVSE with embedded load monitoring is for the equipment with embedded load monitoring that will be installed at the Customer's site for participation in the pilot. The **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** value is based on a blended price averaging the three pre-qualified vendors' pricing up to a threshold, ten percent above the average cost of the two lowest cost bids. The threshold-based blended pricing is intended to preserve customer choice, enable more vendors to participate in the pilot, and help the Company learn more about several vendors offerings while seeking balance and minimizing the extent to which some pilot participants are paying for others' equipment.

The Company is currently in the process of negotiating final terms, conditions, and pricing for the three suppliers' participation in the pilot, and this value is subject to being changed before the launch of the pilot.

EVSE Installation is for the installation of the EVSE. This **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** is a forward-looking estimate based on existing studies of EVSE installation costs.[1] The pilot has been designed to help the Company and

[1] Electric Power Research Institute. "*Electric Vehicle Supply Equipment Installed Cost Analysis*" 2013. *Report No. 3002000577*; Avista. "Docket No. UE-160082 – Avista Utilities Quarterly Report on Electric Vehicle Supply Equipment Pilot Program;" Aug 2017; Docket No. UE-160082; Xcel Energy Analysis.

stakeholders learn more about the cost of this type of service in the Company's service territory, determine whether these cost estimates are accurate, and whether there are total cost savings compared to the current EV rate.

Load Monitoring and Data Management. This **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** is a vendor cost based on providing data services for the Company during the pilot. These services include data management; data uploads to the Company in a standard format through a secure and encrypted process, and any IT setup fees. This value is based on a blended price of three vendors' services up to an average cost threshold, ten percent above the average cost of the two lowest bids from pre-qualified vendors.

The cost of data services per EVSE varied in the bids from **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** on an annual basis, depending on the vendor and quantity of equipment purchased. The average cost threshold based on the two lowest bids was **[PROTECTED DATA BEGINS**

PROTECTED DATA ENDS]. As a result, the Company made a decision that an average cost for budgeting while preserving customer choice would be **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** per participant, which was also in line with the average listed pricing for data services of the two lowest bids. The Company is committed to paying no more for load monitoring and data management services than an average cost per participant of **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]**.

However, the Company is currently in the process of negotiating final terms, conditions, and pricing for the three suppliers' participation in the pilot, and this value is subject to being changed.

Maintenance Service. This *$53.08* ongoing annual expense (*$4.42* monthly charge) is for ongoing maintenance and servicing of the EVSE with embedded load monitoring in the field. Anecdotally, we have heard little evidence of equipment needing significant maintenance, but have heard there are issues with relying on customers' Wi-Fi networks and a continued need for some technician support. As a result, we've taken a forward-looking estimate that annual maintenance service will be

five percent of the cost of the EVSE with embedded load monitoring and the install. The pilot is intended to test this assumption and better gauge what the real cost of maintenance is in order to inform future offerings.

Customer Accounting and Information. This category includes monthly costs of *$1.89* for customer accounting and *$0.07* for customer service and information.

Prepay Service Cost per Participant - Estimate

Services in Equipment and Services	**Upfront Cost**	**Annual Expense**	**Monthly Charge**	**Prepay Cost**
[PROTECTED DATA BEGINS				
EVSE with embedded load monitoring				
EVSE Installation				
Load Monitoring and Data Management				
PROTECTED DATA ENDS]				
Maintenance Service		$53.08	$4.42	N/A
Customer Accounting and Information		$23.52	$1.96	N/A
Total	**$1,061.50**		**$13.88**	**$1,061.50**

Costs paid upfront:

EVSE with embedded load monitoring. In the "pre-pay option", customers are electing to pay the full cost of the equipment at a threshold-based value, described above, of **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]**. As a result, there is no monthly charge for the EVSE equipment for this payment option.

EVSE Installation. In the "pre-pay option", customers are electing to pay the full cost of the installation, described above, of **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]**. As a result, there is no monthly charge for the installation for this payment option.

Costs in Monthly Charge:

Load Monitoring and Data Management. This annual expense, described above, is a vendor cost based on providing data services at the vendor's EVSE and in the vendor's platform for the Company during the pilot. The cost for "pre-pay option" is the same as the "bundled option," using a threshold-based average cost of **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]**

Maintenance Service. As described earlier, this is the ongoing maintenance and servicing of the EVSE with embedded load monitoring in the field. The cost for the "pre-pay option" is the same as the "bundled option", with a *$53.08* annual cost per participant and a monthly charge of *$4.42*.

Customer Accounting and Information, as described earlier, includes monthly costs of *$1.89* for customer accounting and *$0.07* for customer service and information.

Portions of this response have been marked as "Not Public" as it contains information the Company considers to be trade secret data as defined by Minn. Stat. § 13.37(1)(b). The information contains confidential vendor pricing and sensitive competitive bidding information that derives an independent economic value from not being generally known or readily ascertainable by others who could obtain a financial advantage from its use. Thus Xcel Energy maintains this information as a trade secret pursuant to Minn. Rule 7829.0500.

Preparer:	Mathias Bell / Steve Huso
Title:	Product Developer / Pricing Consultant
Department:	Product Development and Strategy / Regulatory Analysis
Telephone:	612-321-3260 / 612-330-2944
Date:	December 8, 2017

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Xcel Energy
Docket No.: E002/M-17-817
Response To: Minnesota Public Utilities Commission Information Request No. 2
Requestor: Hanna Terwilliger
Date Received: November 22, 2017

Question:

On page 13 the proposal states: "customers will choose their EVSE from a pre-approved list of vendors that met the Company's performance requirements."

Please provide the models and upfront cost for the Electric Vehicle Service Equipment selected by the Company for the pilot.

Please identify the purchase price for the company for each model and how much the customer will pay with the "Pre-Pay Option."

Response:

The Electric Vehicle Service Equipment (EVSE) models from the pre-approved vendors that met the Company's performance requirements are as follows:

[PROTECTED DATA BEGINS

PROTECTED DATA ENDS]

In March 2017, the Company issued a Request for Proposals (RFP). The indicated per unit pricing (at a volume of 33 units) from each vendor's proposal is listed in the table below:

[PROTECTED DATA BEGINS

PROTECTED DATA ENDS]

In September 2017, after the vendors' equipment had met the Company's performance requirements, they provided updated pricing. The table below represents the most recent per unit pricing (at 33 units):

[PROTECTED DATA BEGINS

PROTECTED DATA ENDS]

For the pre-pay option, as set-out in the proposed tariff as submitted with our initial Petition, the Company is using blended pricing up to a threshold for EVSE equipment and data services (also see our response to Information Request MPUC-1). With the Company's threshold-based blended costs, the amount a customer would prepay for each vendor's EVSE is the same, which is illustrated below:

[PROTECTED DATA BEGINS

PROTECTED DATA ENDS]

We note that this proposed pricing is based on current estimates and that the Company is still in the process of negotiating final terms, conditions, and pricing for

[1] **[PROTECTED DATA BEGINS**

PROTECTED DATA ENDS]

the three suppliers' participation in the pilot. As such, the "Pre-Pay Option" cost and/or the number of vendor offerings available through the pilot is subject to change before the launch of the pilot.

Portions of this response have been marked as "Not Public" as it contains information the Company considers to be trade secret data as defined by Minn. Stat. § 13.37(1)(b). The information contains confidential vendor pricing and sensitive competitive bidding information that derives an independent economic value from not being generally known or readily ascertainable by others who could obtain a financial advantage from its use. Thus Xcel Energy maintains this information as a trade secret pursuant to Minn. Rule 7829.0500.

Preparer:	Mathias Bell / Keith McCloskey
Title:	Product Developer / Sourcing Project Specialist
Department:	Product Development and Strategy / T&D Strategic Sourcing
Telephone:	612-321-3260 / 303-571-7235
Date:	December 8, 2017

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Xcel Energy
Docket No.: E002/M-17-817
Response To: Minnesota Public Utilities Commission Information Request No. 3
Requestor: Hanna Terwilliger
Date Received: November 22, 2017

Question:

On page 13 of the proposal, it is stated "EVSE with embedded load monitoring capabilities may cost incrementally more than a non-networked option." Likewise, in Figure 1 on page 12, the graphic indicates that an EVSE with embedded load monitoring costs an estimated additional $100 to install.

Please explain why an EVSE with embedded load monitoring costs more to install than a typical EVSE.

Response:

The Company expects that EVSEs with embedded load monitoring equipment will be more expensive to install due to the process of activating the device and connecting it to the Customer's wireless (Wi-Fi) internet. The technician contractor will work with the customer to connect the device to Wi-Fi, assist the customer in setting up a username and password and logging into the web interface, and ensure that usage information is set up to be retrieved and processed.

One of the major objectives of the pilot is to learn more about the costs of installing and activating these technologies in the field and to determine whether cost savings exist. The current cost figures are estimates that we hope to confirm by administering the Pilot.

Preparer:	Mathias Bell
Title:	Product Developer
Department:	Product Development and Strategy
Telephone:	612-321-3260
Date:	December 8, 2017

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Xcel Energy
Docket No.: E002/M-17-817
Response To: Minnesota Public Utilities Commission Information Request No. 4
Requestor: Hanna Terwilliger
Date Received: November 22, 2017

Question:

Will customers with compatible equipment identical to that selected by the company be able to enroll in the pilot or future offerings? If not, please describe why.

Response:

No. Only customers who receive new equipment made available as described in the Company's Petition will be eligible to participate in the pilot. The Company's proposal was developed through discussions with stakeholders, and the pilot aims to minimize cost and complexity and test whether there are substantive cost savings compared to the existing EV rate in response to stakeholder concerns. Further, as this is the Company's first experience with these technologies in the field, there is a need to make sure that these devices are installed correctly and properly set up for accurate metering and billing. By enrolling participants with pre-existing equipment configurations, the Company would be unable to research costs or validate installation and setup.

As stated in our filing, the Company is continuing to explore other EV driver services and program models, including Bring-Your-Own offerings, similar to the Company's Smart Thermostats programs.

Preparer: Mathias Bell / Briston Jones
Title: Product Developer / Manager, System Performance
Department: Product Development and Strategy/ Business Operations
Telephone: 612-321-3260/ 303-294-2471
Date: December 8, 2017

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Xcel Energy
Docket No.: E002/M-17-817
Response To: Minnesota Public Utilities Commission Information Request No. 5
Requestor: Hanna Terwilliger
Date Received: November 22, 2017

Question:

On page 18, the proposal states "Customers can purchase the EVSE from the Company for a cost equal to the undepreciated balance of the EVSE."

Please provide the final purchase price at the end of the pilot for the EVSE models available through the pilot.

Response:

Consistent with the assumed ten-year EVSE depreciation life, after the two-year pilot term the undepreciated balance of the EVSE would be 80 percent of the average installed EVSE cost. Based on the pilot forecast average EVSE and installation cost of **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** the estimated purchase price after the pilot would be **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]**.

Although the intended FERC account for capitalizing EVSEs has a 15-year depreciation life, based on the expected EVSE life cycle and consistent with our understanding of the approach used by other utilities, we consider a ten-year life as the most reasonable assumption. The Company anticipates it would make a formal ten-year depreciation life filing if the pilot is extended.

The Company plans to update these cost estimates with actual cost information learned through the pilot program.

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Preparer:	Steve Huso / Mathias Bell
Title:	Pricing Consultant / Product Developer
Department:	Regulatory Analysis / Product Development and Strategy
Telephone:	612-330-2944 / 612-321-3260
Date:	December 8, 2017

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Xcel Energy
Docket No.: E002/M-17-817
Response To: Minnesota Public Utilities Commission Information Request No. 6
Requestor: Hanna Terwilliger
Date Received: November 22, 2017

Question:

As the Company deploys its FAN (Field Area Network), could it use that in lieu of the customer's home Wi-Fi network to collect metering data and relay it back to the Company?

Response:

At this time, the Company plans to collect and transfer billing meter data only from traditional electric service meters with the Field Area Network (FAN). Over the longer term, it has not been determined whether the FAN could or should be used in lieu of the customer's home Wi-Fi network, nor whether there would be any inherent advantages to this approach. The Company will continue to evaluate opportunities in this regard as the FAN becomes available in Minnesota, and as the penetration of in-home charging for EVs increases.

Preparer: Briston Jones
Title: Manager, System Performance
Department: Business Operations
Telephone: 303-294-2471
Date: December 8, 2017