COMMERCE DEPARTMENT

June 17, 2019

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. E015/M-19-337

Dear Mr. Wolf:

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

> Petition of Minnesota Power for the Approval of its Electric Vehicle Commercial Charging Rate Pilot.

The Petition was filed on May 16, 2019 by:

> Jenna Warmuth
> Senior Public Policy Advisor
> Minnesota Power

The Department **requests that Minnesota Power provide additional information in reply comments.** The Department is available to answer any questions that the Minnesota Public Utilities Commission may have.

Sincerely,

/s/ MATTHEW LANDI
Rates Analyst

ML/ar
Attachment

COMMERCE DEPARTMENT

Before the Minnesota Public Utilities Commission

Comments of the Minnesota Department of Commerce
Division of Energy Resources

Docket No. E015/M-19-337

I. INTRODUCTION

On May 16, 2019, Minnesota Power (MP or the Company), submitted its Petition requesting approval of an Electric Vehicle Commercial Charging Rate Pilot program (Commercial EV Rate Pilot, or Pilot).

On May 22, 2019, the Minnesota Public Utilities Commission (Commission) issued a Notice of Comment Period (Notice), requesting that initial comments be submitted by June 17, 2019.

On May 12, 2019, the Minnesota Department of Commerce, Division of Energy Resources (Department) requested an extension of 30 days to file comments. Accordingly, a deadline of July 17, 2019 for initial comments was established.

The Commission's Notice invited comments on the following topics:

1. Should the Commission approve Minnesota Power's proposed Electric Vehicle Commercial Charging Rate Pilot?
2. Are there other issues or concerns related to this matter?

II. SUMMARY OF FILING

The Company currently provides EV-related services to customers through its Electric Vehicle Tariff, established in Docket No. E015/M-15-120 under Minn. Stat. §216B.1614. The current proceeding is the Company's first request for approval of an electric vehicle pilot program.

In the current proceeding, the Company filed a petition requesting approval of its Commercial EV Rate Pilot. The proposed Pilot has a limited three-year term and service would be limited to customers with total power requirements greater than 10 kW but less than 10,000 kW and would be subject to the Company's Electric Service Regulations and any applicable Riders. In Department Information Request (IR) No. 4, the Department made the following request:

Please provide information related to the following topics:

a. Customer enrollment period
b. Planned number of participants or limits to the number of participants
c. Customer enrollment process
d. Customer service agreement

Since the Department sent its information request on June 10, 2019, the Company was unable to respond in time for these initial comments. However, the Department learned that the Office of Attorney General – Residential Utilities and Antitrust Division (OAG) asked a similar set of questions in OAG IR No. 14:

Respond to the following questions regarding pilot terms and conditions:

a. Will there be a limit on pilot enrollment and/or a goal for the number of participants? If so, what will they be?
b. Will pilot participants have any obligations specific to the pilot beyond those listed in the proposed tariff? If so, what will they be?
c. Will pilot participants be required to sign a service agreement? If so, produce that agreement. If the service agreement will be customer-specific rather than standardized, provide any template agreement that will be used as a starting point for drafting customer-specific agreements.
d. Does MP intend to enforce any restrictions, or establish any defaults, with regard to the price charged to end users of public-charging infrastructure (i.e., that the price charged mirror that paid by the pilot participant who owns the infrastructure)?
e. Does MP plan to provide any fleet advisory services or site-development assistance to pilot participants? If so, specify what services or assistance will be provided.
f. Will pilot participants be able to participate in Renewable Source?
g. Does MP plan to survey end users of public-charging infrastructure? If so, what questions does it plan to ask? If not, why not?
h. Does MP intend to participate in the pilot itself?

i. Will there be any restrictions on participants' ability to leave the pilot early? If so, please specify the restrictions.
j. What options will participants have at the end of the three-year pilot term?

In response to OAG IR No. 14, the Company provided the following information:

a. Minnesota Power does not propose to include a limit at this time.
b. Outside of the obligations outlined in the filing, the Company may request that the Pilot participants complete user and feedback surveys and share certain usage data for purposes of the Pilot.
c. Minnesota Power will collect an application from participating customers with information regarding their site, expected number of chargers, etc. The Service Agreement refers to the Company's application for service, the rate schedule or tariff sheet, and the Rules and Regulations. The aforementioned application has not yet been drafted but will include language regarding the Company's data privacy policies.
d. The Company does not intend to enforce any restrictions, or establish any defaults, with regard to the price charged to end users of public-charging infrastructure.
e. Minnesota Power is exploring options for providing assistance to fleet managers.
f. However, any such proposals would be submitted to the Commission for evaluation separately from this Pilot proposal.
g. Yes, customers on this pilot rate will be eligible to participate in the Renewable Source program.
h. Minnesota Power is not planning to survey end users of public-charging.
i. Minnesota Power does not plan to participate in this Pilot rate at this time.

This proposed three year Pilot program does not include restrictions on participants' ability to leave the program.

Other than providing the proposed customer service agreement, MP's responses addressed all of the Department's questions.

The Company stated that there are two objectives for the Commercial EV Rate Pilot:[1]

- **Ease of Use:** The Company designed the Pilot so that it is easy for customers to implement and utilize.

- **Education and Learning:** The Pilot should allow customers to get comfortable with the EV charging technology and provide information to Minnesota Power about the costs to serve these customers. Many of these customers have never worked with EV charging infrastructure and will require time to adapt and experiment to optimal usage.

The Commercial EV Rate Pilot would consist of the following elements:

- An on-peak period lasting from 8:00 a.m. to 10:00 p.m., Monday through Friday, inclusive, excluding holidays (New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas)
- An off-peak period consisting of all other hours of the day and year, including weekends
- An on-peak demand charge of $6.50 per kW
- An off-peak demand charge of $0.00 per kW
- An energy charge of $0.07619 per kWh for both on- and off-peak periods
- A cap on demand charges such that no more than 30% of a participant's monthly bill will consist of demand charges.

In Department IR No. 4 mentioned above, the Department made the following request:

> Please provide a comparison of the current customer bills of the six commercial customers identified in the Petition who currently take service under the General Service Demand (GSD) tariff and a sample bill of those customer bills if those customers opted to enroll in the Company's proposed Electric Vehicle Commercial Charging Rate Pilot (Commercial EV Rate Pilot). Please also provide a non-trade secret example that compares the current customer bill under the existing GSD tariff and the Company's proposed Commercial EV Rate Pilot.

The Department looks forward to reviewing MP's response and intends to respond to Department IR No. 4 in our Reply Comments.

[1] Petition, at 1.

The Company provided a basis to compare six commercial customers who currently have electric vehicle charging infrastructure in use to other GSD commercial customers. In addition, MP provided a rationale for the proposed demand charge cap:[2]

> The Company compared these six customers to all GSD customers and found that they are in the upper 90th percentile when customer bills are expressed as a dollars per kWh metric ("$/kWh"). This is directly related to these customers having relatively low load factors, which ranged from approximately 1% – 8%. Knowing that customers with low load factors also tend to have low coincidence factors, it stands to reason that these type of customers are less likely to experience peak demands coincident with the Company's system peak. To address the fact that these customers are paying significantly more per kWh than nearly all other GSD customers, the Company is proposing to implement a cap on demand charges. The proposed demand charge for this pilot will not make up more than 30 percent of a customer's monthly bill, and in addition, demand charges during off-peak time periods will be eliminated altogether to promote customer charging at times that are more advantageous to the distribution grid.

The Company analyzed the impact that this tariff design would have on the six customers, which is summarized in the table below from MP's petition.

Table 1. Comparison of Current Demand Charge and Impact of Proposed Demand Charge[3]

Customer	Current Demand Charge Impact			Demand Charge Impact of Pilot Tariff			Difference (Current - Proposed)		
	Demand Charge as % of Bill	Bill/kWh	Percentile Rank (Bill/kWh) among GSD	Demand Charge as % of Bill	Bill/kWh	Percentile Rank (Bill/kWh) among GSD	Demand Charge as % of Bill	Bill/kWh	Percentile Rank (Bill/kWh) among GSD
1	56%	$ 0.19	94.8%	30%	$ 0.12	65.5%	26%	$ 0.07	29.3%
2	75%	$ 0.34	98.8%	30%	$ 0.12	67.0%	45%	$ 0.22	31.8%
3	73%	$ 0.31	98.7%	30%	$ 0.12	67.7%	43%	$ 0.19	31.0%
4	78%	$ 0.38	99.1%	30%	$ 0.12	69.7%	48%	$ 0.26	29.4%
5	78%	$ 0.39	99.1%	30%	$ 0.12	69.8%	48%	$ 0.27	29.3%
6	88%	$ 0.78	99.7%	30%	$ 0.14	82.7%	58%	$ 0.64	17.0%

[2] Petition, at 12.

[3] Bill/kWh = customer monthly bill/kWh consumed in that month.

The Company also stated that the average GSD customer is paying roughly $0.08 per kWh.

In support of the Company's proposed on-peak period, the Company provided the following explanation:[4]

> While the current/proposed On-Peak period covers a broad portion of the day, it does generally align with the Company's system load profile as depicted in Figure 1. Minnesota Power has a high load factor due to the predominance of large industrial customers in its customer mix. This translates to a unique load profile when compared to other utilities across the United States. Minnesota Power's system is winter-peaking, with highest demand typically occurring on a winter evening, either in December or in January. It is also notable that the summer system peak typically occurs earlier in the day, in the afternoon, compared to the evening winter peak. The proposed On-Peak period for the Pilot follows these high demand time periods and will not only aid the Company in more effectively managing its grid resources, but will also take advantage of periods of high renewable penetration, mainly wind, during the overnight hours.

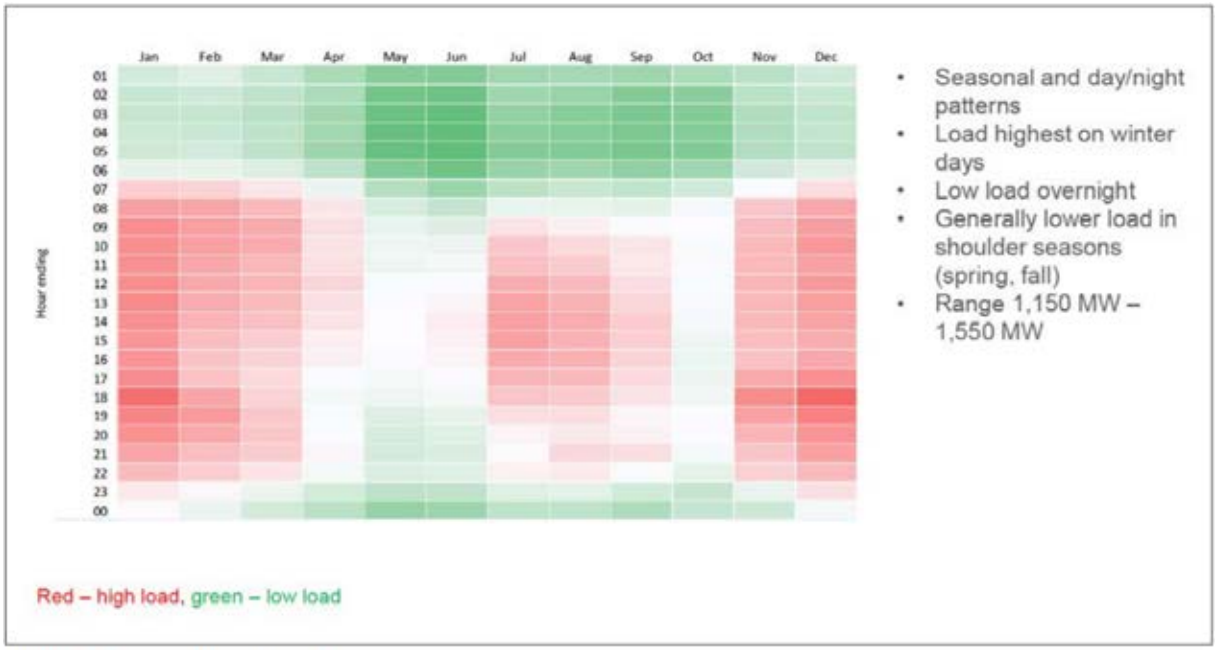

Figure 1: Gross Load Heat Map

[4] Petition, at 14.

III. DEPARTMENT ANALYSIS

The Department's analysis is framed in response to the Commission's notice.

A. TOPIC #1: SHOULD THE COMMISSION APPROVE MINNESOTA POWER'S PROPOSED ELECTRIC VEHICLE COMMERCIAL CHARGING RATE PILOT?

The Department does not have enough information to make a recommendation at this time. We anticipate providing an overall recommendation in our reply comments.

B. TOPIC #2: ARE THERE ISSUES OR CONCERNS RELATED TO THIS MATTER?

The Department has a few concerns with this pilot related to the tariff design and a lack of information regarding certain elements of the pilot program, such as the following.

1. Time-of-Use Rate Design: Energy Charge

The Company proposed to use the same energy charge on a per kWh basis for both of the proposed on- and off-peak time periods, which is the same as the current GSD tariff: $0.07619 per kWh. Further, the Company proposed to eliminate demand charges on a per kW basis for off-peak periods, and left in place the GSD demand charge for on-peak periods of $6.50 per kW.

In Department IR No. 1, the Department asked the Company to explain why they proposed to use the same energy charge for both time periods. Further, the Department asked the Company to explain whether the energy charge reflects the Company's costs to provide electricity during both on- and off- peak time periods. In response, the Company stated the following:

> The energy charge of --$0.07619/kWh [sic] was used to be consistent with the Commission approved energy charge for standard General Service Demand (GSD) customers. The intent of the Pilot rate is to remove barriers to EV adoption, providing an opportunity for customers to experiment with EV technology and for Minnesota Power to gather information. As described in the petition, Minnesota Power will qualify and analyze the costs and benefits of the pilot through the various performance metrics outlined in the filing.
> The energy charge is consistent with the standard General Service energy charge and is not reflective of specific on and off-peak time period costs.

The Department has reservations about a time-of-use (TOU) rate offering that does not include appropriate and differentiated price signals for electricity consumption on a per kWh basis. While the Department does not expect that the Company should undertake a cost-of-service rate design specifically for this pilot program, there is a general expectation that an appropriate and effective TOU rate design includes an appropriate and differentiated price signal for (1) electricity consumption on a per kWh basis and (2) demand charges on a per kW basis. A TOU rate design without one of the elements is not as effective in delivering the load-shifting incentive to the customer. In addition, MP's proposal to place a limit on the element that is differentiated – demand charges – further dilutes the effectiveness of MP's TOU rate proposal.

In Department IR No. 1, the Department requested more information about what other rate design options MP considered. The Company stated that they considered three other rate designs and provided a reason why each was not chosen as shown in Table 2 below.

Table 2. Other Rate Designs Considered by Minnesota Power

Alternative Options Considered	Reason Not Chosen
On- and Off-Peak Energy and Demand Charges	Limited historical data available to use in justifying on and off-peak specific rates.
40% Demand Cap	This option still left the six customers in the upper 80th percentile when examining $/kWh billed.
Rule of 100	This option determines billed demand by dividing billed kWh by 100. Although this also acts as a demand cap, it provides no incentive to shift charging to off-peak hours when possible.

The alternatives considered to the proposed rate design appear to be reasonable considerations, but the record would be better supported if the Company provided a better explanation for the first option, since it appears that the Company explicitly considered an appropriate and differentiated energy charge on a per kWh basis.

For the purpose of these initial comments, the Department focuses on the lack of a differentiated rate per kWh in MP's proposed TOU rate design. **The Department requests that Minnesota Power provide additional information regarding an estimated cost differential of providing electric service during the proposed on- and off-peak periods.** That additional information will help the Department and other stakeholders assess the appropriateness of the proposed energy charge.

Including an appropriate and differentiated price signal for electricity consumption on a per kWh basis is an important element of a TOU rate design so that the relatively higher costs of providing electric service during on-peak periods are reflected in the energy charge, offering an incentive for conservation generally and for load-shifting in particular such that electricity consumption is incentivized to occur during an off-peak time period due to the lower price (and cost) of electricity.

The Commission recognized the importance of TOU rate designs in providing appropriate price signals to customers in Docket No. E999/CI-17-879 (Commission's EV Inquiry). In Department IR No. 3, the Department asked the Company whether their proposed energy charge is generally in the public interest, specifically considering Finding #5c of the Commission's EV Inquiry Order, which states:

> 5. *Expectations Regarding Utility Role:* The Commission finds that Minnesota's investor owned utilities should take steps to encourage the cost-effective adoption and integration of EVs. Among these steps, utilities should:
>   c. *Encourage environmentally and economically optimal EV integration* through, at a minimum, the adoption of appropriate and effective time-of-use and EV-specific rate designs, and reasonable initiatives and or investments that encourage and support smart charging.

On page 13 of the Company's Petition, the Company cited a June 2018 report from the Regulatory Assistance Project entitled "Ensuring Electrification in the Public Interest" in support of their proposed rate design. Additionally, the Company cited an additional passage from the report in support of their proposed rate design and its alignment with Finding #5c in the Commission's EV Inquiry Order. The Department here cites a longer excerpt from the report to provide additional context that helps explain the importance of a TOU rate design that includes both energy and demand charges that are appropriate and differentiated:[5]

> Demand charges give customers an incentive to improve their individual load factor—that is, to spread out their usage to reduce their individual peak demand.[footnote omitted] But demand charges do not necessarily provide incentives for customers to adjust their usage in a way that is helpful for managing system peaks.
>
> A more effective rate structure would encourage these customers to move their charging to off-peak times for the grid as

[5] Farnsworth et al., (2018). Ensuring electrification in the public interest. Accessed at: https://www.raponline.org/knowledge-center/beneficial-electrification-of-transportation/

> a whole, when it is less stressed and less expensive to serve. This would contribute to the management of system peaks rather than individual customers' peaks. It would also better coordinate a customer's electricity pricing with the system costs at the time the customer uses the grid, encouraging customers to concentrate their energy use during less expensive hours. Such rate structures can also reduce the magnitude of demand charges and enable utilities to recover more system costs through volumetric TOU rate designs. Rate design should ensure that the choices customers make to minimize their own bills are consistent with the choices they would make to minimize system costs.[footnote omitted]

Put another way: a TOU rate design that includes only an appropriate and differentiated demand charge on a per kW basis is not as efficient at delivering the load-shifting incentive to the customer. By not having an appropriate and differentiated energy charge on a per kWh basis, the Company's proposal lacks the advantages of a more comprehensive TOU rate design.

Even still, the Company recognized that the demand charge element of a TOU rate design still delivers a price signal to customers that helps accomplish the load-shifting incentive of a TOU rate design, and customers with low load factors generally have a low coincident factor. Given the relatively low load factors of the six customers the Company identified in its Petition and the disproportionate amount that demand charges comprise of their monthly bills (relative to other GSD customers), the price signal from demand charges alone could deliver the load-shifting incentive for participants such that EV charging would occur predominantly during the off-peak period. This incentive, however, is mitigated by the Company's proposed cap on demand charges, which will be discussed in the next section.

In Department IR No. 2, the Department asked if the Company expected electric vehicle charging behavior to be sufficiently induced to occur during the proposed off-peak time period through only changes in the demand charge. The Company provided the following response:

> Customers who enroll in this rate pilot will see a benefit by shifting demand to off-peak and/or the demand cap. The tariff was designed to provide an incentive to shift, but not penalize, on-peak charging. The Company believes this will allow flexibility for customers that are experimenting with this early technology, while allowing the company to collect data on the costs to serve this type of customer class and load profile. Additionally, there is very limited deployment of Medium and Duty in the state of Minnesota, so while there may be assumptions about how flexible EV fleet

> loads are the first experience in Minnesota Power's territory has not aligned with assumptions.

It is unclear whether the Company views an appropriate and differentiated energy charge on a per kWh basis as a "penalty," but the Department does not hold such a view. For the reasons mentioned earlier, a higher energy charge during on-peak periods is appropriate due to the higher costs of providing electric service during the on-peak period, with correspondingly lower energy charges during the off-peak period. It is up to the Company to provide the Commission with relevant data that can help determine what that higher energy charge should be.

Finding #5c of the Commission's Order does not specify an exact TOU rate design, but a TOU rate design is more appropriate and effective if it includes an appropriate and differentiated energy charge on a per kWh basis and demand charge on a per kW basis. Therefore, it follows that the rate designs of EV pilot program tariffs should incorporate appropriate and differentiated energy charges and demand charges.

Accordingly, the Department requests that Minnesota Power provide a more detailed discussion about their position in reply comments on whether an appropriate and differentiated energy charge on a per kWh basis for on- and off-peak time periods should be included in the rate design of the Commercial EV Rate Pilot.

2. *Time-of-Use Rate Design: Demand Charge*

As aforementioned, the Company proposed a demand charge of $6.50 per kW for the on-peak period and $0.00 per kW for the off-peak period. Additionally, the Company proposed to limit the demand charge component of a customer's monthly bill to no more than 30%.

In Department IR No. 1, the Department requested that the Company explain how the $0.00 off-peak demand charge and the 30% cap on demand charges aligns with the costs that the Company expects to incur to provide the proposed service. The Company provided the following response:

> The intent of the pilot rate is to remove barriers to EV adoption. Minnesota Power will quantify and analyze the costs and benefits of the Pilot through the various performance metrics outlined in the filing. The demand charge and proposed 30% demand cap are not aligned with specific costs at this time.

The Department is concerned about the $0.00 demand charge during off-peak periods and the 30% demand charge cap. The Company proposed each element as a way to remove barriers to EV adoption. The Department does not disagree that this design would likely help remove a

barrier to EV adoption. Based on the Department's analysis in Table 1, the six customers identified by the Company would certainly see reductions in their monthly bills, but given the limited information provided by the Company regarding the potential impact of the proposed rate design, the magnitude of reduction in terms of actual dollars is not clear. In Department IR No. 4, the Department requested the following:

1. Please provide a comparison of the current customer bills of the six commercial customers identified in the Petition who currently take service under the General Service Demand (GSD) tariff and a sample bill of those customer bills if those customers opted to enroll in the Company's proposed Electric Vehicle Commercial Charging Rate Pilot (Commercial EV Rate Pilot). Please also provide a non-trade secret example that compares the current customer bill under the existing GSD tariff and the Company's proposed Commercial EV Rate Pilot.

The Department looks forward to reviewing the Company's response and will provide a response in reply comments.

The Department's concerns regarding the proposed demand charge elements are two-fold: (1) both the $0.00 off-peak period demand charge and the 30% demand charge cap will likely result in a reduction of their current monthly bills without any fundamental change in the service they receive from the Company (and in fact, the customer may be incentivized to incur additional services from the Company such as installing more EV charging ports and increasing EV charging); and (2) the $0.00 off-peak period demand charge implies that participants' demand during the off-peak time period does not induce any system costs.

While the $0.00 off-peak period demand charge and the 30% demand charge cap directly address certain financial barriers to additional EV deployment and the Department generally supports removing such barriers, the Department is concerned that the Company did not appear to undertake any financial analysis to estimate the cost impact of the Commercial EV Rate Pilot on both participants and non-participants, nor does it appear that the Company established any kind of hypothesis for the impact that the Commercial EV Rate Pilot will have on incremental EV deployment in the Company's service territory.

The Department is interested in (1) estimating the costs of the Commercial EV Rate Pilot; (2) protecting other customer classes from unreasonably subsidizing participants in the Commercial EV Rate Pilot; and (3) ensuring that the Commercial EV Rate Pilot is not simply a subsidy for existing customers and is likely to result in wider EV deployment in the Company's service territory.

First, in response to OAG IR No. 002, the Company stated that they "did not create any numerical cost-benefit analysis in developing this pilot proposal." While a comprehensive cost-benefit analysis may not be necessary at this time, a lack of any kind of financial analysis is an important concern. **The Department requests that the Company provide preliminary financial analysis of the Commercial EV Rate Pilot's impact on participants' monthly bills, and derive a preliminary cost estimate based on that analysis.**

Second, in response to Department IR No. 1, which (in part) asked whether the demand charge elements create the possibility of cross-subsidization of participants in the Commercial EV Rate Pilot by other Minnesota Power customers, the Company stated that the following:

> If these type [sic] of customers are able to significantly change their load profile, i.e. switch to having a high load factor, then the potential for cross-subsidization could exist. Minnesota Power does not believe these customers currently have the ability to drastically change their EV charging behavior.

The Commercial EV Rate Pilot program appears likely to reduce a participant's monthly bill relative to their current GSD monthly bill. Combined with the TOU rate design, that may induce behavioral changes by participants resulting in an increased load factor: they may charge their EVs more often or invest in additional EV charging ports and EVs. While those are laudable goals in terms of the Commission's interest in facilitating wider EV adoption, those goals should not unreasonably burden other ratepayers. Additionally, the $0.00 off-peak demand charge seems to imply that the Company expects to incur no cost to provide electric service to participants during the off-peak period. The Department expects that such an outcome is highly unlikely. **The Department requests additional information about the cost the Company expects to incur to provide participants with electric service during off-peak hours generally, and specifically related to demand-related costs.**

The potential for cross-subsidization is certainly possible, but currently unknown, due to the lack of record information regarding any financial estimate of the cost of the Commercial EV Rate pilot and the monthly bill impact likely to result if current customers switch from the GSD tariff to the proposed tariff. **The Department requests that the Company provide more information regarding the potential for cross-subsidization of participants in the Commercial EV Rate Pilot by other ratepayers, specifically considering the impact that the rate design will have on (1) participants' monthly bills relative to their current monthly bills under the General Service Demand tariff and (2) the behavioral changes that may be induced as a result of the proposed rate design.**

Last, the Company has not provided any estimate of the incremental EV adoption that may occur as a result of offering the proposed Commercial EV Rate Pilot, nor has the Company expressed that wider EV adoption is an explicit goal of the Commercial EV Rate Pilot.

The Commission's Order in the Commission EV Inquiry generally, and Finding #5b specifically, are relevant here. Finding #5b states:

> 5. *Expectations Regarding Utility Role:* The Commission finds that Minnesota's investor owned utilities should take steps to encourage the cost-effective adoption and integration of EVs. Among these steps, utilities should:
>   b. *Develop and file EV-related proposals* intended to encourage the adoption of EVs by:
>   i. Expanding the availability of charging infrastructure, both home and public.
>   ii. Enhancing consumer awareness of EV benefits and charging options beyond what utilities could otherwise do under Minn. Stat. §216B.1614, subd. 2(c)(2), without specific Commission approval; and
>   iii. Facilitating the electrification of vehicle fleets.

This finding specifically, and the Commission's Order in general, suggest that any utility EV proposals should result in wider EV deployment. The Department acknowledges that the Company is intending to track the "growth in the number of fleet EV or public charging stations" as a metric to include in its assessment of the Commercial EV Rate Pilot, and further, that the Company expects that the Commercial EV Rate Pilot program will allow the Company to "encourage increased adoption of electric vehicles in northern Minnesota by decreasing the costs associated with public and fleet charging and allowing customers time to experiment with charging patterns and capabilities."[6]

However, the Department interprets the Commission's Order to suggest that wider EV deployment should be a paramount consideration in the design of a utility EV pilot program. The Company has not provided any information about how the Commercial EV Rate Pilot is expected to result in wider EV deployment, and instead, focuses on the financial impact (benefit) that the Commercial EV Rate Pilot would have on existing customers who currently operate EV fleets. Put another way: the Commercial EV Rate Pilot appears to be focused on serving the interests of existing customers instead of being designed to facilitate wider EV adoption. While the Department acknowledges that the Commercial EV Rate Pilot addresses certain potential financial barriers to EV adoption for its current customers, the Department is

[6] Petition, at 21.

concerned that the Company has designed the Commercial EV Rate pilot around reducing the monthly bills of its existing customers instead of determining how best to promote fleet electrification and EV deployment in its service territory.

In response to OAG IRs No. 006 and 010, the Company stated that (1) they have not produced any sales projections for the Commercial EV Rate Pilot[7] and (2) they have not made any assumptions about incremental customer participation in the Commercial EV Rate Pilot.[8] The Department understands that these two items will be essential in evaluating the efficacy of the Commercial EV Rate Pilot, and absent these two items, stakeholders will be unable to test the hypothesis that the Commercial EV Rate Pilot will result in wider EV deployment in Minnesota Power's service territory. The sales projection should be information that would allow stakeholders to assess the efficacy of the Commercial EV Rate Pilot and evaluate whether the pilot resulted in incremental EV deployment in Minnesota Power's service territory.

The Department requests that Minnesota Power produce a sales projection for the Commercial EV Rate Pilot and provide an estimate of incremental EV deployment as a result of offering the Commercial EV Rate Pilot.

3. Public Interest Considerations

The proposed $0.00 off-peak demand charge and the 30% demand cap may have unintended consequences: if a participant is not charged for their demand during the off-peak period and no demand charges are incurred once the charges reach 30% of their monthly bill, the incentive to conserve energy is minimal. While the Company would still incur costs through the energy charge even after the 30% demand charge cap is reached, demand charges are intended to recover costs of the capacity or size of the system needed to provide service – including generation, transmission and distribution facilities. Creating a $0.00 demand charge and capping the demand charge component of a participant's monthly bill to 30% would send a signal to participants that (1) during off-peak hours and (2) after the point in which demand charges reach 30% of a participant's monthly bill, the customer is not imposing any capacity costs on any aspect of the system. While the actual demand charges that a participant ultimately incurs may increase concomitantly with increases in electricity consumption, the 30% demand cap would blunt the price signal sent to participants and mean that participants would not pay their fair share of capacity costs.

In response to Department IR No. 3, the Company stated the following in explaining what impact they anticipate the 30% demand cap will have on energy conservation and energy efficiency:

[7] Response to OAG IR No. 006, dated June 11, 2019.
[8] Response to OAG IR No. 010, dated June 11, 2019.

> The Pilot's demand cap incentivizes beneficial electrification by bringing down operational costs, which in turn promotes more efficient use of energy overall. According to the RAP BE Report, "Today, replacing fossil-fueled equipment with efficient electricity-fueled equipment can create opportunities for consumers to control and reduce the cost of their energy use over time. This is due to the improved efficiency of both electricity generation and end-use appliances, as well as the affordability of electricity relative to other fuel options. In other words, due to the efficiency of an EV or heat pump, for example, the quantity of electricity required to produce a certain output (e.g., miles driven or heat delivered) is less energy-intensive and less expensive than the quantity of the fossil fuel currently being used to provide the same output."

Minnesota Statute §216B.03 states that to "the maximum reasonable extent, the commission shall set rates to encourage energy conservation." While the electrification of transportation fleets may be more efficient in terms of the overall amount of energy consumed relative to an internal combustion engine vehicle, the incentive to conserve electric energy should not disappear or be suppressed unreasonably. Rate designs should encourage energy conservation by sending price signals that create incentives minimize electricity use, even if the rate design incentivizes electrification that the Commission wishes to promote (such as transportation electrification). The proposed $0.00 off-peak demand charge and the 30% demand cap may blunt this price signal, and may not be the best way to achieve the goal of Minn. Stat. §216B.03.

The Department requests that Minnesota Power provide additional information on the mechanics of the tariff design, specifically explaining what behavioral changes in participant electricity consumption that Minnesota Power anticipates as a result of the $0.00 off-peak demand charge and the 30% demand cap.

IV. DEPARTMENT RECOMMENDATIONS

The Department appreciates the opportunity to comment on the Company's proposed Commercial EV Rate Pilot. The Department expects that additional information that will be provided by Minnesota Power in response to Department IRs and in response to these comments will add to the discussion, and we look forward to providing a final recommendation in subsequent reply comments. Below is a summary of the Department's requests for additional information:

- **The Department requests that Minnesota Power provide additional information regarding an estimated cost differential of providing electric service during the proposed on- and off-peak periods.**

- **The Department requests that Minnesota Power provide a more detailed discussion on whether an appropriate and differentiated energy charge on a per kWh basis for on- and off-peak time periods should be included in the rate design of the Commercial EV Rate Pilot.**

- **The Department requests that the Company provide preliminary financial analysis of the Commercial EV Rate Pilot's impact on participants' monthly bills, and derive a preliminary cost estimate based on that analysis.**

- **The Department requests additional information about the cost the Company expects to incur to provide participants with electric service during off-peak hours generally, and specifically related to demand-related costs.**

- **The Department requests that the Company provide more information regarding the potential for cross-subsidization of participants in the Commercial EV Rate Pilot by other ratepayers, specifically considering the impact that the rate design will have on (1) participants' monthly bills relative to their current monthly bills under the General Service Demand tariff and (2) the behavioral changes that may be induced as a result of the proposed rate design.**

- **The Department requests that Minnesota Power produce a sales projection for the Commercial EV Rate Pilot and provide an estimate of incremental EV deployment as a result of offering the Commercial EV Rate Pilot.**

- **The Department requests that Minnesota Power provide additional information on the mechanics of the tariff design, specifically explaining what behavioral changes in participant electricity consumption that Minnesota Power anticipates as a result of the $0.00 off-peak demand charge and the 30% demand cap.**

ML/ar

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. E015/M-19-337

Dated this 17th day of June 2019

/s/Sharon Ferguson

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