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August 27, 2018

VIA ELECTRONIC FILING

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

**RE: Minnesota Power Electric Vehicle Tariff Report
Docket No. E015/M-15-120**

Dear Mr. Wolf:

On June 11, 2018 the Minnesota Public Utilities Commission issued a Notice of Comment Period - Request for Tariff Revision and Annual Compliance Filings ("Notice"). The Department of Commerce Division of Energy Resources submitted its comments in response to the Notice on August 9, 2018. Fresh Energy, Minnesota Center for Environmental Advocacy, and the Institute for Local Self Reliance submitted comments in the docket on August 13, 2018. Minnesota Power hereby submits, via electronic filing, its Reply Comments in the above referenced docket.

Please contact me at the number or email above with any questions or concerns.

Respectfully,

Jenna Warmuth

JW:sr
Attach.

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Minnesota Power's Electric Vehicle
Tariff Report

Docket No. E015/M-15-120
REPLY COMMENTS

I. INTRODUCTION

On June 11, 2018 the Minnesota Public Utilities Commission ("Commission") issued a Notice of Comment Period - Request for Tariff Revision and Annual Compliance Filings ("Notice"). The Department of Commerce Division of Energy Resources ("Department") submitted its comments in response to the Notice on August 9, 2018. Fresh Energy, Minnesota Center for Environmental Advocacy, and the Institute for Local Self Reliance (or, "the Respondents") submitted comments in the docket on August 13, 2018. Minnesota Power (or, "the Company") provides its response through these Reply Comments.

**II. RESPONSE TO FRESH ENERGY, MINNESOTA CENTER FOR ENVIRONMENTAL
ADVOCACY, AND INSTITUTE FOR LOCAL SELF-RELIANCE**

The Respondents contend in their comments that timing of electric vehicle ("EV") charging is tantamount to whether electric vehicles become an asset or a liability for the electric grid. Minnesota Power agrees that the time of day that EVs charge will lead to higher overall demand on the grid, and potential higher system peaks. Without incentivizing rates, price signals or controlled access (interruptible load) consumers have little reason to shift the timing of their charging to coincide with overall system benefits.

Additionally, the Company agrees that strategic growth and adoption of EVs could be a benefit to the overall system and all customers in three key ways, assuming certain system and rate design considerations:

- Price arbitrage: Future EVs may be able to dispatch energy to the grid at times of high demand/high energy prices and then charge during times of low demand - possibly with cheap, intermittent renewable generation.
- Deferring grid investments: The distributed nature of EVs will allow for voltage support and/or load balancing, which can reduce stress on distribution infrastructure and possibly defer investments.
- Load Shifting/Off-Peak Load Addition: As long as EV charging primarily occurs in off-peak hours when the grid is under-utilized, the existing distribution infrastructure could be used more efficiently. Increased sales without a corresponding increase in infrastructure would lower the overall cost to serve customers, and have a positive impact on customer rates. Additionally, renewable resources are more prevalent during off-peak periods therefore

customers will benefit from cheaper, less carbon intensive energy if they shift charging to off-peak periods.

The Company is also actively participating in the Commission's open EV docket¹ to share the Company's perspective, hear from stakeholders, and learn about EV expansion. Minnesota Power is particularly interested in: possible impacts of EVs on the electric system, utilities, and utility customers, including the potential electric system benefits; the degree to which utilities and utility regulatory policy can impact the extent and pace of EV penetration in Minnesota; and possible EV tariff options to facilitate wider availability of EV charging infrastructure.

Alternative Metering

The Respondents state that they believe Minnesota Power's preferred alternative metering option is insufficient because it would still require a second meter. The Respondents then ask the Commission to require the Company to design and implement a smart charging pilot for its EV owning customers. The Company, and the electric utility industry as a whole, is beginning to address the challenge of metering needs related to residential EV charging, not only from a utility metering perspective, but also in terms of how the various iterations of charging equipment interact with metering and service interruptions. While the Company agrees that the second meter requirement is a barrier that necessitates a solution, there are no definitive solutions currently available. While Minnesota Power appreciates the suggestion for a smart charging pilot, at this time, Minnesota Power cannot justify the resources required to design, propose and implement a smart charging pilot for the following reasons:

- Low regional EV adoption in Minnesota Power's service territory,
- Budget and staffing levels as the Company restructures following its most recent rate review,
- The Company's impending Meter Data Management system implementation,
- Xcel Energy's smart charging pilot is just getting under way. The Company, which serves roughly 1/10 the number of residential customers that Xcel does, will look to this pilot for lessons learned, as well as recruitment success (which at 100 customers seems modest, when considering the number of customers served by Xcel),
- The Company's focus on education and outreach, as well as rates, to drive increased adoption,
- The Company's ongoing progress in regards to the Time-of-Day Pilot, will likely be a future option for residential EV owners that will not have the upfront cost burden, or monthly fees of a smart charging pilot,
- The Electric Vehicle Service Equipment market is still developing and there are limited pilots demonstrating the success of smart chargers (particularly in a service territory that is largely rural), and
- The Company expects that the results of the Commission's recent open docket will provide Minnesota's electric utilities with more direction regarding the utilities role in driving adoption of EVs.

¹ Docket No. E999/CI-17-879

The EV tariff changes proposed by the Company will help to alleviate more immediate challenges with the existing EV tariff and make progress toward providing a dedicated EV rate with price signals for when it is best to charge. It also makes charging available throughout the day as opposed to during limited times.

III. RESPONSE TO DEPARTMENT

Minnesota Power appreciates the Department's review of its third annual compliance filing. In its comments, the Department recommends approval of the Company's proposed changes to its EV tariff. The proposed changes provide EV-owning customers with a more customer-friendly and beneficial experience.

III. CONCLUSION

As communicated in its annual filing in this docket, Minnesota Power has invested additional time and resources over the past two years to understand the developing EV market and the preferences and viewpoints of its customers and stakeholders. The Company's most recent request for a change to its existing EV tariff offering addresses more immediate challenges customers face with the existing tariff. It is intended to be a bridge between the current rate structure and a potential new structure leveraging emerging, but unproven, technology. In the meantime, Minnesota Power will continue to monitor the developing EV market and engage with customers regarding EV outreach and education.

Dated: August 27, 2018

Respectfully submitted,



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STATE OF MINNESOTA)
) ss
COUNTY OF ST. LOUIS)

AFFIDAVIT OF SERVICE VIA
ELECTRONIC FILING

JODI NASH, of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 27th day of August, 2018 she served Minnesota Power’s Reply Comments in Docket No. E015/M-15-120 to the Minnesota Public Utilities Commission and the Energy Resources Division of the Minnesota Department of Commerce via electronic filing. The persons on the attached service list were served as requested.



Jodi Nash

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	Yes	OFF_SL_15-120_Official
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_15-120_Official
Leigh	Currie	lcurrie@mncenter.org	Minnesota Center for Environmental Advocacy	26 E. Exchange St., Suite 206 St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_15-120_Official
Ian	Dobson	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_15-120_Official
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_15-120_Official