



June 17, 2019

Docket No. E015/M-19-337

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

**RE: Initial Comments of Greenlots in Support of Minnesota Power's Petition for Approval of its Electric Vehicle Commercial Charging Rate Pilot**

Dear Mr. Wolf,

Greenlots submits these comments to the Minnesota Public Utilities Commission ("the Commission") in response to its May 22, 2019 Notice of Comment Period inviting comments regarding Minnesota Power's ("the Company") Petition for Approval of its Electric Vehicle ("EV") Commercial Charging Rate Pilot, filed on May 16, 2019.

Greenlots is a leading provider of EV charging software and services committed to accelerating transportation electrification in Minnesota. The Greenlots network supports a significant percentage of the DC fast charging infrastructure in North America. Greenlots' smart charging solutions are built around an open standards-based focus on future-proofing while helping site hosts, utilities, and grid operators manage dynamic electric vehicle charging loads and respond to local and system conditions.

Greenlots is encouraged by Minnesota Power's efforts to address barriers to transportation electrification. This pilot rate filing utilizes rate design solutions to address high costs often associated with commercial and industrial EV charging. The three-year "Electric Vehicle Commercial Charging Rate Pilot for Commercial and Industrial Customers" (the "Pilot Program") makes changes to the demand charge component of the General Service Demand Tariff designed to lower the cost of EV charging, specifically targeting fleet and public charging. In these contexts, and especially with DC Fast Charging ("DCFC"), demand charges can often account for a disproportionate component of the total bill, especially when there is low utilization. In recognition of this, the Pilot Program removes demand charges during off peak periods, and institutes a 30% demand cap. All other components of the General Service Demand Tariff remain unchanged.

Providing for fuel cost savings is critically important to drivers and fleet managers in their decision-making to go electric. Indeed, cost savings continues to be a leading driver of electric vehicle adoption. There are many factors that contribute to these savings however, with rate design being just one (important) component. At the same time, sending accurate price signals through rates is critically important in aligning driver charging behavior with grid conditions, where feasible, and ensuring ratepayers are maximized, and ratepayer costs minimized.

Accordingly, and for additional reasons, Greenlots generally has tended not to advocate for the removal or retiring of demand rates for EV charging, DCFC in particular, which provide for an important price signal. While transportation electrification holds strong promise of benefits to the system and all ratepayers, such benefits are largely contingent upon management of charging in relation to grid conditions. Unmanaged charging could prove to create more costs than benefits to ratepayers – especially if it coincides with difficult grid conditions. This concern increases as DCFC power levels increase, which they are quickly doing. As such, demand charges serve an important purpose in relation to EV charging. By and large, demand rates are also more attractive to DCFC infrastructure owners than volumetric rates at a certain level of utilization (which for the most part is not yet being seen). We have therefore tended to believe it to be important that owners have the option of choosing or returning to their current demand rate if another rate treatment is taken forward by the Commission. This proposed rate retains this optionality.

This said, as more and more fleets electrify, rates become more and more important – especially in circumstances where operational characteristics limit the ability of fleet operators to leverage managed charging technology options.

Greenlots is encouraged by and supports the approach Minnesota Power has taken with this rate design, specifically because it does not eliminate demand charges altogether, instead retaining them for on-peak periods, while instituting a 30% demand cap. This both retains the important price signal that demand charges provide, while providing an incentive to manage load and shift demand to off-peak time periods.

Greenlots notes that technology has a critical role to play in load management, and electricity costs to drivers and site hosts certainly should not be seen as exclusively the province of rate design. Importantly, there are a variety of technology solutions that can be employed to address many of the same issues and mitigate negative rate impacts, including numerous managed or smart charging strategies. While Level 2 charging presents significant opportunity for managed charging given longer dwell times, there is also opportunity for DCFC. While integrating storage with charging can provide more flexibility, smart charging technology alone – without integrated storage – can significantly reduce costs associated with demand charges or otherwise unmanaged charging. Indeed, managed charging can be a critical complement to rate design, but can often also be more effective or achieve deeper results than a rate design approach.

Very importantly, and in recognition of this, the proposed rate design still provides a price signal to manage demand and shift it to off-peak periods, retaining some incentive for the utilization of managed charging and other demand management technologies.

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It should also be noted that the market for public charging, DCFC in particular, faces a variety of other challenges and costs that make the economics significantly more challenging than charging in other contexts, so addressing demand charges should not be seen as a panacea to creating a sustainable business model for DCFC ownership and public charging – but it can be very helpful in improving the business case. Similarly, it should not be a substitute for exploring other solutions to the challenge, including technological solutions as discussed and direct utility investment in charging infrastructure.

For these reasons and with the comments provided, Greenlots broadly supports Minnesota Power's Electric Vehicle Commercial Charging Rate Pilot for Commercial and Industrial Customers, and encourages the Commission's approval. We look forward to continued engagement in efforts supporting transportation electrification in Minnesota, and we thank the Commission for consideration of these comments.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Thomas Ashley', with a stylized, cursive script.

Thomas Ashley  
VP, Policy