



Minnesota Center for Environmental Advocacy

The legal and scientific voice protecting and defending Minnesota's environment

26 East Exchange Street - Suite 206
Saint Paul, MN 55101-1667

651.223.5969
651.223.5967 fax

info@mncenter.org
www.mncenter.org

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March 12, 2015

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

VIA ELECTRONIC FILING

*RE: Xcel Energy and Minnesota Power Electric Vehicle Charging Rate
and Minnesota Statute § 216B.1614
PUC Docket No. E-002/M-15-111
PUC Docket No. E-015/M-15-120*

Dear Mr. Wolf:

Fresh Energy and Minnesota Center for Environmental Advocacy (hereinafter "Environmental Intervenors") offer these Initial Comments on Xcel Energy's and Minnesota Power's Petition for Approval of Residential Off-Peak Electric Vehicle Service Tariff which the utilities filed pursuant to Minnesota Statute § 216B.1614. We do not comment on Otter Tail Power or Interstate Power tariff filings, because as very rural utilities, they expect very low penetrations of electric vehicles.

I. TARIFF TERMS SHOULD ANTICIPATE THE FUTURE OF ELECTRIC VEHICLE USE IN MINNESOTA.

The tariff filings by Xcel Energy and Minnesota Power represent an early opportunity for the Commission to consider an issue that can only grow in importance, driven by innovations in automotive and utility technology: the eventual full integration of automobiles and the electricity system. While today automobiles represent a small portion of electricity sales, having fewer than 5,000 electric vehicles ("EVs") and plug-in hybrid electric vehicles registered in Minnesota, it is important to anticipate a future where electric vehicles will play a more important role in the grid.

EVs have potential to work with a modern grid by shaping load, offsetting lost sales from distributed generation resources such as rooftop solar, and introducing electricity storage into the distribution system—all while

reducing the economic cost and environmental footprint of driving and the economic volatility and security issues associated with oil dependence.

The tariff required under this statute must include “a mechanism to allow the recovery of costs reasonably necessary to comply with this section, including costs to inform and educate customers about the financial, energy conservation, and environmental benefits of electric vehicles and to publicly advertise and promote participation in the customer-optional tariff.” Minn. Stat. § 216B.1614, subd. 2(c)(2). According to the plain language of this provision, the legislature anticipated that public utilities would promote the use and benefits of electric cars, and encourage consumers to use the off-peak charging tariff. By incentivizing residential consumers to charge off-peak, integration of automobiles into the electric system fills night-time loads rather than pushing up day-time peaks.

But integration of automobiles into the electric system must be done with overall state energy goals in mind. The Minnesota Legislature has determined that “[i]t is the goal of the state to reduce statewide greenhouse gas emissions across all sectors producing those emissions to a level at least 15 percent below 2005 levels by 2015, to a level at least 30 percent below 2005 levels by 2025, and to a level at least 80 percent below 2005 levels by 2050.” Minn. Stat. § 216H.02. To reach this goal, EV use must be promoted in a way that actually reduces greenhouse gas emissions.

In 2015, researchers at the University of Minnesota completed a six-year study of Electric Vehicles’ and Plug-in Hybrid Electric Vehicles’ environmental footprint, using a range of different electric sources and mixes of sources to calculate how EVs and plug-in hybrid electric vehicles compared to internal combustion engines (gasoline powered) on environmental performance. Because of the high cost of public-health damages due to coal-generated power, it proved difficult to claim environmental benefits for EVs unless the renewable-generation fraction or the natural-gas-generation fraction in the electricity mix was very high.¹

Of course, the simplistic idea that an all-coal powered vehicle is dirtier than a gas-powered vehicle is unrealistic, since there is no “all coal” tariff offered by any utility. However, the study also analyzed the “MISO average” and found too, that human health external costs made gasoline a better environmental choice. Conversely, if the vehicle were charged with power from wind, water, or wave energy, driving the vehicle would produce “about one-quarter of the air pollution deaths” as compared to gasoline. It is therefore critical that the terms of the EV tariff promote the all-renewable tariff option to the greatest extent practicable. For the EV tariff to encourage the all-renewable rate, the off-peak rate must be simple and attractive in terms of the hours during which it is offered and the all-renewable option must be based on current costs of renewables such that it is at the very least a competitive rate and ideally the default cheaper rate.

¹ *If your electric vehicle gets its power from coal, new study says it is dirtier than gasoline*, December, 2014, available at: <http://www.startribune.com/285860511.html>.

A. Tariff Terms Should Be Harmonized Among Utilities.

Although utilities still regard electric vehicles as a small portion of their sales in the near-term, it is useful to get the terms of the program right and to keep the program as simple and understandable as possible. Simplicity and attractiveness of the rate enable utilities to effectively promote the tariff and the use of electric vehicles. This includes harmonizing the terms of the off-peak rate.

Environmental intervenors applaud Xcel Energy's decision to offer a "nights, weekends and holidays" approach to off-peak charging. EV drivers and EV advocacy voices have advised Xcel that many EV drivers will want to use their vehicles for errands and local travel during the weekend days, and still have a full charge for evening weekend use. In addition, Xcel's timing of its off-peak rate was informed by its discussions with actual EV drivers. Minnesota Power should adopt the same schedule and hours as Xcel, especially if there is any serious contemplation of joint efforts to educate consumers and promote EV use. Simplicity and harmonizing the offering is an example of getting the rules right at the beginning while use of EVs is still low.

B. The All-Renewable Tariff Should Be Based On Current Costs Of Renewables.

In addition to coordinating the hours during which the off-peak rate would apply, both Xcel Energy and Minnesota Power should use current wind farm installation costs (i.e. from 2014 or 2015) to calculate the optional all-renewable off-peak rate. While both companies have strong experience with their renewable-option tariff, the all-renewable rates offered for EV charging should not be based on the same turbine technology available when the "green pricing" programs were launched.

The current "green pricing" tariff offered by utilities is based on a small portion of a specific wind farm set aside and tracked for that purpose, apart from wind farm generation tracked for purpose of compliance with the Renewable Energy Standard, and the costs that form the basis of that tariff are no longer up-to-date. Because independent market analysts such as Bloomberg New Energy Finance, Lazard and Deutsche Bank all show strong reductions in the cost of wind energy since 2009, a green pricing program launched in 2015 should not rely on old technology that is higher cost than current wind technology.

There is no compelling reason to use older higher cost wind to calculate the all-renewable option. It will only result in a premium and will discourage sign-ups for the preferred option. Evidence shows that premium pricing for a renewable option will result in very low customer response. While the best programs of this kind may result in response rates of 2-3 percent, it is much more typical for response to be under 1%. For example, Minnesota Power's program is offered to its 144,000 residential and commercial customers but fewer than 600 opt for it.

Ideally, if justified by current cost data, the all-renewable tariff should be the default option for EV tariff customers rather than a premium product at a premium price. Because utilities will want to promote the environmental benefits of driving EVs as the statute anticipates, the rate for

the all-renewable option should be as attractive as possible. In addition, because a significant fraction of early adopters will be environmentally motivated, the default option should be the all-renewable one.

II. RECOMMENDATIONS

To ensure that these state policy goals are met, the Environmental Intervenors make the following recommendations with respect to the EV tariffs filed by Xcel Energy and Minnesota Power:

- (1) Order Xcel Energy and Minnesota Power, as the two major urban public utilities, to harmonize their offering and promotion and advertising programs, making night-time use of wind power the default option, and making the times of the off-peak offer and the availability of weekend and holidays within the off-peak rate.
- (2) Order a new analysis of an all-renewable option for this tariff based on a modern wind turbine on the best available site.

Dated: March 12, 2015

Respectfully submitted,

/s/ Leigh Currie

Leigh Currie
Minnesota Center for
Environmental Advocacy
26 E. Exchange St., Suite 206
St. Paul, MN 55101
lcurrie@mncenter.org
(651) 287- 4873

/s/ Michael Noble

Michael Noble
Fresh Energy
408 St. Peter St., Suite 220
St. Paul, MN 55102
noble@fresh-energy.org
(651) 726-7563

STATE OF MINNESOTA
MINNESOTA PUBLIC UTILITIES COMMISSION

Xcel Energy and Minnesota Power Electric
Vehicle Charging Rate and Minnesota Statute §
216B.1614

AFFIDAVIT OF SERVICE

PUC Docket No. E-002/M-15-111
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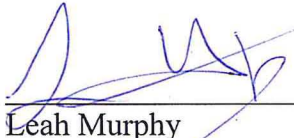
STATE OF MINNESOTA)
)ss.
COUNTY OF RAMSEY)

Leah Murphy being duly sworn, says that on the 12th day of March, 2015 she served via U.S. mail and e-dockets the following:

- Initial Comments filed on behalf of Environmental Intervenors

on the following persons, in this action, by filing through e-dockets or mailing to them a copy thereof, enclosed in an envelope, postage prepaid, and by depositing the same in the post office at St. Paul, Minnesota, directed to said persons at the last known mailing address of said persons:

Attached Service List



Leah Murphy

Subscribed and sworn to before me
this 12th day of March, 2015



Karen Moss

