

Minnesota Public Utilities Commission

Staff Briefing Papers

Meeting Date: March 31, 2016

*Agenda Item #4

Company: Xcel Energy

Docket Number: **E-002/M-15-920**

In the Matter of a Petition by Northern States Power Company, doing business as Xcel Energy (Xcel or the Company), for Approval of a Light Emitting Diode (LED) Street Lighting Rate.

Issue: Whether the Commission should approve Xcel's request for a Light Emitting Diode (LED) Street Lighting Rate?

Staff: Andy Bahn | 651.201.2249 | Andrew.Bahn@state.mn.us

Relevant Documents

Xcel's Petition for Approval of a LED Street Lighting Rate.....October 15, 2015
Department of Commerce (The Department or DOC) Comments..... December 14, 2015
City of Minneapolis Comments December 14, 2015
Suburban Rate Authority (SRA) Comments..... December 15, 2015
Xcel Reply Comments December 29, 2015
The Department's Response to Reply Comments February 18, 2016

The attached materials are workpapers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

This document can be made available in alternative formats (i.e., large print or audio) by calling (651) 296-0406 (voice). Persons with hearing loss or speech disabilities may call us through their preferred Telecommunications Relay Service.

STATEMENT OF ISSUE

Whether the Commission should approve Xcel's proposal for the addition of Light Emitting Diode (LED) Street Lighting Rate?

BACKGROUND

Xcel does not currently have rates in place for LED street lighting options. In 2012, the Company implemented a pilot program in the City of West St. Paul to test the viability of LED streetlights. The results of the pilot program were described in Xcel's LED Streetlight Pilot Project Final Report in Docket No. E002/M-12-974, filed on March 13, 2015.

On October, 2015, Xcel filed a Petition *Requesting to Implement LED [Light Emitting Diode] Street Lighting Rate* and for approval of the addition of LED street lighting rates to its Street Lighting System Service Rate Code A30.

The Department of Commerce, the City of Minneapolis and the Suburban Rate Authority filed Comments in response to Xcel's Petition.

SUMMARY

Xcel's proposal would add four LED fixture options for those customers receiving Street Lighting System Service from Company-owned assets on Rate Code A30. Xcel proposed to provide four wattage-equivalent options in order to provide a full range of replacements for the existing HPS fixtures on its Street Lighting System Service Rate Code A30. Xcel provided the following table for HPS wattage and LED Wattage equivalence.

LED Streetlight Wattage

HPS Wattage	LED Equivalent Wattage
100W	39W
150W	65W
250W	155W
400W	246W

Xcel stated that the LED equivalent wattage is a simple average across vendor fixtures that qualify for the Company's technical specification, at each size level. Xcel also stated that it recognized that LED technology will continue to evolve and perhaps become more efficient and Xcel pledged it will monitor this evolution over time, and adjust accordingly.

According to Xcel, a current street lighting customer with a 100-Watt HPS fixture would have that streetlight replaced with an equivalent 39-Watt LED fixture. Since approximately 75 percent

of the Company-owned streetlights in Minnesota are 100-Watt fixtures, Xcel stated that rate is expected to be the most widely-applicable to customers.

Customer participation in this LED service is voluntary and Xcel stated the LED options will be available for year-round illumination of public streets, parkways, and highways. Customers participating in this service will pay a monthly rate that reflects savings in energy costs and maintenance, which help to offset increased capital costs. The proposed LED Streetlight charges are provided in Table below.

Proposed Monthly Rate per LED Streetlight

<u>Designation of Lamps</u>	<u>Standard Service</u>	
	<u>Overhead</u>	<u>Underground</u>
39W	\$9.59	\$18.31
65W	\$10.21	\$18.92
155W	\$13.36	\$21.87
246W	\$16.63	\$24.85

The proposed LED rates that were based on the currently monthly HPS overhead rates, adjusted for the reduction in maintenance costs, decrease in energy and demand-related costs, and increase in capital costs for the LED fixtures. The rate design calculations and resulting customer bill impacts were provided by Xcel in the following Table.

XCEL Proposed LED Street Lighting Rate Design – Rate Impact

Per HPS/LED Streetlight Equivalent

	100W/39W	150W/65W	250W/155W	400W/246W
HPS Monthly Rate/Streetlight	\$9.44	\$10.15	\$12.77	\$15.50
<i>Maintenance Savings</i>	(\$0.91)	(\$0.91)	(\$0.91)	(\$0.91)
<i>Energy and Demand Charge Savings</i>	(\$0.85)	(\$1.14)	(\$1.65)	(\$2.58)
<i>Capital Revenue Requirement</i>	\$1.91	\$2.11	\$3.15	\$4.62
LED Rate Impact	\$0.15	\$0.06	\$0.59	\$1.13
Proposed LED Monthly Rate	\$9.59	\$10.21	\$13.36	\$16.63

Xcel stated that it expects the HPS fixture replacement will result in an overall bill savings, when combined with fuel savings. The anticipated Bill Impact was estimated in the following Table.

Bill Impact

Per HPS/LED Streetlight Equivalent

	100W/39W	150W/65W	250W/155W	400W/246W
Current HPS Monthly Avg Bill /Streetlight	\$10.34	\$11.46	\$15.12	\$19.19
LED Rate Impact	\$0.15	\$0.06	\$0.59	\$1.13
<i>Fuel Clause Savings Estimate</i>	(\$0.60)	(\$1.14)	(\$1.65)	(\$2.58)
Total Monthly Bill Impact	(\$0.45)	(\$0.81)	(\$1.17)	(\$1.82)
Proposed LED Monthly Avg. Rate	\$9.89	\$10.70	\$14.54	\$18.50

COMMENTS BY OTHER PARTIES

In general, Comments by the parties sought additional information.

The Department

The Department reviewed Xcel's Petition and concluded that the proposed rates were correctly calculated based on the data provided by Xcel. However, the Department requested further information to support these rates. The Department requested that Xcel provide additional support for structuring of the tariff by exact wattage levels given the evolving nature of LED technology. Alternatively, the Department requested Xcel update the proposed tariff to allow for improvements in LED lighting technology. The Department also requested that Xcel provide full support for its proposed LED rates, including an explanation of whether Incremental Capital Revenue Requirements included recovery of the undepreciated street lighting fixture cost less any salvage value.

The Department also recommended that, if approved, the proposed LED street lighting rates be implemented 90 days after the Petition's filing date, or within 30 days of the Commission's Order, whichever is later.

The City of Minneapolis

The City of Minneapolis generally supported providing better street lighting through LED street lighting options, which can result in reduced energy use, reduced light trespassing, in addition to improved light quality and uniformity. However, because the selection and conversion to LED street lighting will be a long-term decision and the City was seeking to fully understand the options and implications of Xcel's Petition, the City attached a list of questions seeking greater understanding of the LED fixture details and selection.

The Suburban Rate Authority (SRA)

The SRA had received LED pricing data from the Company and was aware of the Department's Comments requesting further pricing information. The SRA noted that LED lighting and other street lighting customer class issues are impacted by the Company's recently filed rate case. Therefore, the SRA stated its intent to review pertinent pricing data in the rate case and that it did not intend to inquire further into LED pricing in this proceeding, absent the addition of new data.

The SRA also stated it was aware of the City of Minneapolis information requests submitted through its comments and that specific operational data sought by the City was also important to SRA members in evaluating participation in the Company's proposed program.

XCEL'S RESPONSE TO OTHER PARTIES

Xcel agreed with the Department's recommendation that, if approved, the proposed LED street lighting rates be implemented 90 days after the Petition's filing date, or within 30 days of the Commission's Order, whichever is later.

Xcel also agreed to the Department’s request to take into consideration the evolution of LED technology by proposing a range of wattages or lumens for each category of lighting service, and noted that it does not change the proposed pricing. Xcel provided the following range of wattages as well as the lumen values for each of the LED fixtures offered through this rate:

LED Wattage Ranges and Lumen Values

HPS Equivalent Wattage	LED Wattage Range		Lumen Values for LEDs
	Low	High	
100 W	30 W	40 W	4,000
150 W	50 W	75 W	6,000
250 W	110 W	165 W	14,000
400 W	200 W	250 W	25,000

Xcel also noted and it had provided the Department with all the underlying data supporting it proposed LED rates in response to a separate information request.

In response to the City of Minneapolis, Xcel noted that it had engaged the City in advance of the filing in a number of discussions related to the rate design for its tariff, with a goal of helping stakeholders to better understand the impact of the proposed LED offering on energy savings and customer bills. In addition, Xcel responded to the list of questions attached to the City’s Comments.

Staff Comments

The Department supported Xcel’s revised proposal as found in Attachment A to Xcel’s reply comments. The Department also stated that it had reviewed the information provided by Xcel on LED pricing and concluded that the resulting rates appear to be reasonable. The Department recommended that the Commission approve Xcel’s proposed Light Emitting Diode (LED) Street Lighting Rate, as amended in the Company’s December 29, 2015 reply comments.

If approved, the Department recommended further that the Commission require Xcel to update the LED street lighting rates, if needed, to conform to the Commission’s decisions in Docket No. E002/GR-15-826.

The City of Minneapolis did not respond Xcel’s Reply Comments and the Company’s responses to the City’s list of questions. It does not appear that the City is opposed to Xcel’s LED tariff filing and will instead base its decision on whether to participate in the LED service on the answers provide by Xcel and whether the LED options are in its’ long-term interest.

Staff notes that Xcel appears to have satisfactorily responded to parties’ questions and concerns and there does not appear to be any remaining disputed issues.

Decision Alternatives

- A. Whether the Commission should approve Xcel's proposal for the addition of Light Emitting Diode (LED) Street Lighting Rate to its Street Lighting System Service Rate Code A30?
 - 1. Approve Xcel's proposed Light Emitting Diode (LED) Street Lighting Rate, as amended in the Company's December 29, 2015 reply comments.
 - 2. Do not approve Xcel's proposed Light Emitting Diode (LED) Street Lighting Rate.
- B. Require Xcel to update the LED street lighting rates, if needed, to conform to the Commission's decisions in Docket No. E002/GR-15-826.
- C. Implement the proposed LED street lighting rates within 30 days of the Commission's Order.

Staff Recommendation

Staff Recommends A1, B and C.