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October 15, 2015

Ms. Patricia Van Gerpen, Executive Director
South Dakota Public Utilities Commission
State Capitol Building
500 East Capitol Avenue
Pierre, South Dakota 57501-5070

Re: Petition for approval of a new LED rate

Dear Ms. Van Gerpen:


Northern States Power Company, doing business as Xcel Energy, submits the attached petition to the South Dakota Public Utilities Commission seeking approval to modify its Street Lighting Energy Service (Rate Code E31) contained in its Electric Rate Book in order to accommodate new street lighting technology.

We are pleased to offer to customers a new rate option for customer-owned street lighting, in response to growing interest from our South Dakota communities. Light emitting diodes (LED) street lighting has the potential to offer a number of benefits to customers, including reduced bills, decreased maintenance expenses, greater energy efficiency, and improved lighting quality. The present tariff only accommodates Mercury Vapor (MV) and High Pressure Sodium (HPS) street lighting technologies; a new tariff is therefore necessary to provide an accurate rate for the new LED street lighting technologies that are becoming available, and that some of our largest municipal customers are planning to install.

The Street Lighting Energy Service (Rate Code E31) is a non-metered rate. The Company's policy is to move future street lighting locations to connect to our Company metering, and thus fall under the Street Lighting Energy Service-Metered rate (Rate Code E32). However, the Company still provides non-metered service to over 5,700 street light fixtures in the City of Sioux Falls that remain unmetered and will need to remain unmetered until such time as the City of Sioux Falls and Xcel Energy can work to move those existing street light locations to connect to our metering system.

If anyone has any questions, please call me at 339-8350

Sincerely,

A handwritten signature in cursive script that reads "J Wilcox". The signature is written in black ink and is positioned below the word "Sincerely,".

Jim Wilcox

c. Laura McCarten

STATE OF SOUTH DAKOTA
BEFORE THE
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE PETITION OF
NORTHERN STATES POWER COMPANY
FOR APPROVAL OF CHANGES TO THE
STREET LIGHTING ENERGY SERVICE
TARIFF TO PROVIDE A CUSTOMER-OWNED
LIGHT EMITTING DIODE (LED) STREET
LIGHTING RATE

DOCKET NO. EL15-__

PETITION

Northern States Power Company, doing business as Xcel Energy moves the Commission for an order adopting the attached tariff sheet for the reasons stated hereunder.

I. REPORT OF PROPOSED TARIFF CHANGES

The information in this filing is consistent and being provided in accordance with the requirements of South Dakota Administrative Rule 20:10:13:26 – Report to Commission of proposed tariff schedule changes.

(1) Name and Address of the Public Utility

Northern States Power Company doing business as:
Xcel Energy
500 West Russell
Sioux Falls, SD 57101-0988
(605) 339-8350

Name, Address, and Telephone Number of Utility Attorney

Brett Koenecke
May, Adam Gerdes Law firm
503 S. Pierre St.
Pierre, SD 57501
(605) 224-8803

We request that all communications regarding this proceeding, including data requests, also be directed to:

SaGonna Thompson
Regulatory Administrator
Xcel Energy Services Inc.
414 Nicollet Mall
Minneapolis, MN 55401
Regulatory.Records@xcelenergy.com

(2) Section and Sheet Number of the Tariff Schedule

The following tariff sheets are proposed to be changed or added:

South Dakota Electric Rate Book – SDPUC No. 2

Street Lighting Energy Service Rate Code E31

Section No. 5

5th Revised Sheet No. 58

(3) Description of the Tariff Change

The Company is proposing to add an LED fixture option to its Street Lighting Energy Service (Rate Code E31) contained in its Electric Rate Book to accommodate new street lighting technology.

(4) Reason for the Change

The City of Sioux Falls has historically owned, maintained, and operated all of the street lighting equipment in the city. Many of the existing street light locations are billed using an unmetered monthly flat rate that is based on the estimated energy usage of the specific lighting technology at each location. City staff has informed the Company that they intend to begin replacing HPS (high pressure sodium) luminaires with newer LED fixtures. As the Company's tariff is specific to the MV (Mercury vapor) and HPS technologies and since the LED fixtures use significantly less energy, the Company believes adopting a new monthly flat rate to reflect the reduced energy consumption of the LED technology is consistent with providing efficient and reasonable service.

(5) Present Rate

The existing rate for these unmetered luminaires is documented on the tariff sheet included in this filing as Attachment 2. The present tariff provides a monthly flat rate for five specific high pressure sodium lighting technologies and one Mercury vapor technology that are presently used by the City of Sioux Falls.

This petition would add an LED option to our non-metered, customer-owned street lighting rates for E31 Group 4 service.

(6) Proposed Rate

The proposed rate was designed to be consistent with the Street Lighting Energy Service- Metered rate (Rate Code E32), which uses the same rate design as the existing Rate Code E31 Group IV monthly flat lighting rates. The proposed Wattage rate is based on the E32 energy rate of \$0.05699 per kWh and the E12 monthly customer charge of \$5.00. The customer charge component is based on an assumption of 12 lighting units per meter, which recovers \$5.00 per year per lighting unit of fixed costs. Because this fixed cost component varies per light by Wattage level, the proposed per Watt amount was based on the weighted average of LED Wattage of HPS lighting units planned for replacement, of which 96 percent are comprised of the 100-Watt HPS lighting units. Attachment 1 to this petition includes more details on the calculations used to develop this rate. The resulting proposed rate is shown below:

$$\begin{aligned} &\text{Rate for any LED luminaire of any certified Wattage} \\ &= \text{LED Luminaire Wattage} \times \$0.0307 \text{ per Watt per Month} \end{aligned}$$

The Company proposes to continue to estimate a monthly kWh usage for these lighting fixtures and compute and include a fuel clause charge in the monthly billing statement as is presently done for the unmetered HPS fixtures.

(7) Proposed Effective Date of Modified Rate

The Company would respectfully request the LED Street Lighting System Service Tariff option become effective and available on the date of a Commission Order approving this petition.

(8) Approximation of Annual Amount of Increase or Decrease in Revenue

The Company estimates that the adoption of LED luminaires in Sioux Falls will reduce annual revenues to Xcel Energy by about \$120,000 per year.

(9) Points Affected

This petition and these proposed changes will apply to all customers in South Dakota, however this change will principally affect street lighting within the City of Sioux Falls, SD as the City is moving forward with replacing existing high pressure sodium street lights with LED lights that operate at a significantly lower power level.

(10) Estimation of the Number of Customers Whose Cost of Service Will be Affected and Annual Amounts of Either Increases or Decreases, or Both, in Cost of Service to Those Customers

This proposal principally affects only one customer known collectively as the City of Sioux Falls.

(11) Statement of Facts, Expert Opinions, Documents and Exhibits to Support the Proposed Changes

Attachment 1 provides a calculation of the rates on a per Wattage basis of LED technologies converting the annual estimated energy use into a non-metered per street light rate.

Following is the tariff sheet containing the modifications necessary to implement the additional LED rate:

South Dakota Electric Rate Book – SDPUC No. 2

Street Lighting Energy Service Rate Code E31

Section No. 5

5th Revised Sheet No. 58

We provide the proposed tariff sheet in legislative format as Attachment 2 to this filing.

CONCLUSION

Xcel Energy respectfully requests that the Commission approve the Company's proposed tariff for a non-metered customer-owned LED street lighting rate as an addition to our existing Street Lighting Energy Service. We believe that approving the proposed tariff changes to this lighting tariff is necessary in order to accommodate the adoption of LED street lighting in our South Dakota communities, and to provide adequate, efficient and reasonable service to our customers.

Dated: October 15, 2015

Northern States Power Company

Northern States Power Company
 State of South Dakota

Docket No. EL15-____
 Attachment 1
 Page 1 of 1

Proposed Unmetered LED Rate Development

Method

- X Watts (Certified LED Luminaire Demand)
- / Divided by 1000 Watts per kW
- x Multiplied by 4160 hours of darkness per year
- = Yields the estimated annual energy in kWh estimated to be consumed by this luminaire
- x Multiplied by Metered street light rate plus average per kWh rate for fixed charges
- / Divided by 12 months
- = Yields a monthly rate per luminaire needed to cover the revenue requirements

Development of Rate

- \$ 0.05699 per kWh on file for Metered street lights
- \$ 0.03153 per kWh rate to account for fixed charges (\$5/year/average LED kWh)⁽¹⁾
- \$ 0.08852 per kWh total Average rate
- 4160 Street light operating hours per year
- 1000 Conversion factor to convert Watts to kW
- 12 Months per year
- \$ 0.0307 Monthly rate applied to Wattage of LED luminaire

Example

- 37 LED Watts certified as a replacement for a 100 Watt High Pressure Sodium lamp
- \$ 0.0307 Monthly rate to be applied to the Wattage of the luminaire
- \$ 1.14 Monthly Rate per Luminaire for this particular location (Flat rate equivalent)

(1) Fixed cost per kWh rate development				
HPS W	Units	LED W	LED kWh	\$ / Yr / kWh
100	5,461	37	154	\$0.03248
150	64	65	270	\$0.01849
250	163	155	645	\$0.00775
400	18	244	1,015	\$0.00493
	<u>5,706</u>			<u>\$0.03153</u> Wtd Ave

Northern States Power Company
State of South Dakota

Docket No. EL15-____
Attachment 2

Northern States Power Company, a Minnesota corporation
Minneapolis, Minnesota 55401
SOUTH DAKOTA ELECTRIC RATE BOOK - SDPUC NO. 2

STREET LIGHTING ENERGY SERVICE
(Continued)
RATE CODE E31

Section No. 5
5th Revised Sheet No. 58
Cancelling 4th Revised Sheet No. 58

RATE (Continued)

GROUP IV

<u>Designation of Lamp</u>	<u>Monthly Rate per Luminaire - AN</u>	
175W Mercury	\$4.42	
70W High Pressure Sodium	\$2.02	
100W High Pressure Sodium	\$2.68	
150W High Pressure Sodium	\$3.79	
250W High Pressure Sodium	\$6.48	
400W High Pressure Sodium	\$9.94	
<u>LED lamp of any Wattage per Watt (1)</u>	<u>\$0.0307</u>	<u>N</u>
Metered Ornamental net per kWh (1)	\$0.05999	

(1) Available to existing installations only

FUEL CLAUSE

Bills subject to the adjustment provided for in Fuel Clause Rider.

OTHER RIDERS

Bills are subject to the adjustments provided for in the Transmission Cost Recovery Rider, the Environmental Cost Recovery Rider, the Demand Side Management Cost Adjustment Factor and the Infrastructure Rider.

LATE PAYMENT CHARGE

A late payment charge of 1% of the unpaid balance will be added to the next month's bill after the date due.

OTHER PROVISIONS

This schedule is also subject to provisions contained in Rules for Application of Street Lighting Rates.

Date Filed: 06-23-14	By: Christopher B. Clark	Effective Date: 07-01-15
	President, Northern States Power Company, a Minnesota corporation	
Docket No. EL14-058		Order Date: 06-16-15