

Staff Briefing Papers

Meeting Date April 25, 2019 Agenda Item 1**

Company Northern States Power Company dba Xcel Energy

Docket No. **E002/M-18-729**

In the Matter of Xcel Energy's Petition for Approval of Lighting Tariff Revisions to Include Light Emitting Diode (LED) Options.

Issues Should the Commission approve Xcel Energy's Petition of Lighting Tariff Revisions to include LED Options?

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Relevant Documents

Date

Xcel Energy Petition for Revisions to Lighting Tariff	November 21, 2018
Department of Commerce Comments	January 22, 2019
The Suburban Rate Authority Reply Comments	February 1, 2019
Xcel Energy Reply Comments	February 1, 2019
Department of Commerce Response to Reply Comments	March 14, 2019
Xcel Energy Letter	April 10, 2019

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The attached materials are work papers 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.

I. Statement of the Issues

Should the Commission approve Xcel Energy's Petition of Lighting Tariff Revisions to Include LED Options?

II. Xcel Petition of Lighting Tariff Revisions to Include LED Options

On November 21, 2018, Xcel Energy (Xcel or the Company) filed a Petition requesting that the Commission approve tariff revisions to accommodate additional offerings of Light Emitting Diode (LED) street lighting and protective lighting options. Specifically, Xcel requested that the Commission approve Xcel's proposal to add LED service options to the Company's Automatic Protective Lighting Service (Rate Code A07) and Xcel's proposal to add LED service options to the Company's Street Lighting Energy Service (Closed) (Rate Code A32). Xcel also requested the Commission approve Xcel's proposal to close the Street Lighting Service- City of St. Paul (Closed) (Rate Code A37) to new fixtures.¹

According to Xcel, the proposed tariff revisions respond to customer interest in additional LED lighting options and increased energy efficiency and will help customers transition to more energy-efficient lighting options and provide cost savings.²

A. Proposed Revision to Automatic Protective Lighting Service (Rate Code A07)

Xcel proposed to add LED rate options comparable to the existing lamps in the Area Units section of Automatic Protective Lighting (APL) Service. Xcel stated APL service includes lighting equipment, maintenance and energy at flat monthly rates for area and directional lighting with High Pressure Sodium (HPS) and Mercury Vapor (MV) lamps at different wattage levels. In addition to the flat monthly rate, Xcel noted customers are also billed the applicable fuel cost rate for lighting energy usage.³

Xcel stated that LED fixtures will be installed after the failure of current HPS and MV lamps in service. According to Xcel, it provides service to approximately 20,000 APL Area Units in Minnesota and it anticipates a complete replacement with LED lighting over the next several years.⁴

Xcel noted that the LED wattages comparable to HPS lighting for APL service are based on the specific LED fixtures the Company expects to provide for this service. According to Xcel, a 100 Watt HPS light fixture is comparable to a 43 Watt LED fixture and a 250 Watt HPS is comparable to 157 Watt LED.⁵ Xcel proposed a monthly rate for 43W LED APL service is \$7.67, which Xcel noted is \$0.04 cheaper than the 2019 monthly rate for 100W HPS APL service. The Company's

¹ *Id.*, pp. 1, 4.

² *Id.*, pp. 2-3.

³ *Id.*, p. 4.

⁴ *Id.*, p. 5.

⁵ *Id.*, See Table 1 on p. 5.

proposed monthly rate for 157W LED APL service is \$11.72, which Xcel noted is \$0.58 cheaper than the 250W HPS APL service. A Comparison of the LED and HPS APL service is given in Table 1 Below:⁶

Table 1: Comparable HPS and LED APL Service

HPS (Watts)	HPS Rate (\$/Mo.)	LED (Watts)	LED Rate (\$/Mo.)
100W	\$7.71	43W	\$7.67
250W	\$12.30	157W	\$11.72

According to Xcel, the base rate reductions shown in the table above are the result of the reduction in energy and demand usage when HPS fixtures are replaced with LEDs and maintenance cost reductions. Xcel also explained that higher revenue requirement associated with the capital cost of LED lighting offsets much, but not all, of the energy and maintenance savings.⁷

Xcel noted further that the lower energy usage of the LED fixtures, in addition to yielding some base rate energy savings for customers, will also result in a reduction in the Fuel Clause charge, which will lead to further reductions to the customer's bill. Xcel estimated the monthly bill impact for a customer receiving a new 43W LED fixture will be a monthly savings of \$0.64 or 7.4% relative to the current HPS 100W bill and \$1.80 or 12.1% for a customer receiving a new 157W LED fixture in comparison to a current HPS 250W bill.⁸

B. Proposed Revision to Street Lighting Energy Service (Closed) (Rate Code A32)

Xcel stated it also provides energy-only service at a flat monthly rate for HPS and MV lamps at different wattage levels, for customers that own a Company approved street lighting system. According to Xcel, customers on the Street Lighting Energy Service tariff are billed the applicable fuel cost rate for lighting energy usage. Xcel proposed an LED option for customers currently on this rate, so that the customers can take advantage of the lower fuel costs associated with LED.⁹

Although this tariff is closed to new fixtures, Xcel stated the proposed rates will allow customers to upgrade existing HPS and MV fixtures already served on this tariff to LED fixtures. Xcel explained that five LED base rates based on wattage ranges are proposed, consistent with the current Street Lighting System Service tariff. Xcel explained further that the proposed LED rates are the same as the corresponding HPS rates to allow an even billing and revenue

⁶ *Id.*, See Table 2, p. 6.

⁷ *Id.*

⁸ *Id.*, p. 6.

⁹ *Id.*, p. 4.

recovery transition from the existing HPS lighting units that represent 90 percent of current lights on the tariff.¹⁰

According to Xcel, customers using the LED option will have reduced fuel cost charges from the lower LED energy usage, even though the proposed tariff revision does not address the base rate level. Xcel stated that additional analysis is required for the non-fuel portion of the rate and the Company intends to revisit the base rate level for the closed service at the time of its next rate case.¹¹

C. Proposed Revision to Street Lighting Service – City of St. Paul (Closed) (Rate Code A37)

In its Petition, Xcel also proposed to close the Street Lighting Service- City of St. Paul to new fixtures. Xcel noted that the City has reduced the number of lighting units on this tariff over the last ten years from about 2400 lighting units to under 1700 lighting units. Xcel explained that its proposal would retain the tariff and its availability to existing lighting applications, but discontinue its availability to new lighting fixtures.¹²

According to Xcel, this City of St. Paul Lighting service arrangement provides for the City to own and maintain the lamp units, lamps, photocells and glassware, and for the Company to own and maintain the distribution system and fixture hangers, and to furnish energy. Xcel explained that the tariff was established over 40 years ago and is inconsistent with other lighting services and a statewide tariff approach. Xcel stated that closing this tariff would allow an orderly transition to other lighting services.¹³

III. Department of Commerce Comments

In its January 22, 2019 Comments, the Department of Commerce (Department) preliminary recommended that the Commission:¹⁴

- Approve Xcel’s proposed Automatic Protective Lighting (A07) LED additions, once the Company provides a reasonable estimate for avoided Relamp Maintenance Costs and overall rate of return of 7.00 percent (pre-tax);
- Approve Xcel’s proposed addition of LED options to the Street Lighting Energy Service (A32) rate, using the rates proposed by the Department, and;
- Add an additional LED option to the Street Lighting Energy Service (A32) rate for 200W equivalent lamps.

¹⁰ *Id.*, pp. 6-7.

¹¹ *Id.*, p. 7.

¹² *Id.*, pp. 7-8.

¹³ *Id.*, p. 7.

¹⁴ The Department of Commerce Comments, p. 13

The Department also requests that Xcel provide the following in Reply Comments:¹⁵

- A discussion addressing concerns raised by the Suburban Rate Authority and the City of Minneapolis in Xcel's 2015 Rate Case;
- A clarification as to why the peak, transmission, and distribution costs were different between the A07 and A30 calculations,
- An updated calculation of incremental capital costs reflecting a pre-tax rate of return of 7.00 percent and;
- Demonstration that Xcel fully informed the City of Saint Paul regarding the proposal to close A37 to new lights, specifically noting whether Saint Paul was informed about the future costs of metering lights and LED lighting options.

In addition, the Department suggested that the Suburban Rate Authority and the City of Minneapolis may wish to weigh in on the street lighting issues addressed in Xcel's 2015 Rate Case.

A. 2015 Rate Case Settlement

The Department stated it was initially concerned that any proposed changes to LED lights would not conform to the terms of the 2015 Rate Case Settlement. According to the Department, Xcel clarified that the Settlement only applied to rate code A30, the Street Lighting System Service rate, and did not include either A07 or A32. However, the Department recommended that, since the LED Street Lighting issues included in the Settlement were issues raised by Suburban Rate Authority and City of Minneapolis, these parties should weigh in on these issues.¹⁶

The SRA responded to the Department's request for the SRA and the City of Minneapolis to respond to Xcel's filing and provide input regarding the relationship of this LED filing and the rate case settlement approved in Docket No. 15-826. The SRA stated it had been in contact with the City of Minneapolis on this docket but filed Reply Comments only on its own behalf. The SRA stated further that it was informed by the City that it would not be filing Reply comments. The SRA stated it agreed with Xcel that the subject of the Settlement was Xcel's planned A30 changeover to LED lighting as proposed in Docket No. 15-826.¹⁷

After reviewing Xcel's Reply Comments, the Department stated it is satisfied that recalculating the A07 rates now will likely not cause problems for parties when A07 rates are recalculated in the Company's upcoming rate case.¹⁸

¹⁵ *Id.*

¹⁶ *Id.*, p. 10.

¹⁷ The Suburban Rate Authority Reply Comments, pp. 1-2 and fn 1.

¹⁸ The Department of Commerce Response to Reply Comments, p. 2.

B. Automatic Protective Lighting Service (Rate Code A07)

The Department concluded that most of Xcel's proposed LED tariff revision were reasonable for the A07 lights, with a few exceptions described below.¹⁹

The Department disagreed with Xcel's calculation of the incremental capital costs for the light fixtures. While this amount is offset by other energy and maintenance savings, the Department argued that the calculation of incremental capital costs is too high. Rather than the pre-tax rates of return of 7.08 percent for the A07 lights, the Department claimed that pre-tax rate of return should be 7.00 percent. The Department explained that this amount reflects the Department's calculation of revenue requirements in the 2015 Rate Case on which the settlement in that proceeding was based, and is confirmed by the Department's April 2, 2018 analysis in Docket No. E002/M-17-797. The Department requested that Xcel update its calculated incremental capital costs to reflect a pre-tax rate of return of 7.00 percent.²⁰

In addition, to calculate the LED rates, the Department noted that Xcel proposed a treatment similar to what was used for Street Lighting System Service (A30) in Docket 15-920. In its Comments, the Department detailed the Company's A07 rate treatment, and compared it to the A30 rate treatment approved in Docket 15-920. In this analysis, the Department noted Xcel used different demand cost assumptions for the A07 lights versus the A30 lights calculated in the Docket No. E002/M-15-920 and the Department requested that Xcel provide clarity regarding peak, transmission, and distribution demand costs for the A07 versus the A30 lights in its Reply Comments.²¹ Xcel addressed the Department's concern in Reply Comments and after a review of Xcel's clarification on Demand cost assumptions for the A07 lights versus the A30 lights (calculated in Docket No. E002/M-15-920), the Department stated it was satisfied with the Company's response and clarification.²²

The Department also noted that to obtain the Relamp Avoided HPS Maintenance Costs, Xcel divided a Relamp Expense Forecast (\$0) by Number of Rate Code A30 Lights (109,872), resulting in \$0 avoided Relamp Savings. According to the Department, this was the same calculation used by the Company to calculate the A30 LED Rates, except that in the A30 calculation, the Company used a Relamp Expense Forecast of \$502,344 instead of \$0, resulting in a per-light Relamp Expense Savings of \$4.57 as opposed to \$0. The Department stated it was unclear as to Xcel's treatment of Avoided Relamp Maintenance Costs in comparison to A30 and recommended that Xcel address this concern about the assumed \$0 Avoided Relamp Maintenance Costs in its Reply Comments.²³

¹⁹ The Department of Commerce Comments, p.10.

²⁰ *Id.*

²¹ *Id.*, pp. 5-6, 10-11.

²² The Department of Commerce Response to Reply Comments, pp. 2-3.

²³ The Department of Commerce Comments, pp. 4, 11.

C. Street Lighting Energy Service (Closed) (Rate Code A32)

For the Street Lighting Energy Service (Closed) (A32), the Department noted that Xcel proposed to keep the same rates for the LEDs as they had for the HPS lights. The Department concluded that this was unreasonable. The Department explained that Xcel proposed to keep the A32 LED rates the same as the HPS equivalents, without an analysis supporting this proposal and without an explanation for why the proposed treatment should differ from the proposal for the A07 and A30 rates. Because the proposed A32 treatment is inconsistent with the reductions in rates for A07 and A30 rates, the Department concluded that Xcel has not justified the differing rate treatments.²⁴

In its Comments, the Department provided its proposed calculation for the appropriate rate treatment for the A32 lights, using the same template the Company used for the A07 and A30 lights. Since the A32 lights are customer-owned and maintained, the Department assumed \$0 in avoided maintenance costs and incremental LED capital costs, and instead only captured the avoided non-fuel energy and demand costs of the equivalent HPS lights. The Department used the annual HPS and LED energy usages provided in Docket 15-920, and estimated usage when necessary. The Department calculated the following rates:²⁵

Table 2. Current HPS Energy Service and Department's Proposed LED Energy Service Equivalent Lighting Rates

	70W/<30W	100W/30-45W	150W/50-75W	250W/110-165W	400W/200-250W
Energy-Only HPS Rates (\$/light/month)	\$1.74	\$2.32	\$3.17	\$5.34	\$8.12
Energy-Only LED Rates (\$/light/month)	\$1.06	\$1.34	\$1.85	\$3.44	\$5.14
Increase/(Decrease)	(0.68)	(0.98)	(1.32)	(1.90)	(2.98)

In addition, the Department stated it was unclear as to why Xcel did not propose an LED rate for 200W equivalent lights, as there appears to be a gap between the 50W-75W LEDs and the 110W-165W LEDs. The Department suggested that an additional rate should be added to cover this gap, and that the rate should be calculated in a similar manner as the table above.²⁶ Xcel responded in reply Comments, and the Department accepted Xcel's response, that the addition of 200W equivalent LED lights would not be necessary or appropriate at this time.²⁷

²⁴ *Id.*, pp. 8, 11.

²⁵ *Id.*, pp. 11-12.

²⁶ *Id.*, p. 12.

²⁷ The Department of Commerce Response to Reply Comments, p. 5.

D. Street Lighting Service – City of St. Paul (Rate Code A37)

The Department expressed a concern in its Comments that Xcel’s proposal regarding the City of Saint Paul was not fully explained. Therefore, the Department requested that Xcel show in its Reply Comments that it informed the City of Saint Paul about the cost responsibility of future metered lighting, and about what will happen should Saint Paul wish to pursue LED lighting.²⁸

Xcel responded in reply Comments and the Department concluded that, given that the City does appear to be moving the direction of metering its lights as it converts to LEDs, as demonstrated by the reduction in A37 lights over the past ten years, the City appears to be willing to move along with Xcel’s proposed changes. Therefore, the Department stated it was not opposed to the Company’s proposal to close the A37 rate code to new fixtures.²⁹

IV. Xcel Energy Reply Comments

On February 1, 2019, Xcel submitted its reply comments and addressed each of the Department’s concerns outlined in its January 22, 2019 Comments. The Department was satisfied with several of Xcel’s responses, explanations and clarifications with the exceptions of the concerns described below.

1. APL (A07) - Incremental Capital Costs

Xcel provided an updated calculation of incremental capital costs reflecting a pre-tax rate of return of 7.00 percent, as requested by the Department. According to Xcel, the impact of lowering the pre-tax rate from 7.08 to 7.00 percent is decrease in APL base rates of \$0.01 per month. However, Xcel stated it continued to support a 7.08 percent tax rate as proposed in its Petition. Xcel claimed that the calculation of the 7.08 percent rate is consistent with the 9.20 percent return on equity (ROE) which is stated in the Stipulation of Settlement filed and approved in Docket No. E002/GR-15-826 at the bottom of page 6.³⁰

2. APL (A07) – Relamp Savings

In response to the Department’s concern that Xcel did not include any relamping savings for APL (A07), Xcel had originally stated in its Reply Comments that including a relamp saving in the A07 rates is premature at this time and unnecessary in the future.³¹ However, in its Letter filed on April 10, 2019, Xcel stated that it no longer objected to the Department’s recommendation to use an avoided relamp maintenance value of \$4.57 per light.³²

3. Street Lighting Energy Service (A32) – Proposed Rates

²⁸ The Department of Commerce Comments, pp. 12-13.

²⁹ The Department of Commerce Response to Reply Comments, pp. 3-4.

³⁰ Xcel Reply Comments, p. 2.

³¹ *Id.*, pp. 2-3.

³² Xcel Letter, April 10, 2019.

In response to the Department recommended adjustments to reduce proposed LED base rates for the Street Lighting Energy Service (A32) tariff, Xcel stated that this recommendation would reduce its opportunity to meet the Company's authorized lighting revenue requirement without a corresponding cost reduction. Xcel explained that the code A32 tariff included in the Company's Petition is an energy-only lighting service that does not include any street lighting facilities provided by the Company and A32 lighting service was not addressed or included in the Company's Settlement in the 2015 rate case. Because the Xcel's non-fuel costs will not be reduced, Xcel claimed the level of its proposed rates are appropriate as a transitional rate level until all related issues can be reviewed and considered in its next electric rate case. Xcel noted that the fuel cost charges associated with the proposed A32 base rates for LED lighting would be reduced to recognize reduced energy usage.³³

V. The Department of Commerce Response Comments and Final Recommendations

On March 14, 2019, the Department filed response comments to the February 1, 2019 Reply Comments of Xcel. The Department recommended that the Commission approve Xcel's Petition, with modifications. The Department recommended that the Commission:

- Approve Xcel's proposed Automatic Protective Lighting (A07) LED additions, using a pre-tax rate of return of 7.00 percent and an avoided relamp maintenance value of \$4.57/light;
- Approve Xcel's proposed addition of LED options to the Street Lighting Energy Service (A32) rate, using the rates proposed by the Department in Table 4 of the Department's January 22, 2019 Comments, and;
- Approve Xcel's proposal to close its City of Saint Paul (A37) rate to new lights.

After reviewing Xcel's reply comments the Department had the following concerns:

1. APL (A07) - Incremental Capital Costs

The Department thanked Xcel for providing the requested calculation or updated rates based on a 7.00 percent rate of return, which led to a decrease in A07 rates of \$0.01 per month. The Department noted that Xcel continued to support the 7.08 percent pre-tax rate of return, but reiterated that it continued to recommend that the Commission require the Company to use the 7.00 percent pre-tax rate of return.³⁴

2. Street Lighting Energy Service (A32) – Proposed Rates

In its January 22, 2019 Comments, the Department noted that the Company did not capture cost savings attributable to LEDs in its proposed A32 LED additions. The Department provided

³³ Xcel Reply Comments, p. 4.

³⁴ The Department of Commerce Response to Reply Comments, p. 3.

alternative rates to capture these cost savings, using the Company's calculation methodology. The Company responded that using the Department's proposed A32 rates would reduce the Company's opportunity to meet its authorized lighting revenue requirement without a corresponding cost reduction. The Department agreed that typically, it does not support making changes to rates as many changes to a utility's system occur between rate cases.

However, the Department noted that Xcel proposed different rates for non-LEDs and LEDs in both the A30 and A07 rates, but proposed to keep A32 rate non-LED and LED rates the same. The Department argued that this proposal is not a consistent application of treatment of street lighting rates. The Department concluded that Xcel has not justified treating the A32 lights differently than the A30 or A07 lights, and that Xcel should use the Department's proposed A32 rates (table 2 above), as they are consistent with other lighting rate treatments and also capture cost savings associated with LED lighting.³⁵

VI. Staff Analysis

The Decision before the Commission is whether to approve Xcel's Petition as submitted, or to approve Petition with modifications as recommended by the Department. The Department's modifications are: use of a 7.00 percent pre-tax rate of return and an avoided relamp maintenance value of \$4.57 per light for APL A07 LED additions; and the use of Department's proposed rates for Street Lighting Energy Service (A32).

A. Modifications to Automatic Protective Lighting (A07) LED rates

The Department recommended modifications to Xcel's proposed tariff revisions for the LED additions to the APL (A07) included the use a pre-tax rate of return of 7.00 percent instead of the Xcel proposed pre-tax return of 7.08 percent and a the use of an avoided relamp maintenance value of \$4.57 per light. Xcel did not object to the recommendation to use an avoided relamp maintenance value of \$4.57 per light, but Xcel continued to support the use of a 7.08 percent pre-tax rate of return.

In calculating the incremental Capital Revenue Requirement for LED Light fixtures, Xcel used a pre-tax rate of return of 7.08 percent. The Department stated that this is too high and recommended that:³⁶

...the pre-tax rate of return should be 7.00 percent. This amount reflects the Department's calculation of revenue requirements in the 2015 Rate Case on which the settlement in that proceeding was based, and is confirmed by the Department's April 2, 2018 analysis in Docket No. E002/M-17-797.

Xcel responded to the Department's concern as follows:³⁷

³⁵ *Id.*, p. 5.

³⁶ The Department of Commerce Comments, p. 10.

³⁷ Xcel Energy Reply Comments, p. 2.

The Company's calculation of the 7.08 percent rate is consistent with the 9.20 percent return on equity which is stated in the Stipulation of Settlement filed and approved in Docket No. E002/GR-15-826 at the bottom of page 6.

Xcel provided an updated calculation of incremental capital costs reflecting a pre-tax rate of return of 7.00 percent, as requested by the Department. According to Xcel, the impact of lowering the pre-tax rate from 7.08 to 7.00 percent is a decrease in APL base rates of \$0.01 per month.

Staff agrees with Xcel that the 7.08 percent rate is consistent with the approved Stipulation of Settlement. Staff notes that Xcel's 2015 rate case was a multi-year rate case and the Stipulation of Settlement set forth a different rate of return for each year based on 9.20 percent ROE. For reference, in the settlement approved by the Commission the rate of returns for each year are as follows: 2016 – 7.07%, 2017 and 2018 – 7.09%, and 2019 – 7.08%.³⁸

Staff notes that the Department analysis, in Docket No. E002/M-17-797, calculated a different ROE than was approved in the 2015 rate case and proposed the Commission authorize a ROE of 8.99 percent in Docket No. 17-797. The Department recommended further that the Commission require the Company to use the 8.99% ROE in all dockets filed by the Company that require an ROE until the Commission issues an order in the Company's next rate case authorizing a different ROE.³⁹

Staff notes that the Commission has not yet issued an Order in Docket No. E002/M-17-797, nor has the Commission authorized an 8.99 percent ROE for the current docket at this time.

B. Modifications to Street Lighting Energy Service (A32) rates

For the Street Lighting Energy Service (Closed) (A32), Xcel proposed to keep the same rates for the LEDs as they had for the HPS lights. The Company stated that even though lighting rates wouldn't be reduced, customers would experience savings through fuel rates. The Department

³⁸ Docket No. E002/GR-15-826, *In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota*, Stipulation of Settlement, Attachment 5, p. 1.

	2016			2017			2018			2019		
	Rate	Ratio	Wtd Cost	Rate	Ratio	Wtd Cost	Rate	Ratio	Wtd Cost	Rate	Ratio	Wtd Cost
Short Term Debt	1.84%	1.26%	0.02%	3.57%	1.46%	0.05%	4.45%	1.09%	0.05%	4.31%	1.69%	0.07%
Long Term Debt	4.81%	46.24%	2.22%	4.81%	46.04%	2.21%	4.77%	46.41%	2.21%	4.75%	45.81%	2.18%
Common Equity	9.20%	52.50%	4.83%	9.20%	52.50%	4.83%	9.20%	52.50%	4.83%	9.20%	52.50%	4.83%
Total			7.07%			7.09%			7.09%			7.08%

³⁹ Docket No. E002/M-17-797, *In the Matter of a Petition of Northern States Power Company, doing business as Xcel Energy, for Approval of its Transmission Cost Recovery Rider*, Department of Commerce Comments, April 2, 2018, p. 13.

concluded that keeping the same rates for LED as HPS is unreasonable. The Department provided a proposed calculation of the appropriate rate treatment for the A32 lights, using the same template that Xcel used for the A07 and A30 lights. Since the A32 lights are customer-owned and maintained, the Department assumed \$0 in avoided maintenance costs and incremental LED capital costs, and instead only captured the avoided non-fuel energy and demand costs of the equivalent HPS lights. The Department used the annual HPS and LED energy usages provided in Docket 15-920, estimated usage when necessary, and calculated the following rates:

Table 3. Current HPS Energy Service, Xcel and the Department’s Proposed LED Energy Rates

	70W/<30W	100W/30-45W	150W/50-75W	250W/110-165W	400W/200-250W
Energy-Only HPS Rates (\$/light/month)	\$1.74	\$2.32	\$3.17	\$5.34	\$8.12
Xcel proposed Energy-Only LED Rates (\$/light/month)	\$1.74	\$2.32	\$3.17	\$5.34	\$8.12
Department proposed Energy-Only LED Rates (\$/light/month)	\$1.06	\$1.34	\$1.85	\$3.44	\$5.14
Increase/(Decrease)	(0.68)	(0.98)	(1.32)	(1.90)	(2.98)

According to Xcel, the Department’s recommendation would reduce its opportunity to meet its authorized lighting revenue requirement without a corresponding cost reduction. Xcel explained that because, the rate is closed, additional analysis is required for the non-fuel portion of the rate. Xcel claimed its proposed rates are appropriate as a transitional rate level until all related issues can be reviewed and the base rate level, including the non-fuel portion of the rate, can be considered in Xcel’s next electric rate case.

Xcel appears to have acknowledged that the city-owned LED lights offered in the street lighting will have an impact on the non-fuel portion of base rates and that this would be addressed in the next rate case. While Staff agrees with Xcel that the Department’s recommendation would reduce Xcel’s opportunity to meet its authorized lighting revenue requirement without a corresponding cost reduction, Staff believes that the Department has made a reasonable estimate of cost reductions using evidence from Docket 15-920 and Xcel has not shown why this estimate for the reduced costs of LED lights is not accurate or reasonable. Staff does not believe that it is reasonable to assume that LED non-fuel costs will remain the same as HPS lights and this assumption would allow Xcel an opportunity to exceed its lighting revenue requirement, due to cost reductions for LED lights. Staff believes that the Department’s estimation for avoided non-fuel energy and demand costs, given in table 3 above, is reasonable.

VII. Decision Options

- A. Approve Xcel Energy's Petition of Lighting Tariff Revisions to include LED Options.**
- B. Approve Xcel Energy's Petition of Lighting Tariff Revisions to include LED Options with the following Department proposed modifications:**
 - 1. Use a pre-tax rate of return of 7.00 percent instead of the Xcel proposed pre-tax return of 7.08 percent for calculating Automatic Protective Lighting (A07) LED rates;
 - 2. Apply an avoided relamp maintenance value of \$4.57/light for calculating Automatic Protective Lighting (A07) LED rates;
 - 3. Adopt the Department proposed Energy-Only LED Rates for Street Lighting Energy Service (A32) rates
- C. Deny Xcel Energy's Petition of Lighting Tariff Revisions to include LED Option.**

Staff Recommends the Commission adopt decision options B(2) and B(3), but not decision option B(1)