

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger
Nancy Lange
Dan Lipschultz
Matthew Schuerger
John Tuma

Chair
Commissioner
Commissioner
Commissioner
Commissioner

Amy Liberkowski
Manager, Regulatory Analysis
Xcel Energy
414 Nicollet Mall, 7th Floor
Minneapolis, MN 55401

SERVICE DATE: April 8, 2016

DOCKET NO. 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

The above entitled matter has been considered by the Commission and the following disposition made:

- 1. Approved Xcel's proposed Light Emitting Diode (LED) Street Lighting Rate, as amended in the Company's December 29, 2015 reply comments.**
- 2. Required Xcel to update the LED street lighting rates, if needed, to conform to the Commission's decisions in the Company's pending rate case, docket E-002/GR-15-826.**
- 3. Required Xcel to implement the proposed LED street lighting rates within 30 days of the date of this order.**

The Commission agrees with and adopts the recommendations of the Department of Commerce, which are attached and hereby incorporated into the Order. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION



Daniel P. Wolf
Executive Secretary

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February 18, 2016

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
Saint Paul, Minnesota 5510-2147

RE: **Response Comments of the Minnesota Department of Commerce, Division of Energy Resources**
Docket No. E002/M-15-920

Dear Mr. Wolf:

On December 29, 2015, Northern States Power Company, doing business as Xcel Energy (Xcel or the Company) filed reply comments to the comments of the Minnesota Department of Commerce, Division of Energy Resources (Department) regarding Xcel's *Petition for Approval of a Light Emitting Diode (LED) Street Lighting Rate* (Petition). The Department provides the following response to Xcel's reply comments.

In its December 14, 2015 comments, the Department requested that Xcel consider a tariff structure that would be sufficiently flexible to remain valid as technology advances. Xcel agreed and noted that, "The LED equivalent wattage we presented in our Petition is a simple average across vendor fixtures, which was calculated using a range of wattages." Xcel proposed to add the wattage ranges and their lumen equivalents to its Street Lighting System Service tariff. The Department supports Xcel's revised proposal as found in Attachment A to Xcel's reply comments.

In response to Department Information Request No. 1 requesting supporting data for the proposed LED street lighting rates, Xcel provided detailed cost information and revenue requirements.¹ The Department has reviewed the information provided and concludes that the resulting rates appear to be reasonable. However, given that Xcel is currently undergoing a rate case proceeding (Docket No. E001/GR-15-826), the Department recommends that the Commission require the Company to propose revised LED street lighting rates if needed to conform to the Commission's decisions in the rate case once those decisions have been made.²

¹ See Attachment 1 for Xcel's response to Department Information Request No. 1. The Excel spreadsheet format of Xcel's response is available upon request.

² Xcel's proposed tariff as filed in Docket No. E002/GR-15-826 does not include LED street lighting rates.

Daniel P. Wolf
February 18, 2016
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The Department recommends that the Minnesota Public Utilities Commission (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 recommends 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 Department is available to answer any questions that the Commission may have in this matter.

Sincerely,

/s/ SAMUEL WILS
Rate Analyst

SW/lt
Attachment

- Non Public Document – Contains Trade Secret Data
- Public Document – Trade Secret Data Excised
- Public Document

Xcel Energy

Docket No.: E002/M-15-920

Response To: Department of Commerce Information Request No. 1

Requestor: Samuel Wils

Date Received: December 2, 2015

Question:

Please provide detailed cost support data for each of the cost savings/increases shown in Attachment A of Xcel's initial petition.

Response:

Please see the attached spreadsheets to this response for the supporting data to Attachment A of the Company's initial petition. Workpapers for the LED streetlighting rate system service rate design are detailed in Attachment A and key input data is included in Attachment B (levelized annual revenue requirement) and Attachment C (energy and demand rates) to this response.

Preparer: Nick Paluck

Title: Rate Consultant

Department: Regulatory Analysis

Telephone: (612) 330-2905

Date: December 14, 2015

Company-Owned LED Street Lighting System Service Rate Design

Rate Code A30

Monthly LED Street Lighting Rate Design Summary

	NSP-MN			
	Per HPS/LED Street Light Equivalent			
	100W/39W	150W/65W	250W/155W	400W/246W
Current HPS Street Lighting Overhead Rates	\$9.44	\$10.15	\$12.77	\$15.50
<i>Maintenance Expense Impact (Savings)</i>	(\$0.91)	(\$0.91)	(\$0.91)	(\$0.91)
System Allocation Expense Savings	(\$0.85)	(\$1.14)	(\$1.65)	(\$2.58)
<i>Incremental Capital Revenue Requirement</i>	\$1.91	\$2.11	\$3.15	\$4.62
Net LED SL Fixture Rate Impact - Company Owned Street Lights	\$0.15	\$0.06	\$0.59	\$1.13
Proposed Monthly LED SL Overhead Rates	\$9.59	\$10.21	\$13.36	\$16.63
Current HPS Monthly Average Bill Per Street Light - Overhead	\$10.34	\$11.46	\$15.12	\$19.19
LED Fixture Impact on HPS Street Lighting Rate	\$0.15	\$0.06	\$0.59	\$1.13
Fuel & Resource Adj. Savings Estimate	(\$0.60)	(\$0.81)	(\$1.17)	(\$1.82)
Total Monthly Bill Impact (savings)	(\$0.45)	(\$0.75)	(\$0.58)	(\$0.69)
Proposed LED Monthly Average Bill Per Street Light - Overhead	\$9.89	\$10.70	\$14.54	\$18.50
<i>Percentage Savings (increase)</i>	4.4%	6.6%	3.9%	3.6%
<i>Memo: LED Fixture Rate Impact - Pre Pay Option</i>	(\$1.76)	(\$2.05)	(\$2.56)	(\$3.49)

Annual Impact of LED Fixtures on the A30 Street Lighting System Service Rate

	NSP-MN			
	Per HPS/LED Street Light Equivalent			
	100W/39W	150W/65W	250W/155W	400W/246W
Maintenance Savings				
Relamp Expense Savings	\$4.57	\$4.57	\$4.57	\$4.57
Service Order Expense Savings	\$6.36	\$6.36	\$6.36	\$6.36
Total Maintenance Savings	\$10.93	\$10.93	\$10.93	\$10.93
<i>Monthly Savings (increase)</i>	\$0.91	\$0.91	\$0.91	\$0.91
System Allocation Cost Savings				
Base Rate Energy Charge Savings	\$7.18	\$9.66	\$13.96	\$21.80
Demand Related Expense Savings	\$3.02	\$4.08	\$5.89	\$9.19
Total Maintenance Savings	\$10.20	\$13.74	\$19.85	\$30.99
<i>Monthly Savings (increase)</i>	\$0.85	\$1.14	\$1.65	\$2.58
Incremental Capital Revenue Requirement	(\$22.94)	(\$25.34)	(\$37.81)	(\$55.49)
<i>Monthly Savings (increase)</i>	(\$1.91)	(\$2.11)	(\$3.15)	(\$4.62)
LED SL Base Rate Savings (Increase)	(\$1.81)	(\$0.67)	(\$7.03)	(\$13.57)
<i>Monthly Savings (increase)</i>	(\$0.15)	(\$0.05)	(\$0.59)	(\$1.12)
Fuel & Resource Adj. Savings Estimate	\$7.20	\$9.70	\$14.00	\$21.86
<i>Monthly Savings (increase)</i>	\$0.60	\$0.81	\$1.17	\$1.82
Annual Bill Savings - LED Street Lights	\$5.39	\$9.03	\$6.97	\$8.29
<i>Monthly Savings (increase)</i>	\$0.45	\$0.76	\$0.58	\$0.70

Company-Owned LED Street Lighting System Service Rate Design

Rate Code A30

		NSP-MN Per HPS/LED Street Light Equivalent			
		100W/39W	150W/65W	250W/155W	400W/246W
Relamp Expense	Total				
Relamp Exp Forecast	\$502,344				
No. of Rate Code A30 Street Lights	109,872				
Relamp Expense Savings	\$4.57	\$4.57	\$4.57	\$4.57	\$4.57
Service Order Expense	Total				
Annual HPS Fixture Related Service Order Expense	\$698,703				
No. of Rate Code A30 Street Lights	109,872				
Service Order Expense Savings	\$6.36	\$6.36	\$6.36	\$6.36	\$6.36
Incremental Fixture & Installation Cost		100W/39W	150W/65W	250W/155W	400W/246W
Net LED Installed Cost		\$202.69	\$223.85	\$334.01	\$490.19
29-Year LARR %		11.32%	11.32%	11.32%	11.32%
LED Fixture Incremental Annual Revenue Requirement		\$22.94	\$25.34	\$37.81	\$55.49
Incremental Monthly Capital Related Revenue Requirement		\$1.91	\$2.11	\$3.15	\$4.62

Company-Owned LED Street Lighting System Service Rate Design

Rate Code A30

	Total	NSP-MN Per HPS/LED Street Light Equivalent			
		100W/39W	150W/65W	250W/155W	400W/246W
Base Rate Energy Related Expense					
Energy Related Expense Rate (Cents/kWh)	4.299¢				
Fuel Expense Rate(Cents/kWh)	2.098¢				
Base Rate Energy Related Expense Rate (Cents/kWh)	2.201¢				
HPS Annual Energy Usage (kWh)		487	711	1,277	2,005
Base Rate Energy Related Expense Rate (Cents/kWh)		2.201¢	2.201¢	2.201¢	2.201¢
HPS Base Rate Energy Related Expense		\$10.72	\$15.65	\$28.11	\$44.14
LED Annual Energy Usage (kWh)		161	272	643	1,015
Base Rate Energy Related Expense Rate (Cents/kWh)		2.201¢	2.201¢	2.201¢	2.201¢
LED Base Rate Energy Related Expense		\$3.54	\$5.99	\$14.15	\$22.34
Base Rate Energy Related Expense Saving		\$7.18	\$9.66	\$13.96	\$21.80
Demand Related Expense Savings					
HPS Demand (Watts)		117	171	307	482
HPS Demand Expense Rate (\$/kW)		\$38.60	\$38.60	\$38.60	\$38.60
HPS Demand Expense (\$/kW)		\$4.52	\$6.60	\$11.85	\$18.60
LED Annual Demand (Watts)		39	65	155	244
LED Demand Expense Rate (\$/kW)		\$38.60	\$38.60	\$38.60	\$38.60
LED Demand Expense (\$/kW)		\$1.49	\$2.52	\$5.96	\$9.42
Demand Related Expense Savings		\$3.02	\$4.08	\$5.89	\$9.19
Based Cost of Energy Estimated Savings (FCC)					
HPS Annual Energy Usage (kWh)		487	711	1,277	2,005
Base Cost of Energy Street Lighting Rate (Cents/kWh)		2.098¢	2.098¢	2.098¢	2.098¢
Base Cost of Energy Related Expense		\$10.22	\$14.92	\$26.79	\$42.06
<i>Monthly Base Cost of Energy Related Expense</i>		<i>\$0.85</i>	<i>\$1.24</i>	<i>\$2.23</i>	<i>\$3.50</i>
LED Annual Energy Usage (kWh)		161	272	643	1,015
Base Cost of Energy Street Lighting Rate (Cents/kWh)		2.098¢	2.098¢	2.098¢	2.098¢
Base Cost of Energy Related Expense		\$3.38	\$5.71	\$13.49	\$21.29
<i>Monthly Base Cost of Energy Related Expense</i>		<i>\$0.28</i>	<i>\$0.48</i>	<i>\$1.12</i>	<i>\$1.77</i>
Base Cost of Energy Related Expense Savings		\$6.84	\$9.21	\$13.30	\$20.77
Resource Adjustment Estimated Savings					
HPS Annual Energy Usage (kWh)		487	711	1,277	2,005
Resource Adjustment Street Lighting Rate (Cents/kWh)		0.1108¢	0.1108¢	0.1108¢	0.1108¢
Resource Adjustment Expense		\$0.54	\$0.79	\$1.41	\$2.22
<i>Monthly Base Cost of Energy Related Expense</i>		<i>\$0.04</i>	<i>\$0.07</i>	<i>\$0.12</i>	<i>\$0.19</i>
LED Annual Energy Usage (kWh)		161	272	643	1,015
Resource Adjustment Street Lighting Rate (Cents/kWh)		0.1108¢	0.1108¢	0.1108¢	0.1108¢
Resource Adjustment Expense		\$0.18	\$0.30	\$0.71	\$1.12
<i>Monthly Base Cost of Energy Related Expense</i>		<i>\$0.01</i>	<i>\$0.03</i>	<i>\$0.06</i>	<i>\$0.09</i>
Resource Adjustment Expense Savings		\$0.36	\$0.49	\$0.70	\$1.10

Levelized Annual Revenue Requirement Percentage Calculation

LED Streetlighting Investment

Docket No. E002/M-15-920
Information Request No. DOC-001

Attachment B

	Rate	Ratio	Pre-tax Weighted Cost	After-Tax Weighted Cost				
Capital Structure								
Long Term Debt	4.9000%	45.6000%	2.2340%					
Short Term Debt	0.6200%	1.9000%	0.0120%					
Preferred Stock	0.0000%	0.0000%	0.0000%					
Common Equity	9.7200%	52.5000%	5.1030%					
Required Rate of Return			7.3500%	6.4200%				
MN Composite Tax rate	41.37%							
Book Life	29							
ITC Rate	0%							
20 Yr MACRS	100.00%	0.0375	0.0722	0.0668	0.0618	0.0571	0.0529	0.0489
Capital Investment	\$ 1,000,000							
Net Salvage	-35.0%							
		1	2	3	4	5	6	7
		2016	2017	2018	2019	2020	2021	2022
Plant In-service								
Boys		-	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Eoy		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Average		500,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Depreciation Reserve								
Boys		0	23,276	69,828	116,379	162,931	209,483	256,034
Eoy		23,276	69,828	116,379	162,931	209,483	256,034	302,586
Average		11,638	46,552	93,103	139,655	186,207	232,759	279,310
Accumulated Deferred Taxes								
Boys		0	5,885	16,491	24,855	31,151	35,527	38,133
Eoy		5,885	16,491	24,855	31,151	35,527	38,133	39,096
Average		2,942	11,188	20,673	28,003	33,339	36,830	38,615
Average Rate Base		485,420	942,260	886,223	832,342	780,454	730,411	682,075
Debt Return		10,903	21,163	19,905	18,694	17,529	16,405	15,319
Equity Return		24,771	48,084	45,224	42,474	39,827	37,273	34,806
Book Depreciation	1,350,000	23,276	46,552	46,552	46,552	46,552	46,552	46,552
20 Yr MACRS Tax Depr	1,000,000	37,500	72,190	66,770	61,770	57,130	52,850	48,880
Removal Costs	350,000							
SL for Deferred	1,350,000	23,276	46,552	46,552	46,552	46,552	46,552	46,552
Deferred Taxes	-	5,885	10,607	8,364	6,296	4,376	2,606	963
Net Deferred ITC	-	-	-	-	-	-	-	-
O&M (input by year)	captured separately	-	-	-	-	-	-	-
Property Taxes (input by year)		-	16,000	16,000	16,000	16,000	16,000	16,000
Current Tax RR		11,594	23,322	23,546	23,675	23,726	23,695	23,597
Total Revenue Requirements		76,428	165,727	159,591	153,691	148,009	142,530	137,237
NPV Rev Req	\$ 1,473,029	71,817	146,334	132,415	119,827	108,436	98,122	88,779
LARR	\$ 113,196	113,196	113,196	113,196	113,196	113,196	113,196	113,196
LARR%		11.32%						
Total to collect from customers	\$ 1,473,029							
Annual ongoing charge	\$ 113,196							

Levelized Annual Revenue Requirement Percentage Calculation

LED Streetlighting Investment

Docket No. E002/M-15-920
Information Request No. DOC-001

Attachment B

Capital Structure

Long Term Debt
Short Term Debt
Preferred Stock
Common Equity
Required Rate of Return

MN Composite Tax rate

Book Life

ITC Rate

20 Yr MACRS

Capital Investment

Net Salvage

0.0452 0.0446 0.0446 0.0446 0.0446 0.0446 0.0446 0.0446 0.0446

8 9 10 11 12 13 14 15 16
2023 2024 2025 2026 2027 2028 2029 2030 2031

Plant In-service

1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>
1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000

Depreciation Reserve

302,586	349,138	395,690	442,241	488,793	535,345	581,897	628,448	675,000	675,000
<u>349,138</u>	<u>395,690</u>	<u>442,241</u>	<u>488,793</u>	<u>535,345</u>	<u>581,897</u>	<u>628,448</u>	<u>675,000</u>	<u>721,552</u>	<u>721,552</u>
325,862	372,414	418,966	465,517	512,069	558,621	605,172	651,724	698,276	698,276

Accumulated Deferred Taxes

39,096	38,545	37,746	36,943	36,144	35,340	34,541	33,738	32,939	32,939
<u>38,545</u>	<u>37,746</u>	<u>36,943</u>	<u>36,144</u>	<u>35,340</u>	<u>34,541</u>	<u>33,738</u>	<u>32,939</u>	<u>32,136</u>	<u>32,136</u>
38,821	38,146	37,344	36,543	35,742	34,941	34,140	33,338	32,537	32,537

Average Rate Base

635,317 589,440 543,690 497,939 452,189 406,438 360,688 314,937 269,187

Debt Return

14,269 13,239 12,211 11,184 10,156 9,129 8,101 7,073 6,046

Equity Return

32,420 30,079 27,745 25,410 23,075 20,741 18,406 16,071 13,737

Book Depreciation

46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552

20 Yr MACRS Tax Depr

45,220 44,620 44,610 44,620 44,610 44,620 44,610 44,620 44,610

Removal Costs

46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552

SL for Deferred

46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552

Deferred Taxes

(551) (799) (803) (799) (803) (799) (803) (799) (803)

Net Deferred ITC

- - - - - - - - -

O&M (input by year)

- - - - - - - - -

Property Taxes (input by year)

16,000 16,000 16,000 16,000 16,000 16,000 16,000 16,000 16,000

Current Tax RR

23,427 22,023 20,380 18,729 17,085 15,434 13,791 12,139 10,496

Total Revenue Requirements

132,117 127,094 122,084 117,075 112,065 107,056 102,046 97,037 92,027

NPV Rev Req

80,311 72,596 65,528 59,048 53,112 47,677 42,704 38,158 34,005

LARR

113,196 113,196 113,196 113,196 113,196 113,196 113,196 113,196 113,196

LARR%

Total to collect from customers

Annual ongoing charge

Levelized Annual Revenue Requirement Percentage Calculation

LED Streetlighting Investment

Docket No. E002/M-15-920
Information Request No. DOC-001

Attachment B

Capital Structure

Long Term Debt
Short Term Debt
Preferred Stock
Common Equity
Required Rate of Return

MN Composite Tax rate

Book Life

ITC Rate

20 Yr MACRS

Capital Investment

Net Salvage

0.0446 0.0446 0.0446 0.0446 0.0223

17 18 19 20 21 22 23 24 25
2032 2033 2034 2035 2036 2037 2038 2039 2040

Plant In-service

1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>
1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000

Depreciation Reserve

721,552	768,103	814,655	861,207	907,759	954,310	1,000,862	1,047,414	1,093,966	1,093,966
<u>768,103</u>	<u>814,655</u>	<u>861,207</u>	<u>907,759</u>	<u>954,310</u>	<u>1,000,862</u>	<u>1,047,414</u>	<u>1,093,966</u>	<u>1,093,966</u>	<u>1,140,517</u>
744,828	791,379	837,931	884,483	931,034	977,586	1,024,138	1,070,690	1,117,241	1,117,241

Accumulated Deferred Taxes

32,136	31,336	30,533	29,734	28,931	18,902	(357)	(19,615)	(38,874)	(38,874)
<u>31,336</u>	<u>30,533</u>	<u>29,734</u>	<u>28,931</u>	<u>18,902</u>	<u>(357)</u>	<u>(19,615)</u>	<u>(38,874)</u>	<u>(58,132)</u>	<u>(58,132)</u>
31,736	30,935	30,133	29,332	23,916	9,273	(9,986)	(29,244)	(48,503)	(48,503)

Average Rate Base

223,436 177,686 131,935 86,185 45,049 13,141 (14,152) (41,445) (68,739)

Debt Return

5,018 3,991 2,963 1,936 1,012 295 (318) (931) (1,544)

Equity Return

11,402 9,067 6,733 4,398 2,299 671 (722) (2,115) (3,508)

Book Depreciation

46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552

20 Yr MACRS Tax Depr

44,620 44,610 44,620 44,610 22,310 - - - -

Removal Costs

46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552 46,552

SL for Deferred

(799) (803) (799) (803) (10,029) (19,258) (19,258) (19,258) (19,258)

Deferred Taxes

- - - - - - - - -

Net Deferred ITC

- - - - - - - - -

O&M (input by year)

16,000 16,000 16,000 16,000 16,000 16,000 16,000 16,000 16,000

Property Taxes (input by year)

8,845 7,201 5,550 3,907 11,651 19,732 18,749 17,766 16,783

Current Tax RR

Total Revenue Requirements

87,017 82,008 76,998 71,989 67,485 63,991 61,002 58,014 55,025

NPV Rev Req

30,214 26,757 23,607 20,740 18,269 16,278 14,582 13,031 11,614

LARR

113,196 113,196 113,196 113,196 113,196 113,196 113,196 113,196 113,196

LARR%

Total to collect from customers

Annual ongoing charge

Levelized Annual Revenue Requirement Percentage Calculation

LED Streetlighting Investment

Docket No. E002/M-15-920

Information Request No. DOC-001

Attachment B

Capital Structure

Long Term Debt
Short Term Debt
Preferred Stock
Common Equity
Required Rate of Return

MN Composite Tax rate

Book Life
ITC Rate
20 Yr MACRS
Capital Investment
Net Salvage

	26 2041	27 2042	28 2043	29 2044	30 2045
Plant In-service	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>1,000,000</u>	<u>-</u>
	1,000,000	1,000,000	1,000,000	1,000,000	500,000
Depreciation Reserve	1,140,517	1,187,069	1,233,621	1,280,172	1,326,724
	<u>1,187,069</u>	<u>1,233,621</u>	<u>1,280,172</u>	<u>1,326,724</u>	<u>-</u>
	1,163,793	1,210,345	1,256,897	1,303,448	663,362
Accumulated Deferred Taxes	(58,132)	(77,390)	(96,649)	(115,907)	(135,166)
	<u>(77,390)</u>	<u>(96,649)</u>	<u>(115,907)</u>	<u>(135,166)</u>	<u>-</u>
	(67,761)	(87,020)	(106,278)	(125,537)	(67,583)
Average Rate Base	(96,032)	(123,325)	(150,618)	(177,912)	(95,779)
Debt Return	(2,157)	(2,770)	(3,383)	(3,996)	(2,151)
Equity Return	(4,901)	(6,293)	(7,686)	(9,079)	(4,888)
Book Depreciation	46,552	46,552	46,552	46,552	23,276
20 Yr MACRS Tax Depr	-	-	-	-	-
Removal Costs					350,000
SL for Deferred	46,552	46,552	46,552	46,552	23,276
Deferred Taxes	(19,258)	(19,258)	(19,258)	(19,258)	135,166
Net Deferred ITC	-	-	-	-	-
O&M (input by year)	-	-	-	-	-
Property Taxes (input by year)	16,000	16,000	16,000	16,000	16,000
Current Tax RR	15,801	14,818	13,835	12,852	(138,615)
Total Revenue Requirements	52,036	49,048	46,059	43,071	28,788
NPV Rev Req	10,321	9,141	8,066	7,088	4,452
LARR	113,196	113,196	113,196	113,196	
LARR%					

Total to collect from customers

Annual ongoing charge

NSPM - Electric Utility - State of Minnesota
Street Lighting Power Costs
2015 Test Year

Docket No. E002/M-15-920
Information Request No. DOC-001
Attachment C
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	2015
	Non-APL
	<u>Lighting</u>
1 Energy Cost	\$5,228
2 Baseload Cost	<u>\$936</u>
3 Energy + BL	\$6,164
4 MWH	143,362
5 Energy + BL per kWh	4.299¢
Energy Only	3.646¢
6 Peak Cost	\$184
7 Transmission Cost	\$6
8 Distribution Cost	<u>\$1,140</u>
9 Demand Cost Total	\$1,330
10 Unit Demand Cost per kWh	0.928¢
11 Unit Demand Cost per kW	\$38.60