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July 7, 2017



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

**RE: In the Matter of Otter Tail Power Company's Petition for Approval of the Company's proposed LED Street and Area Lighting rate schedule 11.07 and associated LED implementation plan.
Docket No. E017/M-17-152
Reply Comments**

Dear Mr. Wolf:

Otter Tail Power Company (Otter Tail) hereby submits Reply Comments to the Minnesota Public Utilities Commission (Commission) in the above referenced matter.

Otter Tail has electronically filed this document with the Commission and is serving a copy on all persons on the official service list for this docket. A Certificate of Service is also enclosed.

If you have any questions regarding this filing, please contact me at 218-739-8639 or at jgrenier@otpc.com.

Sincerely,

/S/ JASON A. GRENIER
Jason A. Grenier
Manager, Market Planning

JAG:kaw
Enclosures
By electronic filing
c: Service List

**STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

In the Matter of Otter Tail Power Company's
Petition for Approval of the Company's
proposed LED Street and Area Lighting rate
schedule 11.07 and associated LED
implementation plan.

Docket No. E017/M-17-152

**REPLY COMMENTS OF
OTTER TAIL POWER COMPANY**

I. BACKGROUND

Otter Tail Power Company (Otter Tail or the Company) files these Reply Comments in response to the Minnesota Department of Commerce's (Department) Comments filed in this matter on June 5, 2017. In reviewing the Department's comments, the Company and Department agree on several items: one of the more significant items being the proposed rates for the new LED lights included in Section 11.07. This is a very important point of agreement as many of Otter Tail's communities desire the move towards LED technology. Establishing these rates is the first step in installing new LED street lights in these communities.

Otter Tail's February 22, 2017 Petition requested approval of a new LED street light rate schedule 11.07, closure of the existing street light rate schedule 11.04, and recovery of a portion of the expenses associated with the 5-year light change-out plan through the Conservation Improvement Program (CIP) tracker account. Specifically, Otter Tail requested the costs associated with retiring the existing lights to be recovered and included in the CIP tracker account during the 5-year project: \$1.1 million in retirement expenses, \$1 million in material disposal expenses, and \$2.6 million in non-depreciated asset balance expenses. In addition, the Company requested program related costs from administration, evaluation, and CIP rebates awarded to the Company to be eligible for recovery through the CIP tracker account. Otter Tail will discuss these items in two sections: (1) the costs associated with retiring the existing lighting facilities, and (2) the costs associated with program implementation and evaluation.

II. RECOVERY OF COSTS ASSOCIATED WITH RETIREMENT OF EXISTING LIGHTS

Based on the Otter Tail's Initial Filing and Comments of the Department, Otter Tail and the Department do not completely agree on the recovery of costs created by Otter Tail's proposal for early removal, disposal, and the remaining net book value of existing lighting facilities. Avoiding stranded costs is crucial to an expedited transition to LEDs. The Department's comments on recovery are as follows:

“the Company’s Non-Depreciated Asset Balance, Retirement costs and Disposal costs associated with Section 11.04 lights are currently being recovered in base rates; recovering those costs through the CCRA by including them in the CIP tracker would result in double-recovery of the costs.”

Otter Tail agrees no double recovery should exist. Otter Tail intends only to recover those costs which are not already being recovered in base rates. The Company recognizes the Department’s concerns with some aspects of the LED proposal and suggests some modifications later in these Reply Comments.

Otter Tail’s aggressive 5-year mass change out plan requires the proper recovery mechanisms for the plan to be implemented. It is important to recognize the existing lighting facilities are in working order and have an existing remaining life of approximately 16 years. Retiring these lighting facilities early creates additional costs for Otter Tail which must be recognized. Otter Tail calculated its initial proposal so not to affect future depreciation rates and to collect the costs associated with early retirement (removal, salvage and remaining value) in the year of retirement. Table 1 below is a summary of Attachment 1, which uses Otter Tail’s initial proposal, to these comments. Table 1 shows the 2016 amount of \$2,565,974 included in rate base and all adjustments to this amount to a final 2016 Base Revenue Requirement of \$1,016,742. The values shown in years 2017-2019 illustrate the impact this project has on the revenue requirements for Otter Tail’s initial proposal. The Non-Recovered Revenue Requirement line shows each year the revenue requirement, not being recovered, increases by approximately \$746,107 to \$794,664 as new lights are added to the system and existing lights are retired early and the early retirement expenses are included in the project. Table 1 is based on Otter Tail’s latest approved return on rate base of 7.5056 percent, existing tax rates, and capital structure.

Table 1

	2016	2017	2018	2019	2020	2021
Rate Base	\$2,565,974	\$3,551,616	\$4,510,466	\$5,442,523	\$6,347,787	\$7,226,258
Return on Rate Base (7.5056%)	\$192,592	\$266,570	\$338,538	\$408,494	\$476,440	\$542,374
O and M	\$563,103	\$563,103	\$450,483	\$337,862	\$225,241	\$112,621
Depreciation	\$180,000	\$170,427	\$197,220	\$224,013	\$250,806	\$277,599
Excess Depreciation		\$410,938	\$410,938	\$410,938	\$410,938	\$410,938
Removal Costs		\$239,631	\$239,631	\$239,631	\$239,631	\$239,631
Income Tax	\$81,047	\$112,179	\$142,464	\$171,903	\$200,496	\$228,243
Total	\$1,016,742	\$1,762,849	\$1,779,274	\$1,792,842	\$1,803,552	\$1,811,406
2016 Base Revenue Requirements		\$1,016,742	\$1,016,742	\$1,016,742	\$1,016,742	\$1,016,742
Non-recovered Revenue Requirement		\$746,107	\$762,532	\$776,100	\$786,810	\$794,664

Otter Tail assumes in Table 1 that future depreciation rates are not changed to avoid any double recovery associated with cost recovery of retirement expenses through the CIP tracker account. As implied earlier, the Company's initial proposal was an attempt to match costs with cost causers ensuring current rate payers pay for the costs of the expedited project. This method of recovering retirement costs as they occur was used with success in Otter Tail' 1991 CIP proceeding to replace inefficient lighting facilities. However, Otter Tail recognizes the Department's concern for unnecessarily complicating the development of revenue requirements in the Company's next rate case and proposes an alternative (more traditional) plan for recovery of retirement expenses.

III. PROPOSAL OF RECOVERY OF RETIREMENT EXPENSES

To address the Department's concerns, the Company supports a plan to retire the existing lighting fixtures without recovering any retirement costs through the CIP tracker account. The Company plans to treat the retirement of the existing lights in the traditional manner of treatment for any other asset which is retired early. The existing lighting facilities would be removed from their plant in service account balance as well as from its accumulated depreciation reserve. The accumulated depreciation reserve has not been built up enough to fully satisfy the plant in service retirement, which leaves a deficiency in the light account's accumulated depreciation reserve. This deficiency will lower reserve ratios, resulting in higher future depreciation rates throughout the lighting account's remaining life. Under this method, Otter Tail will account for the depreciation changes to its lighting accounts in its next rate case and depreciation filings.

IV. PROPOSAL TO RECOVER A RETURN ON MATERIALS CAPITALIZED

The timing of a future General Rate Case for Otter Tail is unknown. The Company strives to manage expenses to the greatest extent possible to delay such proceedings. Therefore, Otter Tail proposes to recover a rate of return on the new material costs incurred for installation through the CIP tracker account between cases. As the new LED lights are installed and capitalized, Otter Tail would include a return of 7.5056 percent on the capitalized material only (no labor) amount. The 7.5056 percent reflects the Minnesota Public Utilities Commission (MNPU) approved Return on Rate Base from the Company's latest rate case, Docket No. E017/GR-15-1033. In line with the Department's recommendations, Otter Tail is not requesting recovery of internal labor associated with construction of the new lights.

Table 5 on page 17 of Otter Tail's February 22, 2017 Petition shows annual Installation Labor and Fixture Costs of \$1,415,885. The material only portion is estimated at \$1,017,927 annually. Otter Tail proposes to include a 7.5056 percent return on the lighting materials, minus depreciation, annually in the CIP tracker account. This is shown in Table 4 in the Conclusion section of these comments. Only actual amounts will be included in the CIP tracker account as lights are replaced with new LED fixtures. Upon approval, in its next rate case, Otter Tail would move the recovery of the rate of return on the materials from CIP, and include the remaining capital balance in its base rate calculation.

V. RECOVERY OF ADMINISTRATION COST

The Department recommends only new vendor costs associated with the project should be recovered through the CIP tracker mechanism. The Company agrees with the Department to exclude any internal non-CIP labor to the project. However, the Company plans to use Otter Tail labor dedicated to other CIP programming for administration of the project and will handle administration expenses in the same manner as other CIP programs.¹ CIP program labor expenses are typically comprised of internal labor dedicated to CIP or outside vendors. The Company submits a new allocation of the administration budget in Table 2 below.

Administration costs in Table 2 include labor from internal CIP program managers and administration costs from a vendor for project management which includes sourcing, procuring, and siting materials. Like other CIP programs, only actual expenses from these sources will be charge to the program and ultimately the CIP tracker. Otter Tail plans to manage these expenses closely to ensure cost-effectiveness.

¹ CIP labor costs are recovered through base rates and the Conservation Cost Recovery Adjustment (CCRA). The CCRA is trued-up each year through Otter Tail's CIP Status Report filing.

Table 2

Administration Expenses	Expense Amount
Dedicated CIP Employees Labor	\$64,460
Vendor for Sourcing Material	\$100,000
Total Administration Expense	\$164,460

VI. CIP PROGRAM EVALUATION

Otter Tail appreciates the Department's recommendation to allow recovery of CIP evaluation expenses through the CIP tracker.

VII. CIP REBATES PAID TO COMPANY

Otter Tail appreciates the Department's recommendation to allow the Company to receive CIP rebates charged to the CIP tracker. Otter Tail looks forward to working with the Department's CIP Staff to review of these expenses in upcoming CIP Status Reports.

VIII. PROPOSED TARIFF SHEET MODIFICATIONS

Based on the Department's recommendation, Otter Tail has updated the Tariff Sheet to reflect the Commission's Order (Rate Case Order) for the Docket No. E-017/GR-15-1033, and recalculated the new LED Rates based on the adjusted revenue requirement (Attachment G MN_1107_LED lighting V1.2). After receiving the Rate Case Order, Otter Tail filed a Request for Reconsideration. If another order is issued and the revenue requirement changes such that it impacts the lighting class, Otter Tail will file the concluding Tariff Sheet to reflect the latest approved revenue requirement and would exclude any references to an Interim Rate Adjustment.²

As a clarification of the Additional Monthly Charges for the Aluminum Alloy Poles, Otter Tail stated the following in its initial filing to this Docket in the "Proposed LED Street Lighting Rates" section:

"In calculating the new fully-bundled LED lighting services, we are using a standard, approximately 30ft, wood pole and including its cost in the rate. To meet our customers' needs, we are offering an expanded option for the Aluminum Alloy Poles and pricing them separately. For customers who choose to utilize the Aluminum Alloy Pole option, the rate design will be applied in addition to the LED Light bundled costs-including the wood pole. In other words, the rates for the Aluminum Alloy Poles are incremental costs - not full costs. This arrangement insures customers are paying the associated costs for either wood or Aluminum Alloy Poles (p. 13)."

² The tariff sheet footer is being updated to reflect Bruce G. Gerhardson as Director of Regulatory Affairs and Compliance due to Thomas Brause's retirement.

Table 3 below is an extract from a workbook included in this filing as Attachment 1. The data are specifically from tab, “New Rate Design”, Columns AJ-AK. Table 3 contains Marginal Monthly Costs and calculates an incremental charge for the replacement Aluminum Poles.

TABLE 3

Line No	Pole Type	Monthly Marginal Cost	Comment
1	Alumionum Allow Standards 30'	\$17.77	Replacement Pole
2	Alumionum Allow Standards 40'	\$19.28	Replacement Pole
3	Fiberglass Standards FS18	\$4.82	Replacement Pole
4	Fiberglass Standards FS23	\$5.61	Replacement Pole
5	Standard Pole (LED5, LED8 & LED10)	\$5.14	Typical Install
6	Standard Pole (LED13 & LED20 Flood)	\$6.10	Typical Install
7	Standard Pole (LED30 Flood)	\$8.41	Typical Install
8			
9	Standards 30' Incremental Monthly Charge	\$11.67	= Line1 - Line6
10	Standards 40' Incremental Monthly Charge	\$10.87	= Line2 - Line7

IX. CONCLUSION

Otter Tail has two goals for the 5-year LED project. The first, and most important, is to provide our customers a modern street and area lighting solution which saves energy, offers superior performance, and is aesthetically pleasing. The second is to complete the project without a significant negative financial impact to the Company. Otter Tail has laid out the above proposal which accomplishes these goals. The following table summarizes Otter Tail’s request for recovery through the CIP tracker for the LED street light project.

Table 4

	2017 Year 1	2018 Year 2	2019 Year 3	2020 Year 4	2021 Year 5	5 Year Total
Otter Tail Capital Investment						
A Annual Materials - New Fixture Costs	\$1,017,927	\$1,017,927	\$1,017,927	\$1,017,927	\$1,017,927	\$5,089,634
B Gross Plant - (New Fixture Costs)	\$1,017,927	\$2,035,854	\$3,053,780	\$4,071,707	\$5,089,634	
C Depreciation (on New Fixtures 4.00%)		-\$40,717	-\$81,434	-\$122,151	-\$162,868	-\$407,171
D Net Plant (New Light Fixtures)	\$1,017,927	\$1,995,136	\$2,972,346	\$3,949,556	\$4,926,766	
Recovery through CIP Account Tracker						
E Administrative Labor Costs	\$164,460	\$164,460	\$164,460	\$164,460	\$164,460	\$822,300
F CIP Program Evaluation	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$15,000
G CIP Rebate	\$178,572	\$178,572	\$178,572	\$178,572	\$178,572	\$892,859
H Return on Materials (7.5056% of Line A)	\$76,402	\$149,747	\$223,092	\$296,438	\$369,783	\$1,115,462
Total Recovery through CIP Tracker	\$422,433	\$495,779	\$569,124	\$642,470	\$715,815	\$2,845,621

In addition to the four items proposed to be recovered through the CIP tracker account, Otter Tail proposes to recover retirement expenses through normal retirement procedures, which will likely increase depreciation rates over the life of lighting account. In conclusion, Otter Tail current proposal with the MPUC requests:

1. Approval of the proposed LED Street and Area Lighting rate schedule 11.07.
2. Approval of the closure to installation of its Outdoor Lighting Dusk to Dawn rate schedule 11.04.
3. Approval for Otter Tail to recover Administration expenses, CIP Rebates, Evaluation expenses, and a return on material investment through the CIP tracker account.

Respectfully submitted,

/s/JASON GRENIER

Jason A. Grenier
Manager, Market Planning
Otter Tail Power Company
215 S. Cascade Street
Fergus Falls, MN 565538-0496
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July 7, 2017



Fergus Falls, Minnesota

LED STREET and AREA LIGHTING – DUSK TO DAWN

DESCRIPTION	RATE CODE
LED Outdoor Lighting	31-730
LED Flood Lighting	31-732
Aluminum Alloy Poles	31-734
LED Flood Visor	31-735

RULES AND REGULATIONS: Terms and conditions of this electric rate schedule and the General Rules and Regulations govern use of this service.

APPLICATION OF SCHEDULE: This schedule is applicable to any Customer for automatically operated dusk to dawn outdoor lighting supplied and operated by the Company.

RATE:

LED TYPE	Approximate Lumens	Approximate Wattage	Monthly Charge
LED5	5175	47	\$9.39
LED8	9003	76	\$16.80
LED3PT	2759	26	\$11.23
LED5PT	5404	47	\$14.42
LED10	12388	95	\$18.81
LED13	16691	133	\$23.54
LED20 - Flood	23067	199	\$23.59
LED30 - Flood	32003	261	\$44.11

Appropriate standard wood pole is included in the Monthly Charge

ALUMINUM ALLOY POLES	Additional Monthly Charge
STANDARDS 30'	\$11.67
STANDARDS 40'	\$10.87

LED FLOOD VISOR	Additional Monthly Charge
Lighting Visor LED 20-Flood	\$0.76
Lighting Visor LED 30-Flood	\$1.38



Fergus Falls, Minnesota

MANDATORY AND VOLUNTARY RIDERS: The amount of a bill for service will be modified by any Mandatory Rate Riders that must apply and by any Voluntary Rate Riders selected by the Customer, unless otherwise noted in this rate schedule. See Sections 12.00, 13.00 and 14.00 of the Minnesota electric rates for the matrices of riders. N
N
N
N

SEASONAL CUSTOMERS: Seasonal Customers will be billed at the same rate as year-around Customers, except as follows: N
N

A fixed charge of \$27.59 will be billed each Seasonal Customer once per season per fixture in addition to the rate provided above. The fixed charge will be included in the first bill rendered for each season. N
N
N

Each Seasonal Customer will be billed for the number of months each season that the outdoor lighting fixture is in use, but not less than a minimum of four months, plus the seasonal fixed charge. N
N
N

UNDERGROUND SERVICE: If the Customer requests underground service to any outdoor lighting unit, the Company will supply up to 200 feet of wire and add an additional \$2.12 to the monthly rate specified above. If overhead service is not available, there is no additional charge. There is no additional charge for LED5PT or LED3PT fixtures, or fixtures mounted on Aluminum Alloy Standards. N
N
N
N
N

EQUIPMENT AND OVERHEAD SERVICE SUPPLIED BY THE COMPANY: The light shall be mounted on a suitable new or existing Company-owned pole. Any extension beyond an average installation length of 150' will be at the expense of the Customer. N
N
N

The Company will install, own and operate, and have discretion to replace or upgrade a high intensity discharge light including suitable reflector or a flood light including a lamp, or a bracket for mounting on wood poles with overhead wiring and photo-electric or other device to control operating hours. Customers provided with pole top fixtures on fiberglass poles and fixtures mounted on Aluminum Alloy Standards will not receive overhead power supply. The light shall operate from dusk to dawn. The Company will supply the necessary electricity and maintenance for the unit. N
N
N
N
N
N
N

SERVICE CONDITIONS: Lighting will not be mounted on Customer-owned property. The light shall be mounted upon a suitable new or existing Company-owned facility. The Company shall own, operate, and maintain the lighting unit including the pole, fixture, lamp, ballast, photoelectric control, mounting brackets, fixture arrester, LED driver and all necessary wiring using the Company's standard street lighting equipment. The Company shall furnish all electric Energy required for operation of the unit. N
N
N
N
N
N



Fergus Falls, Minnesota

Interim
Minnesota Public Utilities Commission
Section 11.07
ELECTRIC RATE SCHEDULE
LED Street Lighting
Page 3 of 3
Original

In cases of vandalism or damages, the Company has the discretion to discontinue service and remove Company equipment.

N
N

CERTIFICATE OF SERVICE

**RE: In the Matter of Otter Tail Power Company's Petition for Approval of the Company's proposed LED Street and Area Lighting rate schedule 11.07 and associated LED implementation plan.
Docket No. E017-M-17-152**

I, Kim Ward, hereby certify that I have this day served a copy of the following, or a summary thereof, on Daniel P. Wolf and Sharon Ferguson by e-filing, and to all other persons on the attached service list by electronic service or by First Class Mail.

**Otter Tail Power Company
Reply Comments**

Dated this 7th day of **July, 2017**.

/s/ Kim Ward
Kim Ward, Regulatory Filing Coordinator
Otter Tail Power Company
215 South Cascade Street
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(218) 739-8268

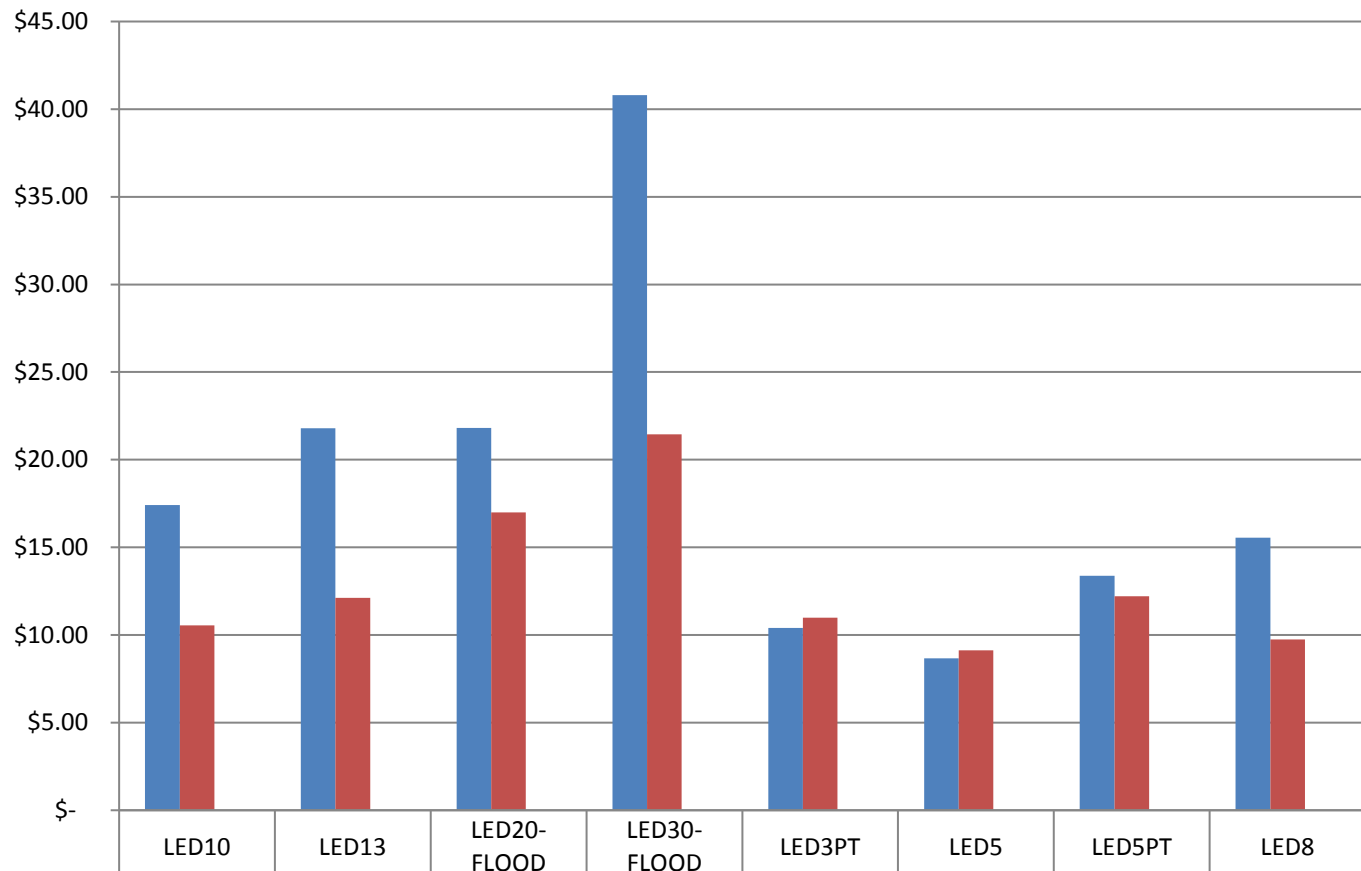
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Facilities and O&M Related Costs

[illegible]

Chart 1
Comparison of the proposed LED Rate options
and Class Revenue Impact



■ LED Weighted Monthly Rate (Interim)	\$17.41	\$21.80	\$21.82	\$40.80	\$10.41	\$8.67	\$13.37	\$15.55
■ LED Marginal Cost based Rate	\$10.55	\$12.13	\$17.00	\$21.44	\$10.99	\$9.13	\$12.21	\$9.74
Class Revenue impact, %	3.8%	1.7%	16.2%	5.3%	1.9%	68.1%	0.3%	2.7%

(A)		(B)	(C)	(A * B)		(A * C)	Line No	Pole Type	Monthly Marginal Cost	Comment
New Light Type	Annual Bill Quantity from Rate Case Test Year	LED Weighted Monthly Rate (Rate Case) Proposed	LED Monthly MARGINAL RATE	Revenue from Proposed LED Rates	Revenue from Marginal LED Rates					
LED10	5,415	\$18.81	\$10.55	\$101,848	\$57,146	1	ALUMINUM ALLOY STANDARDS 30'	\$17.77	Replacement Pole	
HPS23	4,879					2	ALUMINUM ALLOY STANDARDS40'	\$19.28	Replacement Pole	
MH20	79					3	FIBERGLASS STANDARDS FS18	\$4.82	Replacement Pole	
MV11	347					4	FIBERGLASS STANDARDS FS23	\$5.61	Replacement Pole	
MV21	109					5	STANDARD POLE (LED5, LED8 & LED10)	\$5.14	Typical Install	
LED13	1,969	\$23.54	\$12.13	\$46,343	\$23,874	6	STANDARD POLE (LED13 & LED20 FLOOD)	\$6.10	Typical Install	
HPS44	1,652					7	STANDARD POLE (LED30 FLOOD)	\$8.41	Typical Install	
MH110	34					8				
MH36	270					9	STANDARDS 30' Incremental Monthly Charge	\$11.67	= Line1 - Line6	
MV35	-			\$0	\$0	10	STANDARDS 40' Incremental Monthly Charge	\$10.87	= Line2 - Line7	
MV55	13									
LED20FLOOD	18,495	\$23.59	\$17.00	\$436,304	\$314,421					
400 MV	49									
SIGN	203									
400 HPS	10,620									
400 MA	7,624									
LED30FLOOD	3,261	\$44.11	\$21.44	\$143,863	\$69,931					
1M-HPSF	13									
1000-MV	75									
1000-MA	3,173									
LED3PT	4,446	\$11.23	\$10.99	\$49,931	\$48,850					
HPS9PT	3,777									
MV6PT	669									
LED5	195,961	\$9.39	\$9.13	\$1,840,073	\$1,936,925					
HPS14	6,603									
HPS9	151,760									
MH8	4,632									
MV6	32,966									
LED5PT	624	\$14.42	\$12.21	\$8,994	\$7,613					
HPS14PT	600									
MH8PT	24									
LED8	4,412	\$16.80	\$9.74	\$74,125	\$42,988					
HPS19	4,388									
MH14	25									
	234,571									
				\$2,701,481	\$2,501,748					
UNDERGROUND QUANTITIES	200.00	\$6,035		\$6,035	\$5,574					
				\$2,707,517	\$2,507,323					
				\$2,707,514						

OLD:

Pole	MC	Pole MC
ALUMINUM ALLOY STANDARDS 30'	\$34.54	Replacement Pole
ALUMINUM ALLOY STANDARDS40'	\$37.53	Replacement Pole
FIBERGLASS STANDARDS FS18	\$8.89	Replacement Pole
FIBERGLASS STANDARDS FS23	\$10.45	Replacement Pole
STANDARD POLE (LED5, LED8 & LED10)	\$9.53	Typical Install
STANDARD POLE (LED13 & LED20 FLOOD)	\$11.43	Typical Install
STANDARD POLE (LED30 FLOOD)	\$16.00	Typical Install

LED Light Type	LED Weighted Monthly Rate (Interim)	LED Weighted Monthly rate (Rate Case) Proposed	LED Marginal Cost based Rate	LED Weighted Interim Rates Revenue	Rate Case Required Revenue	Marginal Cost Revenue	Class Revenue impact, %	Rate Case Required Revenue %
LED10	\$ 17.41	\$ 18.81	\$ 10.55	\$ 94,267.49	\$ 101,847.87	\$ 57,145.88	3.8%	3.8%
LED13	\$ 21.80	\$ 23.54	\$ 12.13	\$ 42,917.66	\$ 46,343.20	\$ 23,874.15	1.7%	1.7%
LED20-FLOOD	\$ 21.82	\$ 23.59	\$ 17.00	\$ 403,567.45	\$ 436,304.13	\$ 314,420.85	16.2%	16.2%
LED30-FLOOD	\$ 40.80	\$ 44.11	\$ 21.44	\$ 133,067.16	\$ 143,862.56	\$ 69,930.94	5.3%	5.3%
LED3PT	\$ 10.41	\$ 11.23	\$ 10.99	\$ 46,284.73	\$ 49,930.60	\$ 48,850.43	1.9%	1.8%
LED5	\$ 8.67	\$ 9.39	\$ 9.13	\$ 1,698,981.18	\$ 1,840,073.04	\$ 1,936,924.69	68.1%	68.1%
LED5PT	\$ 13.37	\$ 14.42	\$ 12.21	\$ 8,339.40	\$ 8,994.33	\$ 7,613.37	0.3%	0.3%
LED8	\$ 15.55	\$ 16.80	\$ 9.74	\$ 68,610.18	\$ 74,125.46	\$ 42,988.17	2.7%	2.7%
				\$ 2,496,035.24	\$ 2,701,481.19	\$ 2,501,748.47	100.0%	100.0%

Line No. 1	Fixture Type	FIBERG LASS STANDA RDS FS18	FIBERG LASS STANDA RDS FS23	ALUMINUM ALLOY STANDARDS 30'	ALUMINUM ALLOY STANDARDS 40'	STANDARD POLE (LED5, LED8 & LED10)	STANDARD POLE (LED13 & LED20 FLOOD)	STANDAR D POLE (LED30 FLOOD)
2	Calculated Fixture Life (yrs.)	50.00	50.00	50.00	50.00	50.00	50.00	50.00
3	Pole Cost	\$330.06	\$464.32	\$1,519.90	\$1,772.71	\$224.00	\$320.15	\$670.30
4	Pole Labor	\$105.21	\$105.21	\$351.42	\$351.42	\$351.42	\$395.10	\$439.28
5	Bracket Cost					\$54.22	\$70.52	\$70.52
6	Hardware Cost			\$590.62	\$590.62	\$21.44	\$29.35	\$29.35
7	Hardware Labor			\$71.45	\$71.45	\$0.00	\$0.00	\$0.00
8	(Other) Conductor Cost	\$69.12	\$69.12	\$131.33	\$131.33	\$55.14	\$55.14	\$55.14
9	Vibratory Plowing \$1.75/ft. (Other) Conductor Labor	\$262.50	\$262.50	\$314.41	\$319.47	\$115.50	\$115.50	\$115.50