

EXHIBIT 7

COST ALLOCATION

EB-2017-0073

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1 **Exhibit 7: Cost Allocation**

2 **7.1 Cost Allocation Study Requirements**

3 On September 29, 2006, the Board issued its directions on Cost Allocation Methodology for
4 Electricity Distributors (the “Directions”). On November 15, 2006, the Board issued the Cost
5 Allocation Information Filing Guidelines for Electricity Distributors (“the Guidelines”), the Cost
6 Allocation Model (the “Model”) and User Instructions (the “Instructions”) for the Model. SLHI
7 prepared a cost allocation information filing consistent with SLHI’s understanding of the Directions,
8 the Guidelines, the Model and the Instructions.

9 One of the main objectives of the filing was to provide information on any apparent cross-
10 subsidization among a distributor’s rate classifications. It was felt that this would give an indication
11 of cross-subsidization from one class to another and this information would be useful as a tool in
12 future rate applications.

13 On September 2, 2010, the Board began a proceeding, EB-2010-0219, with the mandate to review
14 and revise the existing Cost Allocation policy as needed. On March 31, 2011, the Report of the
15 Board was released in relation to EB-2010-0219 (“the March Report”). In the letter accompanying
16 report, the Board indicated that a Working Group would be formed to revise the original Cost
17 Allocation Model to address the revision highlighted in the March Report. On August 5, 2011, the
18 Board released the new Cost Allocation model and instructed 2012 Cost of Service filers to use the
19 revised model in their applications.

20 In the March Report, the Board stated that “default weighting factors should now be utilized only in
21 exceptional circumstances”. Distributors are therefore now expected to develop their own
22 weighting factors.

23 In SLHI’s 2013 EDR COS Application (EB-2012-0165), the 2013 cost allocation model was used and
24 updated to reflect 2013 test year costs, customer numbers and demand values. The 2013 demand
25 values were based on the weather normalized load forecast used to design rates. SLHI developed
26 weighting factors based on discussions with staff experienced in the subject area.

1 In this application, SLHI has used the 2018 cost allocation model version 3.5 released by the OEB on
2 July 14, 2017. The model reflects 2018 test year costs, customer numbers and demand values. The
3 2018 demand values were based on the weather normalized load forecast used to design the 2018
4 rates. SLHI reviewed the various weighting factors used in the 2013 study and believes the factors
5 are still valid with the exception of a slight increase in the General Service > 50 kW weighting factor
6 Services. SLHI also updated its meter capital installation costs to reflect the current meter
7 population and associated costs. See below for the weighting factors used in the Cost Allocation
8 Model.

9 *Weighting Factors*

10 *Services (Account 1855)*

Table 7-1: Service Weighting Factors	
Rate Class	Factor
Residential	1.0
General Service < 50 kW	1.0
General Service 50 to 4,999 kW	17.01
Street Lighting	0

11

12 *Billing and Collection (Accounts 5315 - 5340, except 5335)*

Table 7-2: Billing Weighting Factors	
Rate Class	Factor
Residential	1.0
General Service < 50 kW	1.0
General Service 50 to 4,999 kW	5.88
Street Lighting	20.55

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Meter Capital (Sheet I7.1)

Table 7-3: Meter Capital Installation Costs	
Meter Type	Installation Cost per Meter
Smart Meter – R2S Form 2S	\$145
Smart Meter – R2S Form 3S	\$193
Smart Meter – A3RL	\$1,275
Smart Meter – A3TL	\$1,185
Smart Meter – R2S Form 3S w/CTs	\$525
Smart Meter – A3RL w/ CTs & PTs	\$1,895
Smart Meter – A3RL w/CTs	\$1,610
Demand with IT and Interval Capability – Primary	\$4,600

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Meter Reading (Sheet I7.2)

Table 7-4: Meter Reading Weighting Factor	
Meter Type	Factor
Smart Meter	1.00
GS - Vehicle with other services	50.43
Interval Meter	750.00

4

5 The 2018 demand data in the Cost Allocation model was derived from SLHI’s 2018 Load Forecast
 6 Model based on an average yearly percentage of kW/kWh for the General Service 50 to 4,999 kW
 7 and the 2016 historical actual data for the Street Lighting rate class. The 2016 data was used for the
 8 Street Light class rather than an average yearly percentage due to the street light LED Conversion
 9 which took place in 2015. These factors were applied to the 2018 kWh forecast to determine the
 10 forecasted demand data for 2018. (GS > 50 to 4,999 kW: 27,063,250 * 0.002667 = 72,183 kW, Street
 11 Lighting: 150,597 *.002791 = 420 kW). SLHI’s 2018 Load Forecast Model is filed in live excel with
 12 this application. The calculations are found in the sheet labelled “Rate Class Load Model”. Table 7-5
 13 below displays the load forecast data used:

14

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Table 7-5: Load Forecast Demand Data

	GS>50	Streetlights
2007	105,960	1,447
2008	75,100	1,445
2009	56,741	1,445
2010	71,492	1,448
2011	66,653	1,446
2012	66,215	1,447
2013	92,251	1,450
2014	99,288	1,454
2015	94,899	1,104
2016	66,975	420
2017	71,869	420
2018	72,183	420
kW/kWh		
2007	0.2521%	0.2956%
2008	0.2736%	0.2924%
2009	0.2580%	0.3063%
2010	0.2836%	0.3091%
2011	0.2445%	0.2901%
2012	0.2427%	0.3090%
2013	0.2766%	0.2803%
2014	0.2893%	0.2800%
2015	0.2906%	0.3164%
2016	0.2561%	0.2791%
Average	0.2667%	0.2791%

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1 *Unmetered Loads*

2 SLHI's unmetered load customers are exclusively street lighting customers. Due to the change in the
3 Cost Allocation Policy for Unmetered Loads (Board file: EB-2012-0383) and the LED Conversion
4 which took place in 2015, the Street Lighting Class is significantly over-contributing at the current
5 rate structure. SLHI confirms that it has communicated with its Street Lighting customer, The
6 Municipality of Sioux Lookout, the proposed decrease and will notify them once the final rates have
7 been drafted. At that time SLHI will communicate the applicable rate changes impacting Street
8 Lighting.

9 *MicroFIT Class*

10 SLHI is not proposing to include microFIT as a separate class in the cost allocation model in 2018. It
11 is SLHI understands that the cost allocation model will produce a calculation of unit costs which the
12 Board will use to update the uniform microFIT rate at a future date.

13 **7.1.1 New Customer Class**

14 SLHI is not proposing to include a new customer class.

15 **7.1.2 Eliminated Customer Class**

16 SLHI is proposing to eliminate the unmetered scattered load rate class. Since the last 2013 Cost of
17 Service application the number of customers in this rate class has decreased to zero. SLHI will not
18 be allowing any new unmetered scattered loads, and requires all new customers to meter their
19 connections to our system.

20 **7.2 Class Revenue Requirements**

21 The following Table 7-6 provides information on calculated class revenue. The resulting 2018
22 proposed base revenue will be the amount used in Exhibit 8 to design the proposed distribution
23 charges in this application.

Table 7-6: Calculated Class Revenue - (Consistent with RRWF, Tab 11, Cost Allocation: Calculated Class Revenues)				
Class	2018 Base Revenue at Existing Rates	2018 Proposed Base Revenue Allocated at Existing Rates Proportion	2018 Proposed Base Revenue	Miscellaneous Revenue
Residential	\$1,215,666	\$1,285,953	\$1,346,837	\$94,628
GS < 50 kW	\$307,924	\$325,727	\$343,565	\$20,998
GS 50 to 4,999 kW	\$338,721	\$358,304	\$335,105	\$16,490
Street Lighting	\$80,331	\$84,975	\$29,451	\$3,080
Total	\$1,942,642	\$2,054,959	\$2,054,958	\$135,196

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2 **7.3 Revenue-to-Cost Ratios**

3 The data used in the updated cost allocation study is consistent with SLHI's cost data that supports
 4 the proposed 2018 revenue requirement outlined in this application. Consistent with the
 5 Guidelines, SLHI's assets were broken out into primary and secondary distribution functions using
 6 breakout percentages consistent with the original cost allocation informational filing. The breakout
 7 of assets, capital contributions, depreciation, accumulated depreciation, customer data and load
 8 data by primary, line transformer and secondary categories were developed from the best data
 9 available to SLHI, its engineering records, and its customer and financial information systems. An
 10 Excel version of the updated cost allocation study has been included with the filed application
 11 material. In addition, Appendix 7A contains hard copies of Input Sheets I-6 & I-8 and Output Sheets
 12 O-1 & O-2 (first page only).

13 Capital contributions, depreciation and accumulated depreciation by USoA are consistent with the
 14 information provided in the 2018 continuity statement shown in Exhibit 2. The rate class customer
 15 data used in the updated cost allocation study is consistent with the 2018 customer forecast
 16 outlined in Exhibit 3.

17 The load profiles for each rate class are the same as those used in the original information filing but
 18 have been scaled to match the 2018 load forecast. In a letter, dated June 12, 2015, the OEB stated
 19 that it expected distributors to be mindful of material changes to load profiles and to propose
 20 updates in their respective cost of service applications when warranted. SLHI is not aware of any
 21 reason for the load profiles to have material changed between the classes. As a result, SLHI has not
 22 updated its load profiles at this time. SLHI intends to put plans in place to update its load profiles
 23 the next time a cost allocation model is filed.

1 The following Table 7-7 outlines the scaling factors used by rate class:

Table 7.7 - Load Profile Scaling Factors			
Rate Class	2004 Weather Normal Values used in Informational Filing (kWh)	2018 Weather Normal Values (kWh)	Scaling Factor
Residential	36,147,605	32,918,746	91.1%
GS < 50 kW	17,712,066	11,931,508	67.4%
GS 50 to 4,999 kW	44,407,976	27,063,250	60.9%
Street Lighting	489,355	150,597	30.8%
Unmetered Scattered Load	40,915	0	0.0%
Total	98,797,917	72,064,101	72.9%

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 3 The allocated cost by rate class for the 2013 Cost of Service filing and 2018 updated study are
 4 provided in the following Table 7-8.

Table 7.8: Allocated Cost - (Consistent with RRWF, Tab 11, Allocated Costs)				
Rate Class	2013 Board Approved Cost Allocation Study with new CGAAP Depreciation	%	Cost Allocated in the 2018 Study	%
Residential	1,261,200	64.7%	1,511,920	69.0%
GS < 50 kW	282,985	14.5%	358,131	16.4%
GS 50 to 4,999 kW	264,820	13.6%	292,996	13.4%
Street Lighting	139,019	7.1%	27,109	1.2%
Unmetered Scattered	830	0.0%	0	0.0%
Total	1,948,854	100%	2,190,156	100%

5
 6 The results of a cost allocation study are typically presented in the form of revenue to cost ratios.
 7 The ratio is shown by rate classification and is the percentage of distribution revenue collected by
 8 rate classification compared to the costs allocated to the classification. The percentage identifies the
 9 rate classifications that are being subsidized and those that are over-contributing. A percentage of
 10 less than 100% means the rate classification is under-contributing and is being subsidized by other
 11 classes of customers. A percentage of greater than 100% indicates the rate classification is over-
 12 contributing and is subsidizing other classes of customers.

13 In the March 2011 Board Report and the June 12, 2015 Board Letter, the Board established what it
 14 considered to be the appropriate ranges of revenue to cost ratios which are summarized in Table 7-

1 9 below. In addition, Table 7-9 provides SLHI’s revenue to cost ratios from the 2013 application, the
 2 updated 2018 cost allocation study and the proposed 2019 and 2020 ratios.

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Table 7-9: Revenue to Cost Ratios - (Consistent with RRWF, Tab 11 Cost Allocation: Proposed and Rebalancing Revenue to Cost Ratios)						
Class	2014 Board Approved - Cost Allocation Study	2018 Updated Cost Allocation Study	2018 Proposed Ratios	2019 & 2020 Proposed Ratios	Board Targets - Min to Max	
Residential	96.35%	91.31%	95.34%	95.34%	85.00%	115.00%
GS < 50	109.85%	96.82%	101.80%	101.80%	80.00%	120.00%
GS 50 to 4,999 kW	115.80%	127.92%	120.00%	120.00%	80.00%	120.00%
Street Lighting	83.08%	324.82%	120.00%	120.00%	80.00%	120.00%
Unmetered Scattered Load	81.30%	0.00%	0.00%	0.00%	80.00%	120.00%

4 The 2018 cost allocation study indicates the revenue to cost ratios for GS > 50 kW and Street
 5 Lighting are outside the Board’s range. For 2018, it is proposed the GS > 50 kW and Street Lights
 6 ratios be brought down to the maximum of 120% of the Board’s range. The Residential class and
 7 General Service < 50 kW class ratios were adjusted upward to a common ratio in order to maintain
 8 revenue neutrality. The level of adjustments to the cost allocation study ratios were chosen in order
 9 to minimize the rate impact to the classes whose rates would be increased, as well as to be within
 10 the Board’s minimum and maximum ranges and to maintain revenue neutrality. SLHI is not
 11 proposing any mitigation measures since the impact to the Residential and General Service < 50 kW
 12 rate classes is not significant as a result.

13

APPENDIX 7A

Input Sheets I-6 & I-8

Output Sheets O-1 & O-2 (first page only).

2018 Cost Allocation Model

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Sheet I6.1 Revenue Worksheet -

Total kWhs from Load Forecast	72,064,101
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Total kW from Load Forecast	72,603
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Deficiency/sufficiency (RRWF 8. cell F51)	112,317
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Miscellaneous Revenue (RRWF 5. cell F48)	135,197
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			1	2	3	7
	ID	Total	Residential	GS <50	GS > 50 kW less than 4,999 kW	Street Light
Billing Data						
Forecast kWh	CEN	72,064,101	32,918,746	11,931,508	27,063,250	150,597
Forecast kW	CDEM	72,603			72,183	420
Forecast kW, included in CDEM, of customers receiving line transformer allowance		12,569			12,569	
Optional - Forecast kWh, included in CEN, from customers that receive a line transformation allowance on a kWh basis. In most cases this will not be applicable and will be left blank.		-				
KWh excluding KWh from Wholesale Market Participants	CEN EWMP	74,373,533	34,203,934	12,396,820	27,622,182	150,597
Existing Monthly Charge			\$35.56	\$43.55	\$386.97	\$10.74
Existing Distribution kWh Rate			\$0.0060	\$0.0082		
Existing Distribution kW Rate					\$1,3481	\$28.3225
Existing TOA Rate					\$0.37	
Additional Charges						
Distribution Revenue from Rates		\$1,947,344	\$1,215,666	\$307,924	\$343,423	\$80,331
Transformer Ownership Allowance		\$4,702	\$0	\$0	\$4,702	\$0
Net Class Revenue	CREV	\$1,942,641	\$1,215,666	\$307,924	\$338,721	\$80,331



2018 Cost Allocation Model

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Sheet I6.2 Customer Data Worksheet -

			1	2	3	7
	ID	Total	Residential	GS <50	GS > 50 kW less than 4,999 kW	Street Light
Billing Data						
Bad Debt 3 Year Historical Average	BDHA	\$29,864	\$28,523	\$1,341	\$0	\$0
Late Payment 3 Year Historical Average	LPHA	\$49,498	\$34,625	\$7,937	\$6,285	\$651
Number of Bills	CNB	33,708	28,320	4,716.00	636.00	36.00
Number of Devices	CDEV		2,386	402	53	531
Number of Connections (Unmetered)	CCON	531				531
Total Number of Customers	CCA	3,372	2,386	402	53	531
Bulk Customer Base	CCB	-				
Primary Customer Base	CCP	2,853	2,386	402	53	12
Line Transformer Customer Base	CCLT	2,853	2,386	402	53	12
Secondary Customer Base	CCS	2,841	2,386	402	53	
Weighted - Services	CWCS	3,730	2,386	442	902	-
Weighted Meter -Capital	CWMC	665,133	368,108	200,865	96,160	-
Weighted Meter Reading	CWMR	73,504	28,320	4,716	40,468	-
Weighted Bills	CWNB	37,530	28,320	4,716	3,752	742

Bad Debt Data

Historic Year:	2014	39,857	39,857			
Historic Year:	2015	24,094	24,094			
Historic Year:	2016	25,641	21,619	4,022		
Three-year average		29,864	28,523	1,341	-	-

2018 Cost Allocation Model

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Sheet 18 Demand Data Worksheet -

This is an input sheet for demand allocators.

CP TEST RESULTS	4 CP
NCP TEST RESULTS	4 NCP

Co-incident Peak	Indicator
1 CP	CP 1
4 CP	CP 4
12 CP	CP 12

Non-co-incident Peak	Indicator
1 NCP	NCP 1
4 NCP	NCP 4
12 NCP	NCP 12

Customer Classes	Total	1	2	3	7	
		Residential	GS <50	GS > 50 kW less than 4,999 kW	Street Light	
CO-INCIDENT PEAK						
CP Sanity Check		Check 4 CP	Pass	Pass	Pass	
1 CP						
Transformation CP	TCP1	-				
Bulk Delivery CP	BCP1	-				
Total Sytem CP	DCP1	15,006	6,569	3,353	5,045	
4 CP						
Transformation CP	TCP4	-				
Bulk Delivery CP	BCP4	-				
Total Sytem CP	DCP4	57,752	28,560	10,652	18,501	
12 CP						
Transformation CP	TCP12	-				
Bulk Delivery CP	BCP12	-				
Total Sytem CP	DCP12	138,588	69,304	25,532	43,636	
NON CO. INCIDENT PEAK						
NCP Sanity Check		Pass	Pass	Pass	Pass	
1 NCP						
Classification NCP from Load Data Provider		DNCP1	17,277	8,600	3,593	5,045
Primary NCP		PNCP1	17,277	8,600	3,593	5,045
Line Transformer NCP		LTNCP1	17,277	8,600	3,593	5,045
Secondary NCP		SNCP1	17,277	8,600	3,593	5,045
4 NCP						
Classification NCP from Load Data Provider		DNCP4	63,545	31,404	12,683	19,303
Primary NCP		PNCP4	63,545	31,404	12,683	19,303
Line Transformer NCP		LTNCP4	63,545	31,404	12,683	19,303
Secondary NCP		SNCP4	63,545	31,404	12,683	19,303
12 NCP						
Classification NCP from Load Data Provider		DNCP12	152,624	73,473	28,291	50,395
Primary NCP		PNCP12	152,624	73,473	28,291	50,395
Line Transformer NCP		LTNCP12	152,624	73,473	28,291	50,395
Secondary NCP		SNCP12	152,624	73,473	28,291	50,395

2018 Cost Allocation Model

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Sheet 01 Revenue to Cost Summary Worksheet -

Instructions:
Please see the first tab in this workbook for detailed instructions

Class Revenue, Cost Analysis, and Return on Rate Base

Rate Base	Total	1	2	3	7
		Residential	GS <50	GS > 50 kW less than 4,999 kW	Street Light
Assets					
crev Distribution Revenue at Existing Rates	\$1,942,641	\$1,215,666	\$307,924	\$338,721	\$80,331
mi Miscellaneous Revenue (mi)	\$135,197	\$94,628	\$20,998	\$16,490	\$3,080
Miscellaneous Revenue Input equals Output					
Total Revenue at Existing Rates	\$2,077,838	\$1,310,294	\$328,922	\$355,211	\$83,411
Factor required to recover deficiency (1 + D)	1.0578				
Distribution Revenue at Status Quo Rates	\$2,054,959	\$1,285,953	\$325,727	\$358,304	\$84,975
Miscellaneous Revenue (mi)	\$135,197	\$94,628	\$20,998	\$16,490	\$3,080
Total Revenue at Status Quo Rates	\$2,190,156	\$1,380,580	\$346,725	\$374,795	\$88,056
Expenses					
di Distribution Costs (di)	\$657,803	\$447,958	\$108,467	\$93,170	\$8,209
cu Customer Related Costs (cu)	\$438,948	\$318,631	\$67,080	\$46,906	\$6,331
ad General and Administration (ad)	\$483,335	\$337,204	\$77,429	\$62,363	\$6,338
dep Depreciation and Amortization (dep)	\$234,840	\$153,416	\$45,134	\$34,152	\$2,138
INPUT PILs (INPUT)	\$20,762	\$14,094	\$3,321	\$3,121	\$227
INT Interest	\$137,739	\$93,498	\$22,032	\$20,705	\$1,503
Total Expenses	\$1,973,427	\$1,364,801	\$323,464	\$260,417	\$24,744
Direct Allocation	\$0	\$0	\$0	\$0	\$0
NI Allocated Net Income (NI)	\$216,729	\$147,119	\$34,667	\$32,679	\$2,364
Revenue Requirement (includes NI)	\$2,190,156	\$1,511,920	\$358,131	\$292,996	\$27,109
Revenue Requirement Input equals Output					
Rate Base Calculation					
Net Assets					
dp Distribution Plant - Gross	\$10,010,379	\$6,725,689	\$1,704,947	\$1,473,372	\$106,371
gp General Plant - Gross	\$1,169,797	\$792,277	\$190,498	\$174,277	\$12,745
accum dep Accumulated Depreciation	(\$4,572,245)	(\$3,054,674)	(\$803,812)	(\$665,328)	(\$47,832)
co Capital Contribution	(\$1,321,883)	(\$875,473)	(\$245,303)	(\$187,485)	(\$13,621)
Total Net Plant	\$5,286,048	\$3,587,819	\$846,329	\$794,236	\$57,664
Directly Allocated Net Fixed Assets	\$0	\$0	\$0	\$0	\$0
COP					
Cost of Power (COP)	\$10,220,621	\$4,707,710	\$1,702,017	\$3,790,192	\$20,703
OM&A Expenses	\$1,580,086	\$1,103,793	\$252,977	\$202,439	\$20,878
Directly Allocated Expenses	\$0	\$0	\$0	\$0	\$0
Subtotal	\$11,800,707	\$5,811,502	\$1,954,993	\$3,992,631	\$41,580
Working Capital	\$885,053	\$435,863	\$146,625	\$299,447	\$3,119
Total Rate Base	\$6,171,101	\$4,023,681	\$992,954	\$1,093,684	\$60,782
Rate Base Input equals Output					
Equity Component of Rate Base	\$2,468,440	\$1,609,473	\$397,182	\$437,473	\$24,313
Net Income on Allocated Assets	\$216,729	\$15,779	\$23,261	\$114,378	\$63,311
Net Income on Direct Allocation Assets	\$0	\$0	\$0	\$0	\$0
Net Income	\$216,729	\$15,779	\$23,261	\$114,378	\$63,311
RATIOS ANALYSIS					
REVENUE TO EXPENSES STATUS QUO%	100.00%	91.31%	96.82%	127.92%	324.82%
EXISTING REVENUE MINUS ALLOCATED COSTS	(\$112,318)	(\$201,626)	(\$29,209)	\$62,215	\$56,302
Deficiency Input equals Output					
STATUS QUO REVENUE MINUS ALLOCATED COSTS	(\$0)	(\$131,339)	(\$11,406)	\$81,799	\$60,947
RETURN ON EQUITY COMPONENT OF RATE BASE	8.78%	0.98%	5.86%	26.15%	260.40%



2018 Cost Allocation Model

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Sheet 02 Monthly Fixed Charge Min. & Max. Worksheet -

Output sheet showing minimum and maximum level for Monthly Fixed Charge

Summary

Customer Unit Cost per month - Avoided Cost

Customer Unit Cost per month - Directly Related

Customer Unit Cost per month - Minimum System with PLCC Adjustment

Existing Approved Fixed Charge

	1	2	3	7
	Residential	GS <50	GS > 50 kW less than 4,999 kW	Street Light
	\$9.74	\$14.65	\$73.55	\$0.89
	\$14.18	\$20.63	\$106.29	\$1.32
	\$40.50	\$46.00	\$142.99	\$3.93
	\$35.56	\$43.55	\$386.97	\$10.74