



## EXHIBIT 7 – COST ALLOCATION

2018 Cost of Service

Hydro Hawkesbury Inc.  
EB-2017-0048

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## 7.2 COST ALLOCATION STUDY REQUIREMENTS

### 7.2.1 OVERVIEW OF COST ALLOCATION

HHI has prepared and is filing a cost allocation informational filing consistent with its understanding of the Directions and Policies in the Board's Reports of November 28, 2007 Application of Cost Allocation for Electricity Distributors, and March 31, 2011 Review of Electricity Distribution Cost Allocation Policy (EB-2010-0219) (the "Cost Allocation Reports") and all subsequent updates.

The main objectives of the original informational filing in 2006 were to provide information on any apparent cross-subsidization among a distributor's rate classifications and to support future rate applications. This information is updated to reflect new parameters and inputs and then used to adjust any cross-subsidization in the proposed rates.

#### **Previously Approved Cost Allocation Study (2014)**

The Previously Board Approved ratios are presented as a point of reference to the proposed 2018 ratios. As part of its last Cost of Service Rate Application, HHI updated the cost allocation revenue to cost ratios with 2014 base revenue requirement information. The revenue to cost ratios from the 2014 application are presented below. HHI notes that there have been no changes in its class composition since 2014.<sup>1</sup>

**Table 1 - Previously Approved Ratios (2014 COS)**

<i>Customer Class Name</i>	<b>2014 Approved Revenue to Cost Ratio</b>
<i>Residential</i>	1.00
<i>General Service &lt; 50 kW</i>	0.98
<i>General Service &gt; 50 to 4999 kW</i>	1.00
<i>USL</i>	0.70
<i>Sentinel Lights</i>	1.20
<i>Street Lighting</i>	1.20

<sup>1</sup> MFR - New customer class or eliminated customer class - rationale and restatement of revenue requirement from previous CoS

**Proposed Cost Allocation Study (2018)**

The Cost Allocation Study for 2018 allocates the 2018 test year costs (i.e., the 2018 forecast revenue requirement) to the various customer classes using allocators that are based on the forecast class loads (kW and kWh) by class, customer counts, etc.

HHI has used the most up to date (2017) OEB-approved Cost Allocation Model and followed the instructions and guidelines issued by the OEB to enter the 2018 data into this model.<sup>2</sup>

HHI populated the information on Sheet I3, Trial Balance Data with the 2018 forecasted data, Target Net Income, PILs, interest on long term debt, and the targeted Revenue Requirement and Rate Base.

On Sheet I4, Break-out of Assets, HHI updated the allocation of the accounts based on 2018 values.

In Sheet I5.1, Miscellaneous data, HHI updated the deemed equity component of rate base, kilometer of roads in the service area, working capital allowance, the proportion of pole rental revenue from secondary poles, and the monthly service charges.

As instructed by the Board, in Sheet I5.2, Weighting Factors, HHI has used LDC specific factors rather than continue to use OEB approved default factors. The utility has applied service and billing & collecting weightings for each customer classification.

These weightings are based on a review of time and costs incurred in servicing its customer classes; they are discussed further below:

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<sup>2</sup> MFR - If Cost Allocation Model other than OEB model used - exclude LV, exclude DVA such as smart meters

**Table 2 - Weighting Factors**

	1	2	3	7	8	9
	Residential	GS <50	GS > 50 to 4999 kW	Street Light	Sentinel	Unmetered Scattered Load
Insert Weighting Factor for Services Account 1855	1.0	2.0	1.0	1.0	1.0	1.0
Insert Weighting Factor for Billing and Collecting	1.0	1.0	1.0	1.0	1.0	1.0

HHI notes that its weighting factors have not changed since its last cost of service.

**Proposed Services Weighting Factors<sup>3</sup>**

- Residential: weighted for services and for billing and collecting as "1" per Cost Allocation instruction sheet
- General Service less than 50 kW: weighted "1" for billing & collecting. HHI feels that no more time, attention and costs are spent on these customers as the residential class. The weighting factor for services requires more planning and monitoring for general service class than the residential class.
- The Weighted factor for the General Service greater than 50 kW also resulted in 1 for billing and collecting: Billing this particular class requires no more time, effort and cost than any other class. HHI selected a weighting factor of "1" for services. The reason for selecting "1" is that as per the ESA, HHI is not allowed to service the equipment for this particular class. The general service customer will hire an external contractor to perform the work. The only additional time spent on servicing this class is to ensure that the demand data is programmed and monitored appropriately.
- A Weighting factor of 1 is also used for the billing and collecting of the Sentinel and Unmetered Scattered Load class as it requires no more time and effort to bill

<sup>3</sup> MFR - Description of weighting factors, and rationale for use of default values (if applicable)

these classes than the residential class. Services Weighting factors is not applicable for Street Lights.

Sheet I6.2 has been updated with the required Bad Debt and Late Payment revenue data as well as the number of customer/connection.

HHI updated the capital cost per meter information on Sheet I7.1 and the meter reading information on I7.2 to reflect its completed deployment of smart meters.

The data entered on sheet I8 reflects the findings of the 2004 hour by hour load data being scaled to be consistent with the 2018 load forecast and the inspection of the scaled data to identify the system peaks and class specific peaks. The original demand data study was contracted out to HONI by the OEB in 2004 in advance of the 2006 EDR process. Over the past four years, the utility's regulatory consultant has reached out to HONI's demand data experts multiple times in hopes of getting background information and training on the mechanics behind the demand data study of 2004. HONI has never returned the calls, and therefore, at this time, HHI does not have enough background information or the capacity to update the demand data beyond the scaling. <sup>4</sup>

The scaled demand data is presented at the next page.

HHI has completed its cost allocation study using the OEB's methodology. A live Excel version of 2017 cost allocation model has been filed along with this application. HHI confirms that it has also populated sheets 11 and 12 of the Revenue Requirement Work Form. HHI confirms that the inputs to the model are consistent with the test year load forecast, changes to customer classes and load profiles. <sup>5</sup>

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<sup>4</sup> MFR - Explanation provided if a distributor is unable to update its load profiles and confirm that it intends to put plans in place to update its load profiles the next time a cost allocation model is filed

<sup>5</sup> MFR – Completed cost allocation study using the OEB-approved methodology or a comparable model must be filed reflecting future loads and costs and be supported by appropriate explanations and live Excel spreadsheets. Sheets 11 and 12 of the RRWF must also be completed. Live Excel version of 2017 cost allocation model will be filed (updated load profiles or scaled version of HONI CAIF). Model must be consistent with test year load forecast, changes to customer classes and load profiles.

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**Table 3 - Load Profiles from 2010 CoS**

<b>Customer Classes</b>		<b>Total</b>	<b>1 Residential</b>	<b>2 GS &lt;50</b>	<b>3 GS&gt;50- Regular</b>	<b>7 Street Light</b>	<b>8 Sentinel</b>	<b>9 Unmetered Scattered Load</b>
<b>CO-INCIDENT PEAK</b>								
<b>1 CP</b>								
Transformation CP	TCP1	34,067	11,916	4,373	17,451	296	22	9
Bulk Delivery CP	BCP1	34,067	11,916	4,373	17,451	296	22	9
Total Sytem CP	DCP1	34,067	11,916	4,373	17,451	296	22	9
<b>4 CP</b>								
Transformation CP	TCP4	130,808	42,220	16,067	71,588	832	64	37
Bulk Delivery CP	BCP4	130,808	42,220	16,067	71,588	832	64	37
Total Sytem CP	DCP4	130,808	42,220	16,067	71,588	832	64	37
<b>12 CP</b>								
Transformation CP	TCP12	345,243	101,941	41,872	200,155	1,080	85	110
Bulk Delivery CP	BCP12	345,243	101,941	41,872	200,155	1,080	85	110
Total Sytem CP	DCP12	345,243	101,941	41,872	200,155	1,080	85	110
<b>NON CO_INCIDENT PEAK</b>								
<b>1 NCP</b>								
Classification NCP from Load Data Provider	DNCP1	38,671	12,902	5,197	20,220	309	33	10
Primary NCP	PNCP1	38,671	12,902	5,197	20,220	309	33	10
Line Transformer NCP	LTNCP1	38,308	12,781	5,148	20,030	306	33	10
Secondary NCP	SNCP1	38,323	12,786	5,150	20,038	306	33	10
<b>4 NCP</b>								
Classification NCP from Load Data Provider	DNCP4	146,479	48,656	19,430	77,094	1,137	125	37
Primary NCP	PNCP4	146,479	48,656	19,430	77,094	1,137	125	37
Line Transformer NCP	LTNCP4	145,102	48,199	19,247	76,369	1,126	124	37
Secondary NCP	SNCP4	145,161	48,218	19,255	76,400	1,127	124	37
<b>12 NCP</b>								
Classification NCP from Load Data Provider	DNCP12	380,501	119,812	46,944	210,181	3,148	306	110
Primary NCP	PNCP12	380,501	119,812	46,944	210,181	3,148	306	110
Line Transformer NCP	LTNCP12	376,924	118,686	46,503	208,205	3,118	303	109
Secondary NCP	SNCP12	377,077	118,734	46,522	208,289	3,120	303	109



1 **Table 4 - Demand Data for 2018 Test Year (adjusted for 2018 Load Forecast)**

Customer Classes			Total	Residential	GS <50	GS > 50 to 4999 kW	Street Light	Sentinel	Unmetered Scattered Load						
CO-INCIDENT PEAK			27,814												
1 CP															
Transformation CP	TCP1									10,336	3,899	13,909	153	15	48
Bulk Delivery CP	BCP1									10,336	3,899	13,909	153	15	48
Total Sytem CP	DCP1									10,336	3,899	13,909	153	15	48
4 CP			107,546												
Transformation CP	TCP4									39,639	15,473	53,697	596	66	197
Bulk Delivery CP	BCP4									39,639	15,473	53,697	596	66	197
Total Sytem CP	DCP4									39,639	15,473	53,697	596	66	197
12 CP			282,199												
Transformation CP	TCP12									93,692	40,476	152,800	728	82	587
Bulk Delivery CP	BCP12									93,692	40,476	152,800	728	82	587
Total Sytem CP	DCP12									93,692	40,476	152,800	728	82	587
			30,887												
NON CO_INCIDENT PEAK															
1 NCP															
Classification NCP from Load Data Provider	DNCP1									10,634	5,049	15,619	153	15	48
Primary NCP	PNCP1									10,634	5,049	15,619	153	15	48
Line Transformer NCP	LTNCP1									10,634	5,049	15,619	153	15	48
Secondary NCP	SNCP1									10,634	5,049	15,619	153	15	48
4 NCP			120,789												
Classification NCP from Load Data Provider	DNCP4									43,839	18,877	59,551	606	98	200
Primary NCP	PNCP4									43,839	18,877	59,551	606	98	200
Line Transformer NCP	LTNCP4									43,839	18,877	59,551	606	98	200
Secondary NCP	SNCP4									43,839	18,877	59,551	606	98	200
12 NCP			311,943												
Classification NCP from Load Data Provider	DNCP12									107,950	45,606	162,353	1,677	242	587
Primary NCP	PNCP12									107,950	45,606	162,353	1,677	242	587
Line Transformer NCP	LTNCP12									107,950	45,606	162,353	1,677	242	587
Secondary NCP	SNCP12		107,950	45,606	162,353	1,677	242	587							

- 1 No Direct Allocations were entered on Sheet I9.
- 2 The revenue to cost ratios calculated on Sheet O1 of the Cost Allocation model updated for the
- 3 2018 Test Year are provided at the next page.
- 4

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**Table 5 - Sheet I6-2 of the Cost Allocation Model<sup>6</sup>**

		1	2	3	7	8	9
ID	Total	Residential	GS <50	GS > 50 to 4999 kW	Street Light	Sentinel	Unmetered Scattered Load
<b>Billing Data</b>							
Bad Debt 3 Year Historical Average	<b>BDHA</b>	\$24,786	\$22,878	\$1,909	\$0	\$0	\$0
Late Payment 3 Year Historical Average	<b>LPHA</b>	(\$31,983)	(\$3,622)	(\$28,361)			
Number of Bills	<b>CNB</b>	66,647	58,031	7,410	1,066	12	115
Number of Devices	<b>CDEV</b>						
Number of Connections (Unmetered)	<b>CCON</b>	1,268			1,211	57	
Total Number of Customers	<b>CCA</b>	5,554	4,836	618	89	1	10
Bulk Customer Base	<b>CCB</b>	-					
Primary Customer Base	<b>CCP</b>	5,552	4,836	618	89	-	10
Line Transformer Customer Base	<b>CCLT</b>	5,552	4,836	618	89	-	10
Secondary Customer Base	<b>CCS</b>	5,553	4,836	618	89	1	10
Weighted - Services	<b>CWCS</b>	7,438	4,836	1,235	89	1,211	57
Weighted Meter -Capital	<b>CWMC</b>	664,637	386,876	225,829	51,932	-	-
Weighted Meter Reading	<b>CWMR</b>	44,701	31,747	4,054	8,901	-	-
Weighted Bills	<b>CWNB</b>	66,647	58,031	7,410	1,066	12	115

**Bad Debt Data**

		92.30%	7.70%				
Historic Year:	2014	15,046	13,887	1,159			
Historic Year:	2015	34,339	31,695	2,644			
Historic Year:	2016	24,973	23,050	1,923			
Three-year average		24,786	22,878	1,909	-	-	-

**Street Lighting Adjustment Factors**

NCP Test Results	4 NCP
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Class	Primary Asset Data		Line Transformer Asset Data	
	Customers/ Devices	4 NCP	Customers/ Devices	4 NCP
Residential	4,836	43,839	4,836	43,839
Street Light	-	644	-	644

Street Lighting Adjustment Factors	
Primary	
Line Transformer	

<sup>6</sup> MFR - Hard copy of sheets I-6, I-8, O-1 and O-2 (first page)

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**Table 6 - Sheet I6-1 of the Cost Allocation Model<sup>7</sup>**

Total kWhs from Load Forecast	148,548,851
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Total kW from Load Forecast	213,128
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Deficiency/sufficiency ( RRWF 8. cell F51)	-162,627
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Miscellaneous Revenue (RRWF 5. cell F48)	207,894
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	ID	Total	1	2	3	7	8	9
			Residential	GS <50	GS > 50 to 4999 kW	Street Light	Sentinel	Unmetered Scattered Load
<b>Billing Data</b>								
Forecast kWh	CEN	148,548,851	48,228,553	18,143,532	81,021,489	641,942	84,029	429,307
Forecast kW	CDEM	213,128			211,046	1,844	238	
Forecast kW, included in CDEM, of customers receiving line transformer allowance		189,205			189,205			
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	148,548,851	48,228,553	18,143,532	81,021,489	641,942	84,029	429,307
Existing Monthly Charge			\$11.90	\$15.47	\$100.99	\$0.55	\$1.66	\$6.63
Existing Distribution kWh Rate			\$0.0051	\$0.0061				\$0.0039
Existing Distribution kW Rate					\$2.0470	\$5.9651	\$3.2940	
Existing TOA Rate					\$0.60			
Additional Charges								
Distribution Revenue from Rates		\$1,724,879	\$936,539	\$225,316	\$539,680	\$18,994	\$1,915	\$2,436
Transformer Ownership Allowance		\$113,523	\$0	\$0	\$113,523	\$0	\$0	\$0
Net Class Revenue	CREV	\$1,611,356	\$936,539	\$225,316	\$426,157	\$18,994	\$1,915	\$2,436
		Fixed	690,573	114,640	107,668	7,995	1,130	762
		Var	245,966	110,676	432,012	10,999	785	1,674
Integrity Check			936,539	225,316	426,157	18,994	1,915	2,436

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<sup>7</sup> MFR - Hard copy of sheets I-6, I-8, O-1 and O-2 (first page)

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**Table 7 - Sheet O-1 of the Cost Allocation Model<sup>8</sup>**

		1	2	3	7	8	9
	Total	Residential	GS <50	GS > 50 to 4999 kW	Street Light	Sentinel	Unmetered Scattered Load
Distribution Revenue at Existing Rates	\$1,611,356	\$936,539	\$225,316	\$426,157	\$18,994	\$1,915	\$2,436
Miscellaneous Revenue (mi)	\$207,894	\$141,628	\$47,568	\$15,787	\$2,464	\$172	\$275
	Miscellaneous Revenue Input equals Output						
<b>Total Revenue at Existing Rates</b>	<b>\$1,819,250</b>	<b>\$1,078,167</b>	<b>\$272,884</b>	<b>\$441,943</b>	<b>\$21,458</b>	<b>\$2,087</b>	<b>\$2,711</b>
Factor required to recover deficiency (1 + D)	1.1014						
Distribution Revenue at Status Quo Rates	\$1,774,699	\$1,031,476	\$248,156	\$469,356	\$20,919	\$2,109	\$2,683
Miscellaneous Revenue (mi)	\$207,894	\$141,628	\$47,568	\$15,787	\$2,464	\$172	\$275
<b>Total Revenue at Status Quo Rates</b>	<b>\$1,982,593</b>	<b>\$1,173,103</b>	<b>\$295,724</b>	<b>\$485,143</b>	<b>\$23,384</b>	<b>\$2,281</b>	<b>\$2,958</b>
<b>Expenses</b>							
Distribution Costs (di)	\$288,673	\$139,426	\$41,790	\$89,287	\$16,691	\$1,026	\$453
Customer Related Costs (cu)	\$488,066	\$419,366	\$54,249	\$13,646	\$70	\$70	\$666
General and Administration (ad)	\$433,375	\$310,220	\$53,717	\$58,910	\$9,294	\$608	\$626
Depreciation and Amortization (dep)	\$280,878	\$113,335	\$49,654	\$114,275	\$2,937	\$252	\$425
PILs (INPUT)	\$9,717	\$3,505	\$1,506	\$4,622	\$61	\$6	\$17
Interest	\$179,324	\$64,676	\$27,793	\$85,301	\$1,118	\$118	\$319
<b>Total Expenses</b>	<b>\$1,680,033</b>	<b>\$1,050,528</b>	<b>\$228,709</b>	<b>\$366,041</b>	<b>\$30,170</b>	<b>\$2,080</b>	<b>\$2,505</b>
<b>Direct Allocation</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Allocated Net Income (NI)	\$302,560	\$109,124	\$46,893	\$143,922	\$1,886	\$198	\$537
Revenue Requirement (includes NI)	\$1,982,593	\$1,159,652	\$275,602	\$509,962	\$32,056	\$2,278	\$3,043
	Revenue Requirement Input equals Output						
<b>Rate Base Calculation</b>							
<b>Net Assets</b>							
Distribution Plant - Gross	\$7,432,443	\$2,762,412	\$1,177,474	\$3,408,091	\$65,936	\$5,782	\$12,748
General Plant - Gross	\$888,888	\$323,569	\$137,066	\$418,606	\$7,420	\$658	\$1,570
Accumulated Depreciation	(\$923,368)	(\$390,547)	(\$174,362)	(\$346,250)	(\$10,050)	(\$902)	(\$1,256)
Capital Contribution	(\$337,664)	(\$146,948)	(\$46,404)	(\$124,934)	(\$17,993)	(\$858)	(\$527)
<b>Total Net Plant</b>	<b>\$7,060,300</b>	<b>\$2,548,485</b>	<b>\$1,093,774</b>	<b>\$3,355,513</b>	<b>\$45,313</b>	<b>\$4,679</b>	<b>\$12,535</b>
<b>Directly Allocated Net Fixed Assets</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Cost of Power (COP)	\$19,519,602	\$6,366,857	\$2,383,627	\$10,617,721	\$84,125	\$11,012	\$56,260
OM&A Expenses	\$1,210,114	\$869,012	\$149,756	\$161,843	\$26,054	\$1,704	\$1,745
Directly Allocated Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0

<sup>8</sup> MFR - Hard copy of sheets I-6, I-8, O-1 and O-2 (first page)

<b>Subtotal</b>	<b>\$20,729,716</b>	<b>\$7,235,869</b>	<b>\$2,533,383</b>	<b>\$10,779,564</b>	<b>\$110,180</b>	<b>\$12,716</b>	<b>\$58,005</b>
Working Capital	\$1,554,729	\$542,690	\$190,004	\$808,467	\$8,263	\$954	\$4,350
<b>Total Rate Base</b>	<b>\$8,615,028</b>	<b>\$3,091,176</b>	<b>\$1,283,777</b>	<b>\$4,163,980</b>	<b>\$53,577</b>	<b>\$5,633</b>	<b>\$16,885</b>
	Rate Base Input equals Output						
Equity Component of Rate Base	\$3,446,011	\$1,236,470	\$513,511	\$1,665,592	\$21,431	\$2,253	\$6,754
Net Income on Allocated Assets	\$302,560	\$122,575	\$67,015	\$119,102	(\$6,786)	\$201	\$452
Net Income on Direct Allocation Assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Net Income</b>	<b>\$302,560</b>	<b>\$122,575</b>	<b>\$67,015</b>	<b>\$119,102</b>	<b>(\$6,786)</b>	<b>\$201</b>	<b>\$452</b>
<b>RATIOS ANALYSIS</b>							
REVENUE TO EXPENSES STATUS QUO%	100.00%	101.16%	107.30%	95.13%	72.95%	100.13%	97.20%
EXISTING REVENUE MINUS ALLOCATED COSTS	(\$163,342)	(\$81,485)	(\$2,718)	(\$68,019)	(\$10,598)	(\$191)	(\$332)
	Deficiency Input equals Output						
STATUS QUO REVENUE MINUS ALLOCATED COSTS	\$0	\$13,452	\$20,122	(\$24,819)	(\$8,672)	\$3	(\$85)
RETURN ON EQUITY COMPONENT OF RATE BASE	8.78%	9.91%	13.05%	7.15%	-31.67%	8.93%	6.70%

**Table 8 - Sheet O-2 of the Cost Allocation Model<sup>9</sup>**

	1	2	3	7	8	9
<b><u>Summary</u></b>	<b>Residential</b>	<b>GS &lt;50</b>	<b>GS &gt; 50 to 4999 kW</b>	<b>Street Light</b>	<b>Sentinel</b>	<b>Unmetered Scattered Load</b>
Customer Unit Cost per month - Avoided Cost	\$6.59	\$5.91	\$14.14	-\$0.04	\$0.04	\$5.41
Customer Unit Cost per month - Directly Related	\$10.15	\$9.92	\$21.86	-\$0.04	\$0.10	\$8.65
Customer Unit Cost per month - Minimum System with PLCC Adjustment	\$14.16	\$14.51	\$24.49	\$1.96	\$1.67	\$11.26
Existing Approved Fixed Charge	\$11.90	\$15.47	\$100.99	\$0.55	\$1.66	\$6.63

<sup>9</sup> MFR - Hard copy of sheets I-6, I-8, O-1 and O-2 (first page)

## 7.3 CLASS REVENUE REQUIREMENTS

### 7.3.1 CLASS REVENUE ANALYSIS

Table 9 below shows the results of the cost allocation updated 2018 study. These results are used to compare and analyze the distribution costs under each option and help the utility determine its 2018 proposed ratios.

**Table 9 - Results of the Cost Allocation Study**

<i>Customer Class Name</i>	<b>Service Rev Req (row40)</b>		<b>Misc. Revenue (mi) (row19)</b>		<b>Base Rev Req</b>		<b>Rev2Cost Expenses %</b>	<b>Avoided Costs (Minimum Charge)</b>	<b>Directly Related</b>	<b>Minimum System with PLCC * adjustment</b>
<i>Residential</i>	1,159,652	58.49%	141,628	68.13%	1,018,024	57.36%	101.16%	\$6.59	\$10.15	\$14.16
<i>General Service &lt; 50 kW</i>	275,602	13.90%	47,568	22.88%	228,034	12.85%	107.30%	\$5.91	\$9.92	\$14.51
<i>General Service &gt; 50 to 4999 kW</i>	509,962	25.72%	15,787	7.59%	494,175	27.85%	95.13%	\$14.14	\$21.86	\$24.49
<i>Unmetered Scattered Load</i>	3,043	0.15%	275	0.13%	2,768	0.16%	97.20%	\$5.41	\$8.65	\$11.26
<i>Sentinel Lighting</i>	2,278	0.11%	172	0.08%	2,106	0.12%	100.13%	\$0.04	\$0.10	\$1.67
<i>Street Lighting</i>	32,056	1.62%	2,464	1.19%	29,591	1.67%	72.95%	(\$0.04)	(\$0.04)	\$1.96
<b>TOTAL</b>	<b>1,982,593</b>	<b>100.00%</b>	<b>207,894</b>	<b>100.00%</b>	<b>1,774,699</b>	<b>100.00%</b>				

Table 10 below shows the allocation percentage and base revenue requirement allocation under existing rates, cost allocation results and proposed 2018 proposed allocation.

**Table 10- Base Revenue Requirement Under 3 Scenarios**

<b>Customer Class Name</b>	Proposed Base Revenue Requirement %					
	<b>Cost Allocation Results</b>		<b>Existing Rates</b>		<b>Proposed Allocation</b>	
<i>Residential</i>	57.36%	1,018,024	58.12%	1,031,476	57.92%	1,027,839
<i>General Service &lt; 50 kW</i>	12.85%	228,034	13.98%	248,156	13.97%	247,889
<i>General Service &gt; 50 to 4999 kW</i>	27.85%	494,175	26.45%	469,356	26.55%	471,143
<i>Unmetered Scattered Load</i>	0.16%	2,768	0.15%	2,683	0.15%	2,677
<i>Sentinel Lighting</i>	0.12%	2,106	0.12%	2,109	0.12%	2,106
<i>Street Lighting</i>	1.67%	29,591	1.18%	20,919	1.30%	23,044
<b>TOTAL</b>	<b>100.00%</b>	<b>1,774,699</b>	<b>100.00%</b>	<b>1,774,699</b>	<b>100.00%</b>	<b>1,774,699</b>

Table 11 below shows the revenue offset allocation which resulted from Cost Allocation Study (Sheet O1).

**Table 11 - Revenue Offset Allocation as per Cost Allocation Study**

<b>Customer Class Name</b>	Revenue Offsets	
	<b>%</b>	<b>\$</b>
<i>Residential</i>	68.13%	141,628
<i>General Service &lt; 50 kW</i>	22.88%	47,568
<i>General Service &gt; 50 to 4999 kW</i>	7.59%	15,787
<i>Unmetered Scattered Load</i>	0.13%	275
<i>Sentinel Lighting</i>	0.08%	172
<i>Street Lighting</i>	1.19%	2,464
<b>TOTAL</b>	<b>100.00%</b>	<b>207,894</b>

Table 12 shows the allocation of the service revenue requirement under the same three scenarios.

**Table 12 - Service Revenue Requirement Under 3 Scenarios**

<b>Customer Class Name</b>	Service Revenue Requirement \$		
	<b>Existing Rates</b>	<b>Cost Allocation</b>	<b>Rate Application</b>
<i>Residential</i>	1,173,103	1,159,652	1,169,467
<i>General Service &lt; 50 kW</i>	295,724	275,602	295,457
<i>General Service &gt; 50 to 4999 kW</i>	485,143	509,962	486,930
<i>Unmetered Scattered Load</i>	2,958	3,043	2,952
<i>Sentinel Lighting</i>	2,281	2,278	2,278
<i>Street Lighting</i>	23,384	32,056	25,509
<b>TOTAL</b>	<b>1,982,593</b>	<b>1,982,593</b>	<b>1,982,593</b>



## 7.4 REVENUE-TO-COST RATIOS

### 7.4.1 COST ALLOCATION RESULTS AND ANALYSIS

Table 14 at the next page shows Appendix 2-P of the Board Appendices while Table 13 below shows the utility's proposed ratios. The Appendix provides information on previously approved ratios and proposed ratios. The section following Appendix 2-P addresses the method and logic used to update the ratios from the Cost Allocation study to the proposed ratios.

**Table 13 – Proposed Revenue Allocation**

<i>Customer Class Name</i>	<b>Calculated R/C Ratio</b>	<b>Proposed R/C Ratio</b>	<b>Variance</b>	<b>Target Range</b>	
				<b>Floor</b>	<b>Ceiling</b>
<i>Residential</i>	1.01	1.01	0.00	0.85	1.15
<i>General Service &lt; 50 kW</i>	1.07	1.07	0.00	0.80	1.20
<i>General Service &gt; 50 to 4999 kW</i>	0.95	0.96	-0.00	0.80	1.20
<i>Unmetered Scattered Load</i>	0.97	0.97	0.00	0.80	1.20
<i>Sentinel Lighting</i>	1.00	1.00	0.00	0.80	1.20
<i>Street Lighting</i>	0.73	0.80	-0.07	0.80	1.20

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**Table 14 - OEB Appendix 2-P**

Please complete the following four tables.

**A) Allocated Costs**

Classes	Costs Allocated from Previous Study	%	Costs Allocated in Test Year Study (Column 7A)	%
Residential	\$935,363	58.81%	\$1,159,652	58.49%
General Service < 50 kW	\$227,732	14.32%	\$275,602	13.90%
General Service > 50 to 4999 kW	\$398,722	25.07%	\$509,962	25.72%
Unmetered Scattered Load	\$1,202	0.08%	\$3,043	0.15%
Sentinel Lighting	\$1,333	0.08%	\$2,278	0.11%
Street Lighting	\$26,213	1.65%	\$32,056	1.62%
<b>Total</b>	<b>\$1,590,565</b>	<b>100.00%</b>	<b>\$1,982,593</b>	<b>100.00%</b>

**B) Calculated Class Revenues**

(from CA - O1 row 18)

Classes (same as previous table)		Column 7B	Column 7C	Column 7D	Column 7E
		Load Forecast (LF) X current approved rates	L.F. X current approved rates X (1 + d)	LF X proposed rates	Miscellaneous Revenue
Residential		\$936,539	\$1,031,476	\$1,027,839	\$141,628
General Service < 50 kW		\$225,316	\$248,156	\$247,889	\$47,568
General Service > 50 to 4999 kW		\$426,157	\$469,356	\$471,143	\$15,787
Unmetered Scattered Load		\$2,436	\$2,683	\$2,677	\$275
Sentinel Lighting		\$1,915	\$2,109	\$2,106	\$172
Street Lighting		\$18,994	\$20,919	\$23,044	\$2,464
<b>Total</b>		<b>\$1,611,356</b>	<b>\$1,774,699</b>	<b>\$1,774,699</b>	<b>\$207,894</b>

**C) Rebalancing Revenue-to-Cost (R/C) Ratios**

Class		Previously Approved Ratios	Status Quo Ratios	Proposed Ratios	Policy Range
		Most Recent Year:	(7C + 7E) / (7A)	(7D + 7E) / (7A)	
		<b>2014</b>			
		<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Residential		100.00	101	101	85 - 115
General Service < 50 kW		98.00	107	107	80 - 120
General Service > 50 to 4999 kW		100.00	95	95	80 - 120
Unmetered Scattered Load		70.00	97	97	80 - 120

Sentinel Lighting	120.00	100	100	85 - 115
Street Lighting	120.00	73	80	

**D) Proposed Revenue-to-Cost Ratios**

Class		Proposed Revenue-to-Cost Ratios			Policy Range
		2017	2018	2019	
		%	%	%	%
Residential		101			85 - 115
General Service < 50 kW		107			80 - 120
General Service > 50 to 4999 kW		95			80 - 120
Unmetered Scattered Load		97			80 - 120
Sentinel Lighting		100			85 - 115
Street Lighting		80			

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**Table 15** below shows the utility's proposed Revenue to Cost reallocation based on an analysis of the proposed results from the Cost Allocation Study vs. the Board imposed floor and ceiling ranges.

**Table 15 – 2018 Allocation**

<b>Customer Class Name</b>	<b>Target Range</b>				
	<b>Calculated R/C Ratio</b>	<b>Proposed R/C Ratio</b>	<b>Variance</b>	<b>Floor</b>	<b>Ceiling</b>
<i>Residential</i>	1.01	1.01	0.00	0.85	1.15
<i>General Service &lt; 50 kW</i>	1.07	1.07	0.00	0.80	1.20
<i>General Service &gt; 50 to 4999 kW</i>	0.95	0.96	-0.00	0.80	1.20
<i>Unmetered Scattered Load</i>	0.97	0.97	0.00	0.80	1.20
<i>Sentinel Lighting</i>	1.00	1.00	0.00	0.80	1.20
<i>Street Lighting</i>	0.73	0.80	-0.07	0.80	1.20

\* Ratios highlighted in pink fell outside of the floor to ceiling range.

The proposed Revenue to Cost ratio is adjusted by changing the allocation percentage for each class. The utility reviews and assesses the bill impacts for each class before adjusting the Revenue to Cost ratios.<sup>10</sup>

HHI proposes to maintain the residential class, the General Service <50kW and the Sentinel Lighting class at their existing ratios 101%, 107% and 100% respectively. HHI proposes to increase the ratio for the GS"50 class from 95% to 96%. At 73%, the Street Lighting ratio fell slightly below the floor therefore HHI proposes to bring it up to at 0.80.<sup>11</sup> The proposed cost re-allocation results in the shortfall allocation shown in the table below.

**Table 16 Table of Shortfall reallocation**

<b>Customer Class Name</b>	<b>Shortfall Reconciliation</b>
<i>Residential</i>	\$3,636.77

<sup>10</sup> MFR - To support a proposal to rebalance rates, the distributor must provide information on the revenue by class that would apply if all rates were changed by a uniform percentage. Ratios must be compared with the ratios that will result from the rates being proposed by the distributor.

<sup>11</sup> MFR - Confirmation of communication with unmetered load customers when proposing changes to the level of the rates and charges or the introduction of new rates and charges

<i>General Service &lt; 50 kW</i>	\$266.94
<i>General Service &gt; 50 to 4999 kW</i>	-\$1,787.58
<i>Unmetered Scattered Load</i>	\$5.71
<i>Sentinel Lighting</i>	\$3.30
<i>Street Lighting</i>	-\$2,125.14
<i>Total</i>	\$0

- 1 For further details about the class specific bill impacts, please refer to Exhibit 8. HHI confirms
- 2 that it has communicated its proposed rates and bill impacts to its Street Lighting and USL
- 3 customers and that it did not receive any comments and feedback on the issue. <sup>12</sup><sup>13</sup>
- 4 HHI is not a Host Distributor therefore evidence of consultation with embedded distributors is
- 5 not applicable. The utility does not have unique circumstances which justify specific MicroFit
- 6 rates and the utility is not seeking Standby Rates in this application. <sup>14</sup> <sup>15</sup> <sup>16</sup>

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<sup>12</sup> MFR - If R:C ratios outside deadband based on model - distributors must include cost allocation proposal to bring them within the OEB-approved ranges. In making any such adjustments, distributors should address potential mitigation measures if the impact of the adjustments on the rates of any particular class or classes is significant.

<sup>13</sup> MFR - Unmetered Loads (including Street Lighting) - Confirmation of communication with unmetered load customers when proposing changes to the level of the rates and charges or the introduction of new rates and charges

<sup>14</sup> MFR - Host Distributor - evidence of consultation with embedded Dx

<sup>15</sup> MFR - microFIT - if the applicant believes that it has unique circumstances which would justify a certain rate, appropriate documentation must be provided

<sup>16</sup> MFR - Standby Rates - if seeking approval on final basis, provide evidence that affected customers have been advised. If seeking changes to standby charges, provide rationale and evidence that affected customer have been advised.