UPDATED COST ALLOCATION

1. INTRODUCTION

In accordance with section 2.7 of the *Chapter 2 Filing Requirements for Electricity Distribution Rate Applications*, as updated on July 12, 2018 and addended on July 15, 2019 ("Filing Requirements"), this Schedule includes information on cost allocation study requirements, class revenue requirements, and revenue-to-cost ratios.

2. COST ALLOCATION STUDY

Hydro Ottawa engaged Elenchus Research Associates ("Elenchus") to assist in completing a Cost Allocation Study for the Test Year 2021 using the OEB-approved model. The updated model incorporates impacts of 2019 actuals, including fixed asset, load, and demand data. Operations, Maintenance and Administration costs and weighting factors have not been updated. The completed updated model is appended to this Schedule as UPDATED Attachment 7-1-1(A): OEB Workform - 2021 Cost Allocation Model. Elenchus has also provided a report which describes the methodology and presents the original results of this model. The report is included as Attachment 7-1-1(B): Hydro Ottawa Cost Allocation Report. It has not been updated to include the impacts of 2019 actuals. In addition, Hydro Ottawa has included PDF copies of the required pages from the completed updated version of the OEB Cost Allocation Model.

3. COST ALLOCATION FACTORS

3.1. WEIGHTING FACTORS

While most allocation factors are based on Test Year data, the allocation factors for secondary service, meter reading, and meter capital are based on historical costs by customer class up to the end of fiscal year 2018, which at the time of Hydro Ottawa's original Application was the utility's last audited year. 2019 is Hydro Ottawa's last audited year as of the filing of this updated package of information for the Application.

For a detailed description of the methodology for development of allocation and load factors, please refer to Attachment 7-1-1(B): Hydro Ottawa Cost Allocation Report. All allocation and load factors, updated for 2019 actual results, have been incorporated into the OEB-approved Cost Allocation Model included in this Application as UPDATED Attachment 7-1-1(A): OEB Workform - 2021 Cost Allocation Model.

3.2. LOAD PROFILES

Hydro Ottawa was unable to obtain the hourly load profile data required to derive updated load profiles for this Application. As a result, demand data figures for the 2021 Cost Allocation Model have been calculated based on hourly demand figures used in previous rate applications, adjusted to the 2021 monthly load profile and customer count forecasts. Please refer to Attachment 7-1-1(B): Hydro Ottawa Cost Allocation Report and UPDATED Attachment 7-1-1(C): 2021 Demand Factors Calculation for a detailed description and example of the calculation of load profile and demand data used in the Cost Allocation Model.

Hydro Ottawa confirms that it has a plan in place to develop updated hourly load profiles to comply with the current Filing Requirements.

4. COST ALLOCATION ADJUSTMENTS

The Cost Allocation Model indicated that four rate classes require adjustments to bring them within the OEB- approved ranges: General Service (“GS”) <50 kW and Street Lighting were above the upper limit, while Large Use and Sentinel Lighting were below the lower limit.

Hydro Ottawa proposes to adjust the revenue requirements to bring three of the four rate classes into the OEB-approved ranges in 2021. Hydro Ottawa first reallocated revenue requirement within the affected rates classes. The remaining revenue shortfall resulting from these adjustments was allocated to the GS 50 to 1,499 kW, GS 1,500 to 4,999 kW, and Large Use customer classes that have revenue-to-cost ratios below 100.

It is proposed to bring the Sentinel Lighting rate class up to the lower bound over a five-year period, in order to mitigate the large bill impact of an immediate adjustment. Required adjustments to Sentinel Lighting in the 2022-2025 Test Years are offset against another unmetered customer class, Street Lighting. The impact on the Street Lighting class will be minimal, at less than $600 annually.

The 2021 adjustments are fully described in Attachment 7-1-1(B): Hydro Ottawa Cost Allocation Report and evidenced within Sheet 11: Cost_Allocation in the following workforms:

- UPDATED Attachment 6-1-1(A): OEB Workform - 2021 Revenue Requirement Workform
- UPDATED Attachment 6-1-1(B): OEB Workform - 2022 Revenue Requirement Workform
- UPDATED Attachment 6-1-1(C): OEB Workform - 2023 Revenue Requirement Workform
- UPDATED Attachment 6-1-1(D): OEB Workform - 2024 Revenue Requirement Workform
- UPDATED Attachment 6-1-1(E): OEB Workform - 2025 Revenue Requirement Workform

The updated version of Table 1 below provides the proposed revenue-to-cost ratios for 2021. Proposed ratios include adjustments to bring customer classes into their policy ranges.

Table 1 – AS ORIGINALLY SUBMITTED – Current and Proposed Revenue-to-Cost Ratios

Rate Class	% Revenue Requirement		Revenue-to-Cost Ratios			Policy Range
	Last Study (2020)	This Study[1]	2020	Status Quo	Proposed	
Residential	53.5%	55.1%	104.29%	103.98%	103.99%	85-115
GS < 50 kW	10.3%	10.0%	118.23%	123.53%	119.77%	80-120
GS > 50 to 1,499 kW	24.3%	24.9%	86.34%	85.07%	85.57%	80-120
GS > 1,500 to 4,999 kW	6.7%	5.3%	98.24%	97.07%	97.62%	80-120
Large Use	4.0%	4.0%	85.36%	79.48%	85.50%	85-115
Street Lighting	0.9%	0.5%	80.00%	126.22%	120.00%	80-120
Sentinel Lighting	0.0%	0.0%	76.00%	54.29%	59.75%	80-120
Unmetered Scattered Load	0.3%	0.3%	118.72%	113.31%	113.25%	80-120
Standby Power	0.0%	0.0%	21.03%	155.69%	155.69%	

Table 1 – UPDATED FOR 2019 ACTUALS – Current and Proposed Revenue-to-Cost Ratios

Rate Class	% Revenue Requirement		Revenue-to-Cost Ratios			Policy Range
	Last Study (2020)	This Study[2]	2020	Status Quo	Proposed	
Residential	53.5%	55.2%	104.29%	103.93%	103.95%	85-115
GS < 50 kW	10.3%	10.0%	118.23%	123.49%	119.93%	80-120
GS > 50 to 1,499 kW	24.3%	24.9%	86.34%	85.11%	85.57%	80-120
GS > 1,500 to 4,999 kW	6.7%	5.2%	98.24%	97.25%	97.77%	80-120
Large Use	4.0%	4.0%	85.36%	79.65%	85.45%	85-115
Street Lighting	0.9%	0.5%	80.00%	125.84%	119.96%	80-120
Sentinel Lighting	0.0%	0.0%	76.00%	54.14%	59.63%	80-120
Unmetered Scattered Load	0.3%	0.3%	118.72%	112.76%	111.92%	80-120
Standby Power	0.0%	0.0%	21.03%	155.34%	156.34%	

[1] Totals may not sum due to rounding.
[2] Totals may not sum due to rounding.

Ontario Energy Board

2020 Cost Allocation Model

Sheet I1 Utility Information Sheet

Version 3.7

Name of LDC:	Hydro Ottawa Limited
Application EB Number:	EB-2019-0261
Date of Application:	Original
Contact Information:	
Name:	Gregory Van Dusen
Title:	Director, Regulatory Affairs
Phone Number:	613-738-5499 ext. 7472
E-Mail Address:	RegulatoryAffairs@HydroOttawa.com

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2020 Cost Allocation Model

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Sheet I2 Class Selection - UPDATED 2021-2025 Custom IR - 2

Instructions:
Step 1: Please input identification of this Run in C15 and C17
Step 2: Please input your proposed rate classes.
Step 3: After all classes have been entered, Click the "Update" button in cell E41

Please input the date on which this Run of the model was prepared or submitted

Please provide summary identification of this Run

UPDATED 2021-2025 Custom IR - 2021 Model

		Utility's Class Definition	Current
1	Residential		YES
2	GS <50		YES
3	GS>50-Regular	GS 50 to 1,499 kW	YES
4	GS> 50-TOU	GS 1,500 to 4,999 kW	YES
5	GS >50-Intermediate		YES
6	Large Use >5MW	Large Use	YES
7	Street Light		YES
8	Sentinel		YES
9	Unmetered Scattered Load		YES
10	Embedded Distributor		YES
11	Back-up/Standby Power	Standby Power GS 50 to 1,499 kW	YES
12	Rate Class 1	Standby Power GS 1,500 to 4,999 kW	YES
13	Rate class 2	Standby Power Large Use	YES
14	Rate class 3		YES
15	Rate class 4		YES
16	Rate class 5		YES
17	Rate class 6		YES
18	Rate class 7		YES
19	Rate class 8		YES
20	Rate class 9		YES

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Sheet I6.1 Revenue Worksheet - UPDATED 2021-2025 Custom IR - 2021 Model

Total kWhs from Load Forecast	7,063,482,000
Total kWs from Load Forecast	9,454,357
Deficiency/sufficiency (RRWF 8. cell F51)	- 18,791,908
Miscellaneous Revenue (RRWF 5. cell F48)	11,013,377

			1	2	3	4	5	6	7	8	9	10	11	12	13
	ID	**Total**	**Residential**	**GS <50**	**GS 50 to 1,499 kW**	**GS 1,500 to 4,999 kW**	**GS >50-Intermediate**	**Large Use**	**Street Light**	**Sentinel**	**Unmetered Scattered Load**	**Embedded Distributor**	**Standby Power GS 50 to 1,499 kW**	**Standby Power GS 1,500 to 4,999 kW**	**Standby Power Large Use**
Billing Data															
Forecast kWh	**CEN**	7,063,482,000	2,252,937,000	699,871,000	2,817,707,000	682,919,000		574,292,000	22,107,000	47,000	13,602,000				
Forecast kW	**CDEM**	9,454,357			6,815,129	1,517,165		1,052,901	61,590	132				7,440	
Forecast kW, included in CDEM, of customers receiving line transformer allowance		2,346,299			762,547	882,208	-	701,543							
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**	7,063,482,000	2,252,937,000	699,871,000	2,817,707,000	682,919,000	-	574,292,000	22,107,000	47,000	13,602,000	-	-	-	-
Existing Monthly Charge			$27.79	$19.32	$200.00	$4,193.93		$15,231.32	$0.91	$3.17	$5.09			$145.13	
Existing Distribution kWh Rate			$0.0000	$0.0250							$0.0242				
Existing Distribution kW Rate					$4.8760	$4.4562		$4.2422	$6.3414	$14.8502				$1.78	
Existing TOA Rate					$0.45	$0.45		$0.45							
Additional Charges															
Distribution Revenue from Rates		$187,888,164	$105,495,064	$23,383,424	$40,718,569	$10,183,038	$0	$6,477,151	$1,076,408	$4,052	$532,015	$0	$0	$18,443	$0
Transformer Ownership Allowance		$1,055,834	$0	$0	$343,146	$396,994	$0	$315,694	$0	$0	$0	$0	$0	$0	$0
Net Class Revenue	**CREV**	$186,832,330	$105,495,064	$23,383,424	$40,375,423	$9,786,044	$0	$6,161,456	$1,076,408	$4,052	$532,015	$0	$0	$18,443	$0

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Sheet I6.2 Customer Data Worksheet - UPDATED 2021-2025 Custom IR - 2021 Model

			1	2	3	4	5	6	7	8	9	10	11	12	13
	ID	Total	Residential	GS <50	GS 50 to 1,499 kW	GS 1,500 to 4,999 kW	GS >50-Intermediate	Large Use	Street Light	Sentinel	Unmetered Scattered Load	Embedded Distributor	Standby Power GS 50 to 1,499 kW	Standby Power GS 1,500 to 4,999 kW	Standby Power Large Use
Billing Data															
Bad Debt 3 Year Historical Average	BDHA	$1,753,222	$1,348,520	$158,923	$163,934	$81,844	$0	$0	$0	$0	$0	$0	$0	$0	$0
Late Payment 3 Year Historical Average	LPHA	$1,045,323	$819,471	$116,497	$96,341	$12,457		$516	$42						
Number of Bills	CNB	4,140,228	3,796,152	304,692	37,440	816		132	180	660	120			36	
Number of Devices	CDEV								62,806	55	3,321				
Number of Connections (Unmetered)	CCON	7,563							4,187	55	3,321				
Total Number of Customers	CCA	345,019	316,346	25,391	3,120	68		11	15	55	10			3	
Bulk Customer Base	CCB	345,019	316,346	25,391	3,120	68		11	15	55	10			3	
Primary Customer Base	CCP	348,563	316,346	25,391	3,120	68		11	3,559	55	10			3	
Line Transformer Customer Base	CCLT	348,403	316,346	25,384	3,008	36		5	3,559	55	10				
Secondary Customer Base	CCS	307,042	286,894	18,091	1,903	65		9	15	55	10				
Weighted - Services	CWCS	350,585	286,894	36,182	19,032	650	-	264	4,187	55	3,321	-	-	-	-
Weighted Meter -Capital	CWMC	70,140,145	53,529,701	9,305,572	6,585,601	585,159	-	113,480	-	-	-	-	-	20,633	-
Weighted Meter Reading	CWMR	373,697	316,346	25,391	29,969	1,671	-	270	-	-	-	-	-	49	-
Weighted Bills	CWNB	4,235,186	3,796,152	320,297	113,481	3,242	-	521	746	475	130	-	-	141	-

Bad Debt Data

Historic Year:	2015	1,763,429	1,144,174	162,717	304,510	152,027									
Historic Year:	2016	2,149,294	1,809,123	209,194	87,362	43,615									
Historic Year:	2017	1,346,942	1,092,264	104,859	99,929	49,890									
Three-year average		**1,753,222**	**1,348,520**	**158,923**	**163,934**	**81,844**	-	-	-	-	-	-	-	-	-

Street Lighting Adjustment Factors

NCP Test Results	4 NCP

	Primary Asset Data		Line Transformer Asset Data	
Class	**Customers/ Devices**	**4 NCP**	**Customers/ Devices**	**4 NCP**
Residential	316,346	2,133,287	316,346	2,133,287
Street Light	62,806	23,998	62,806	23,998

Street Lighting Adjustment Factors	
Primary	17.6488
Line Transformer	17.6488

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Sheet I8 Demand Data Worksheet - UPDATED 2021-2025 Custom IR - 2021 Model

This is an input sheet for demand allocators.

CP TEST RESULTS	12 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 Residential	2 GS <50	3 GS 50 to 1,499 kW	4 GS 1,500 to 4,999 kW	5 GS >50-Intermediate	6 Large Use	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	10 Embedded Distributor	11 Standby Power GS 50 to 1,499 kW	12 Standby Power GS 1,500 to 4,999 kW	13 Standby Power Large Use
		CP Sanity Check	Pass	Check 4CP	Pass	Pass	Pass	Pass	Check 4CP and 12CP	Check 4CP and 12CP	Check 4CP and 12CP	Pass	Pass	Pass	Pass
CO-INCIDENT PEAK															
1 CP															
Transformation CP	TCP1	1,277,019	498,428	117,727	464,152	110,159		84,759	-	-	1,383			412	
Bulk Delivery CP	BCP1	1,277,019	498,428	117,727	464,152	110,159		84,759	-	-	1,383			412	
Total Sytem CP	DCP1	1,277,019	498,428	117,727	464,152	110,159		84,759	-	-	1,383			412	
4 CP															
Transformation CP	TCP4	4,950,687	1,917,197	489,889	1,842,290	384,636		304,601	5,808	8	5,845			412	
Bulk Delivery CP	BCP4	4,950,687	1,917,197	489,889	1,842,290	384,636		304,601	5,808	8	5,845			412	
Total Sytem CP	DCP4	4,950,687	1,917,197	489,889	1,842,290	384,636		304,601	5,808	8	5,845			412	
12 CP															
Transformation CP	TCP12	13,367,670	4,905,357	1,316,881	5,119,659	1,090,578		884,827	31,331	53	18,342			642	
Bulk Delivery CP	BCP12	13,367,670	4,905,357	1,316,881	5,119,659	1,090,578		884,827	31,331	53	18,342			642	
Total Sytem CP	DCP12	13,367,670	4,905,357	1,316,881	5,119,659	1,090,578		884,827	31,331	53	18,342			642	
NON CO_INCIDENT PEAK															
		NCP Sanity Check	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
1 NCP															
Classification NCP from Load Data Provider	DNCP1	1,449,701	575,660	145,496	498,153	125,654		95,229	6,444	15	1,896			1,152	
Primary NCP	PNCP1	1,449,701	575,660	145,496	498,153	125,654		95,229	6,444	15	1,896			1,152	
Line Transformer NCP	LTNCP1	1,263,629	575,660	145,496	433,393	55,287		44,757	6,444	15	1,896			680	
Secondary NCP	SNCP1	978,589	575,660	145,496	249,078	-		-	6,444	15	1,896			-	
4 NCP															
Classification NCP from Load Data Provider	DNCP4	5,555,227	2,133,287	561,644	1,967,131	486,541		374,664	23,998	58	7,492			412	
Primary NCP	PNCP4	5,555,227	2,133,287	561,644	1,967,131	486,541		374,664	23,998	58	7,492			412	
Line Transformer NCP	LTNCP4	4,828,296	2,133,287	561,644	1,711,403	214,078		176,092	23,998	58	7,492			243	
Secondary NCP	SNCP4	3,710,045	2,133,287	561,644	983,566	-		-	23,998	58	7,492			-	
12 NCP															
Classification NCP from Load Data Provider	DNCP12	14,941,590	5,508,979	1,531,293	5,508,529	1,295,932		1,012,783	62,128	142	21,161			642	
Primary NCP	PNCP12	14,941,590	5,508,979	1,531,293	5,508,529	1,295,932		1,012,783	62,128	142	21,161			642	
Line Transformer NCP	LTNCP12	12,962,722	5,508,979	1,531,293	4,792,421	570,210		476,008	62,128	142	21,161			379	
Secondary NCP	SNCP12	9,877,969	5,508,979	1,531,293	2,754,265	-		-	62,128	142	21,161			-	

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Sheet O1 Revenue to Cost Summary Worksheet - UPDATED 2021-2025 Custom IR - 2021 Model

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

Class Revenue, Cost Analysis, and Return on Rate Base

Rate Base Assets		Total	1 Residential	2 GS <50	3 GS 50 to 1,499 kW	4 GS 1,500 to 4,999 kW	5 GS >50-Intermediate	6 Large Use	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	10 Embedded Distributor	11 Standby Power GS 50 to 1,499 kW	12 Standby Power GS 1,500 to 4,999 kW	13 Standby Power Large Use
crev	Distribution Revenue at Existing Rates	$186,832,330	$105,495,064	$23,383,424	$40,375,423	$9,786,044	$0	$6,161,456	$1,076,408	$4,052	$532,015	$0	$0	$18,443	$0
mi	Miscellaneous Revenue (mi)	$11,013,377	$8,081,006	$985,100	$1,394,784	$272,470	$0	$191,721	$51,772	$881	$35,208	$0	$0	$434	$0
		Miscellaneous Revenue Input equals Output													
	Total Revenue at Existing Rates	$197,845,707	$113,576,070	$24,368,524	$41,770,207	$10,058,514	$0	$6,353,178	$1,128,180	$4,933	$567,223	$0	$0	$18,877	$0
	Factor required to recover deficiency (1 + D)	1.1006													
	Distribution Revenue at Status Quo Rates	$205,624,238	$116,105,934	$25,735,368	$44,436,450	$10,770,340	$0	$6,781,186	$1,184,675	$4,460	$585,526	$0	$0	$20,298	$0
	Miscellaneous Revenue (mi)	$11,013,377	$8,081,006	$985,100	$1,394,784	$272,470	$0	$191,721	$51,772	$881	$35,208	$0	$0	$434	$0
	Total Revenue at Status Quo Rates	$216,637,615	$124,186,940	$26,720,468	$45,831,234	$11,042,811	$0	$6,972,907	$1,236,447	$5,341	$620,734	$0	$0	$20,732	$0
	Expenses														
di	Distribution Costs (di)	$30,492,162	$15,380,619	$3,064,347	$8,538,720	$1,823,602	$0	$1,417,832	$170,160	$1,361	$94,003	$0	$0	$1,519	$0
cu	Customer Related Costs (cu)	$15,607,578	$13,424,138	$1,348,054	$714,847	$103,950	$0	$5,875	$5,269	$1,248	$3,010	$0	$0	$1,186	$0
ad	General and Administration (ad)	$47,280,740	$29,029,798	$4,549,882	$9,831,560	$2,051,190	$0	$1,525,030	$185,435	$2,608	$102,474	$0	$0	$2,762	$0
dep	Depreciation and Amortization (dep)	$52,332,722	$26,921,617	$5,450,737	$14,278,235	$2,980,358	$0	$2,305,191	$252,748	$1,912	$138,062	$0	$0	$3,861	$0
INPUT	PILs (INPUT)	$2,224,065	$1,096,910	$226,695	$641,052	$135,586	$0	$105,837	$11,480	$86	$6,294	$0	$0	$124	$0
INT	Interest	$24,442,421	$12,055,016	$2,491,377	$7,045,146	$1,490,083	$0	$1,163,143	$126,170	$950	$69,171	$0	$0	$1,366	$0
	Total Expenses	$172,379,687	$97,908,097	$17,131,093	$41,049,560	$8,584,769	$0	$6,522,908	$751,262	$8,166	$413,014	$0	$0	$10,818	$0
	Direct Allocation	$542,177	$17,751	$50,943	$197,904	$104,777	$0	$151,436	$5,609	$0	$13,759	$0	$0	$0	$0
NI	Allocated Net Income (NI)	$43,715,750	$21,560,632	$4,455,876	$12,600,382	$2,665,043	$0	$2,080,304	$225,657	$1,699	$123,714	$0	$0	$2,443	$0
	Revenue Requirement (includes NI)	$216,637,615	$119,486,480	$21,637,911	$53,847,846	$11,354,589	$0	$8,754,647	$982,528	$9,866	$550,487	$0	$0	$13,261	$0
		Revenue Requirement Input equals Output													
	Rate Base Calculation														
	Net Assets														
dp	Distribution Plant - Gross	$1,367,897,171	$690,724,182	$140,017,658	$383,193,417	$80,230,204	$0	$62,443,304	$7,181,982	$55,611	$3,970,671	$0	$0	$80,142	$0
gp	General Plant - Gross	$279,322,658	$140,054,317	$28,441,618	$78,981,502	$16,571,952	$0	$12,921,438	$1,495,991	$11,623	$829,070	$0	$0	$15,146	$0
accum dep	Accumulated Depreciation	($302,533,807)	($155,715,924)	($31,550,755)	($82,476,855)	($17,202,097)	$0	($13,302,401)	($1,457,240)	($11,009)	($794,990)	$0	$0	($22,537)	$0
co	Capital Contribution	($198,820,308)	($108,395,685)	($20,131,761)	($50,437,526)	($10,048,336)	$0	($7,780,642)	($1,269,846)	($11,175)	($736,306)	$0	$0	($9,031)	$0
	Total Net Plant	$1,145,865,715	$566,666,890	$116,776,761	$329,260,538	$69,551,723	$0	$54,281,700	$5,950,888	$45,050	$3,268,445	$0	$0	$63,720	$0
	Directly Allocated Net Fixed Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
COP	Cost of Power (COP)	$1,037,683,909	$332,373,005	$102,759,737	$413,025,368	$100,103,691	$0	$84,180,919	$3,240,490	$6,889	$1,993,810	$0	$0	$0	$0
	OM&A Expenses	$93,380,489	$57,834,554	$8,962,284	$19,085,127	$3,978,742	$0	$2,948,737	$360,864	$5,218	$199,487	$0	$0	$5,467	$0
	Directly Allocated Expenses	$542,177	$17,751	$50,943	$197,904	$104,777	$0	$151,436	$5,609	$0	$13,759	$0	$0	$0	$0
	Subtotal	*$1,131,606,566*	*$390,225,310*	*$111,772,963*	*$432,308,400*	*$104,187,210*	*$0*	*$87,281,092*	*$3,606,963*	*$12,107*	*$2,207,055*	*$0*	*$0*	*$5,467*	*$0*
	Working Capital	$84,870,492	$29,266,898	$8,382,972	$32,423,130	$7,814,041	$0	$6,546,082	$270,522	$908	$165,529	$0	$0	$410	$0
	Total Rate Base	$1,230,736,207	$595,933,788	$125,159,733	$361,683,668	$77,365,764	$0	$60,827,781	$6,221,410	$45,958	$3,433,975	$0	$0	$64,130	$0
		Rate Base Input equals Output													
	Equity Component of Rate Base	$492,294,483	$238,373,515	$50,063,893	$144,673,467	$30,946,305	$0	$24,331,113	$2,488,564	$18,383	$1,373,590	$0	$0	$25,652	$0
	Net Income on Allocated Assets	$43,715,750	$26,261,092	$9,538,433	$4,583,770	$2,353,265	$0	$298,563	$479,576	($2,825)	$193,962	$0	$0	$9,914	$0
	Net Income on Direct Allocation Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Net Income	$43,715,750	$26,261,092	$9,538,433	$4,583,770	$2,353,265	$0	$298,563	$479,576	($2,825)	$193,962	$0	$0	$9,914	$0
	RATIOS ANALYSIS														
	REVENUE TO EXPENSES STATUS QUO%	100.00%	103.93%	123.49%	85.11%	97.25%	0.00%	79.65%	125.84%	54.14%	112.76%	0.00%	0.00%	156.34%	0.00%
	EXISTING REVENUE MINUS ALLOCATED COSTS	($18,791,908)	($5,910,410)	$2,730,613	($12,077,639)	($1,296,075)	$0	($2,401,470)	$145,652	($4,932)	$16,737	$0	$0	$5,616	$0
		Deficiency Input equals Output													
	STATUS QUO REVENUE MINUS ALLOCATED COSTS	($0)	$4,700,460	$5,082,557	($8,016,612)	($311,778)	$0	($1,781,740)	$253,919	($4,525)	$70,248	$0	$0	$7,471	$0
	RETURN ON EQUITY COMPONENT OF RATE BASE	8.88%	11.02%	19.05%	3.17%	7.60%	0.00%	1.23%	19.27%	-15.37%	14.12%	0.00%	0.00%	38.65%	0.00%

Ontario Energy Board

2020 Cost Allocation Model

EB-2019-0261

Sheet O2 Monthly Fixed Charge Min. & Max. Worksheet - UPDATED 2021-2025 Custom IR - 2021 Model

Output sheet showing minimum and maximum level for Monthly Fixed Charge

Summary

	1 Residential	2 GS <50	3 GS 50 to 1,499 kW	4 GS 1,500 to 4,999 kW	5 GS >50-Intermediate	6 Large Use	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	10 Embedded Distributor	11 Standby Power GS 50 to 1,499 kW	12 Standby Power GS 1,500 to 4,999 kW	13 Standby Power Large Use
Customer Unit Cost per month - Avoided Cost	$4.23	$6.25	$26.46	$67.13	0	$13.28	$0.07	$1.85	$0.05	0	0	$84.69	0
Customer Unit Cost per month - Directly Related	$7.68	$10.73	$44.75	$117.09	0	$70.72	$0.18	$3.77	$0.13	0	0	$124.86	0
Customer Unit Cost per month - Minimum System with PLCC Adjustment	$16.71	$21.15	$78.85	$402.12	0	$516.80	$8.19	$14.67	$8.70	0	0	$89.34	0
Existing Approved Fixed Charge	$27.79	$19.32	$200.00	$4,193.93	$0.00	$15,231.32	$0.91	$3.17	$5.09	$0.00	$0.00	$145.13	$0.00

Information to be Used to Allocate PILs, ROD, ROE and A&G

	Total	1 Residential	2 GS <50	3 GS 50 to 1,499 kW	4 GS 1,500 to 4,999 kW	5 GS >50-Intermediate	6 Large Use	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	10 Embedded Distributor	11 Standby Power GS 50 to 1,499 kW	12 Standby Power GS 1,500 to 4,999 kW	13 Standby Power Large Use
General Plant - Gross Assets	$279,322,658	$140,054,317	$28,441,618	$78,981,502	$16,571,952	$0	$12,921,438	$1,495,991	$11,623	$829,070	$0	$0	$15,146	$0
General Plant - Accumulated Depreciation	($93,457,347)	($46,860,161)	($9,516,157)	($26,426,075)	($5,544,737)	$0	($4,323,327)	($500,537)	($3,889)	($277,395)	$0	$0	($5,068)	$0
General Plant - Net Fixed Assets	$185,865,311	$93,194,155	$18,925,462	$52,555,427	$11,027,215	$0	$8,598,111	$995,454	$7,734	$551,675	$0	$0	$10,078	$0
General Plant - Depreciation	$16,520,731	$8,283,609	$1,682,199	$4,671,415	$980,160	$0	$764,247	$88,481	$687	$49,036	$0	$0	$896	$0
Total Net Fixed Assets Excluding General Plant	$960,000,403	$473,472,735	$97,851,299	$276,705,111	$58,524,508	$0	$45,683,589	$4,955,434	$37,316	$2,716,770	$0	$0	$53,642	$0
Total Administration and General Expense	$47,280,740	$29,029,798	$4,549,882	$9,831,560	$2,051,190	$0	$1,525,030	$185,435	$2,608	$102,474	$0	$0	$2,762	$0
Total O&M	$45,490,016	$28,423,779	$4,354,042	$9,131,178	$1,902,058	$0	$1,404,877	$173,109	$2,575	$95,729	$0	$0	$2,669	$0

Scenario 1

Accounts included in Avoided Costs Plus General Administration Allocation

USoA Account #	Accounts	Total	1 Residential	2 GS <50	3 GS 50 to 1,499 kW	4 GS 1,500 to 4,999 kW	5 GS >50-Intermediate	6 Large Use	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	10 Embedded Distributor	11 Standby Power GS 50 to 1,499 kW	12 Standby Power GS 1,500 to 4,999 kW	13 Standby Power Large Use
	Distribution Plant														
1860	Meters	$54,968,547	$41,951,009	$7,292,739	$5,161,109	$458,587	$0	$88,934	$0	$0	$0	$0	$0	$16,170	$0
	Accumulated Amortization														
	Accum. Amortization of Electric Utility Plant - Meters only	($28,716,207)	($21,915,694)	($3,809,811)	($2,696,223)	($239,571)	$0	($46,460)	$0	$0	$0	$0	$0	($8,447)	$0
	Meter Net Fixed Assets	**$26,252,340**	**$20,035,315**	**$3,482,927**	**$2,464,886**	**$219,016**	**$0**	**$42,474**	**$0**	**$0**	**$0**	**$0**	**$0**	**$7,722**	**$0**
	Misc Revenue														
4082	Retail Services Revenues	($160,963)	($99,691)	($15,449)	($32,898)	($6,858)	$0	($5,083)	($622)	($9)	($344)	$0	$0	($9)	$0
4084	Service Transaction Requests (STR) Revenues	($4,152)	($2,571)	($398)	($848)	($177)	$0	($131)	($16)	($0)	($9)	$0	$0	($0)	$0
4090	Electric Services Incidental to Energy Sales	($278,736)	($172,633)	($26,752)	($56,968)	($11,876)	$0	($8,802)	($1,077)	($16)	($595)	$0	$0	($16)	$0
4220	Other Electric Revenues	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4225	Late Payment Charges	($1,000,000)	($783,940)	($111,445)	($92,163)	($11,917)	$0	($494)	($40)	$0	$0	$0	$0	$0	$0
	Sub-total	*($1,443,850)*	*($1,058,836)*	*($154,044)*	*($182,878)*	*($30,829)*	*$0*	*($14,510)*	*($1,755)*	*($25)*	*($948)*	*$0*	*$0*	*($26)*	*$0*
	Operation														
5065	Meter Expense	$881,674	$672,878	$116,973	$82,782	$7,356	$0	$1,426	$0	$0	$0	$0	$0	$259	$0
5070	Customer Premises - Operation Labour	$270,095	$242,391	$19,455	$2,391	$52	$0	$8	$3,208	$42	$2,545	$0	$0	$2	$0
5075	Customer Premises - Materials and Expenses	$14,371	$12,897	$1,035	$127	$3	$0	$0	$171	$2	$135	$0	$0	$0	$0
	Sub-total	*$1,166,140*	*$928,166*	*$137,463*	*$85,300*	*$7,410*	*$0*	*$1,435*	*$3,379*	*$44*	*$2,680*	*$0*	*$0*	*$262*	*$0*
	Maintenance														
5175	Maintenance of Meters	$1,730,278	$1,320,517	$229,558	$162,459	$14,435	$0	$2,799	$0	$0	$0	$0	$0	$509	$0
	Billing and Collection														
5310	Meter Reading Expense	$444,603	$376,370	$30,209	$35,656	$1,988	$0	$322	$0	$0	$0	$0	$0	$58	$0
5315	Customer Billing	$8,846,969	$7,929,862	$669,076	$237,052	$6,773	$0	$1,088	$1,559	$993	$272	$0	$0	$294	$0
5320	Collecting	$1,879,280	$1,684,468	$142,126	$50,355	$1,439	$0	$231	$331	$211	$58	$0	$0	$63	$0
5325	Collecting- Cash Over and Short	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5330	Collection Charges	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Sub-total	$11,170,852	$9,990,700	$841,410	$323,063	$10,199	$0	$1,641	$1,890	$1,204	$329	$0	$0	$415	$0
	Total Operation, Maintenance and Billing	$14,067,270	$12,239,383	$1,208,431	$570,822	$32,045	$0	$5,875	$5,269	$1,248	$3,010	$0	$0	$1,186	$0
	Amortization Expense - Meters	$4,800,190	$3,663,419	$636,847	$450,700	$40,047	$0	$7,766	$0	$0	$0	$0	$0	$1,412	$0
	Allocated PILs	$50,868	$38,783	$6,761	$4,799	$427	$0	$83	$0	$0	$0	$0	$0	$15	$0
	Allocated Debt Return	$559,038	$426,222	$74,307	$52,741	$4,692	$0	$910	$0	$0	$0	$0	$0	$166	$0
	Allocated Equity Return	$999,850	$762,307	$132,899	$94,328	$8,392	$0	$1,628	$0	$0	$0	$0	$0	$296	$0
	Total	**$19,033,365**	**$16,071,278**	**$1,905,200**	**$990,512**	**$54,774**	**$0**	**$1,753**	**$3,514**	**$1,224**	**$2,061**	**$0**	**$0**	**$3,049**	**$0**

Scenario 2

Accounts included in Directly Related Customer Costs Plus General Administration Allocation

			1	2	3	4	5	6	7	8	9	10	11	12	13
USoA Account #	Accounts	Total	Residential	GS <50	GS 50 to 1,499 kW	GS 1,500 to 4,999 kW	GS >50-Intermediate	Large Use	Street Light	Sentinel	Unmetered Scattered Load	Embedded Distributor	Standby Power GS 50 to 1,499 kW	Standby Power GS 1,500 to 4,999 kW	Standby Power Large Use
	Distribution Plant														
1860	Meters	$54,968,547	$41,951,009	$7,292,739	$5,161,109	$458,587	$0	$88,934	$0	$0	$0	$0	$0	$16,170	$0
	Accumulated Amortization														
	Accum. Amortization of Electric Utility Plant - Meters only	($28,716,207)	($21,915,694)	($3,809,811)	($2,696,223)	($239,571)	$0	($46,460)	$0	$0	$0	$0	$0	($8,447)	$0
	Meter Net Fixed Assets	$26,252,340	$20,035,315	$3,482,927	$2,464,886	$219,016	$0	$42,474	$0	$0	$0	$0	$0	$7,722	$0
	Allocated General Plant Net Fixed Assets	$5,136,082	$3,943,573	$673,634	$468,163	$41,267	$0	$7,994	$0	$0	$0	$0	$0	$1,451	$0
	Meter Net Fixed Assets Including General Plant	$31,388,422	$23,978,888	$4,156,562	$2,933,049	$260,283	$0	$50,468	$0	$0	$0	$0	$0	$9,173	$0
	Misc Revenue														
4082	Retail Services Revenues	($160,963)	($99,691)	($15,449)	($32,898)	($6,858)	$0	($5,083)	($622)	($9)	($344)	$0	$0	($9)	$0
4084	Service Transaction Requests (STR) Revenues	($4,152)	($2,571)	($398)	($848)	($177)	$0	($131)	($16)	($0)	($9)	$0	$0	($0)	$0
4090	Electric Services Incidental to Energy Sales	($278,736)	($172,633)	($26,752)	($56,968)	($11,876)	$0	($8,802)	($1,077)	($16)	($595)	$0	$0	($16)	$0
4220	Other Electric Revenues	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4225	Late Payment Charges	($1,000,000)	($783,940)	($111,445)	($92,163)	($11,917)	$0	($494)	($40)	$0	$0	$0	$0	$0	$0
	Sub-total	*($1,443,850)*	*($1,058,836)*	*($154,044)*	*($182,878)*	*($30,829)*	*$0*	*($14,510)*	*($1,755)*	*($25)*	*($948)*	*$0*	*$0*	*($26)*	*$0*
	Operation														
5065	Meter Expense	$881,674	$672,878	$116,973	$82,782	$7,356	$0	$1,426	$0	$0	$0	$0	$0	$259	$0
5070	Customer Premises - Operation Labour	$270,095	$242,391	$19,455	$2,391	$52	$0	$8	$3,208	$42	$2,545	$0	$0	$2	$0
5075	Customer Premises - Materials and Expenses	$14,371	$12,897	$1,035	$127	$3	$0	$0	$171	$2	$135	$0	$0	$0	$0
	Sub-total	*$1,166,140*	*$928,166*	*$137,463*	*$85,300*	*$7,410*	*$0*	*$1,435*	*$3,379*	*$44*	*$2,680*	*$0*	*$0*	*$262*	*$0*
	Maintenance														
5175	Maintenance of Meters	$1,730,278	$1,320,517	$229,558	$162,459	$14,435	$0	$2,799	$0	$0	$0	$0	$0	$509	$0
	Billing and Collection														
5310	Meter Reading Expense	$444,603	$376,370	$30,209	$35,656	$1,988	$0	$322	$0	$0	$0	$0	$0	$58	$0
5315	Customer Billing	$8,846,969	$7,929,862	$669,076	$237,052	$6,773	$0	$1,088	$1,559	$993	$272	$0	$0	$294	$0
5320	Collecting	$1,879,280	$1,684,468	$142,126	$50,355	$1,439	$0	$231	$331	$211	$58	$0	$0	$63	$0
5325	Collecting- Cash Over and Short	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5330	Collection Charges	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Sub-total	*$11,170,852*	*$9,990,700*	*$841,410*	*$323,063*	*$10,199*	*$0*	*$1,641*	*$1,890*	*$1,204*	*$329*	*$0*	*$0*	*$415*	*$0*
	Total Operation, Maintenance and Billing	$14,067,270	$12,239,383	$1,208,431	$570,822	$32,045	$0	$5,875	$5,269	$1,248	$3,010	$0	$0	$1,186	$0
	Amortization Expense - Meters	$4,800,190	$3,663,419	$636,847	$450,700	$40,047	$0	$7,766	$0	$0	$0	$0	$0	$1,412	$0
	Amortization Expense - General Plant assigned to Meters	*$456,523*	*$350,526*	*$59,876*	*$41,613*	*$3,668*	*$0*	*$711*	*$0*	*$0*	*$0*	*$0*	*$0*	*$129*	*$0*
	Admin and General	$14,430,021	$12,500,337	$1,262,785	$614,605	$34,558	$0	$6,378	$5,644	$1,265	$3,222	$0	$0	$1,227	$0
	Allocated PILs	$60,820	$46,416	$8,069	$5,710	$507	$0	$98	$0	$0	$0	$0	$0	$18	$0
	Allocated Debt Return	$668,407	$510,116	$88,678	$62,758	$5,576	$0	$1,081	$0	$0	$0	$0	$0	$197	$0
	Allocated Equity Return	$1,195,459	$912,353	$158,603	$112,244	$9,973	$0	$1,934	$0	$0	$0	$0	$0	$352	$0
	Total	**$34,234,839**	**$29,163,716**	**$3,269,244**	**$1,675,575**	**$95,546**	**$0**	**$9,335**	**$9,158**	**$2,488**	**$5,283**	**$0**	**$0**	**$4,495**	**$0**

Scenario 3

Minimum System Customer Costs Adjusted for PLCC - High Limit Fixed Customer Charge

			1	2	3	4	5	6	7	8	9	10	11	12	13
USoA Account #	Accounts	Total	Residential	GS <50	GS 50 to 1,499 kW	GS 1,500 to 4,999 kW	GS >50-Intermediate	Large Use	Street Light	Sentinel	Unmetered Scattered Load	Embedded Distributor	Standby Power GS 50 to 1,499 kW	Standby Power GS 1,500 to 4,999 kW	Standby Power Large Use
	Distribution Plant														
1565	Conservation and Demand Management Expenditures and Recoveries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1830	Poles, Towers and Fixtures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1830-3	Poles, Towers and Fixtures - Subtransmission Bulk Delivery	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1830-4	Poles, Towers and Fixtures - Primary	$31,657,956	$28,461,545	$2,284,420	$280,705	$6,118	$0	$990	$320,171	$4,948	$298,789	$0	$0	$270	$0
1830-5	Poles, Towers and Fixtures - Secondary	$13,567,695	$12,375,772	$780,396	$82,098	$2,804	$0	$380	$180,615	$2,373	$143,258	$0	$0	$0	$0
1835	Overhead Conductors and Devices	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1835-3	Overhead Conductors and Devices - Subtransmission Bulk Delivery	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1835-4	Overhead Conductors and Devices - Primary	$45,245,385	$40,677,090	$3,264,881	$401,183	$8,744	$0	$1,414	$457,587	$7,072	$427,028	$0	$0	$386	$0
1835-5	Overhead Conductors and Devices - Secondary	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1840	Underground Conduit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1840-3	Underground Conduit - Bulk Delivery	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1840-4	Underground Conduit - Primary	$54,550,221	$49,042,444	$3,936,312	$483,687	$10,542	$0	$1,705	$551,691	$8,527	$514,848	$0	$0	$465	$0
1840-5	Underground Conduit - Secondary	$21,319,349	$19,446,441	$1,226,261	$129,004	$4,406	$0	$596	$283,806	$3,728	$225,106	$0	$0	$0	$0
1845	Underground Conductors and Devices	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1845-3	Underground Conductors and Devices - Bulk Delivery	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1845-4	Underground Conductors and Devices - Primary	$63,757,516	$57,320,105	$4,600,706	$565,326	$12,321	$0	$1,993	$644,809	$9,966	$601,746	$0	$0	$544	$0
1845-5	Underground Conductors and Devices - Secondary	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
1850	Line Transformers	$37,379,339	$33,620,543	$2,697,755	$319,683	$3,826	$0	$531	$378,206	$5,845	$352,948	$0	$0	$0	$0
1855	Services	$77,858,292	$63,713,700	$8,035,368	$4,226,642	$144,355	$0	$58,629	$929,852	$12,214	$737,530	$0	$0	$0	$0
1860	Meters	$54,952,377	$41,951,009	$7,292,739	$5,161,109	$458,587	$0	$88,934	$0	$0	$0	$0	$0	$0	$0
	Sub-total	*$400,288,130*	*$346,608,650*	*$34,118,837*	*$11,649,438*	*$651,703*	*$0*	*$155,173*	*$3,746,738*	*$54,673*	*$3,301,254*	*$0*	*$0*	*$1,664*	*$0*
	Accumulated Amortization														
	Accum. Amortization of Electric Utility Plant -Line Transformers, Services and Meters	($143,600,366)	($123,255,250)	($12,726,061)	($4,863,994)	($313,543)	$0	($77,520)	($1,240,706)	($18,151)	($1,096,158)	$0	$0	($8,983)	$0
	Customer Related Net Fixed Assets	$256,687,764	$223,353,400	$21,392,776	$6,785,444	$338,159	$0	$77,652	$2,506,032	$36,522	$2,205,097	$0	$0	($7,318)	$0
	Allocated General Plant Net Fixed Assets	$50,424,973	$43,962,894	$4,137,586	$1,288,780	$63,716	$0	$14,615	$503,415	$7,570	$447,773	$0	$0	($1,375)	$0
	Customer Related NFA Including General Plant	$307,112,738	$267,316,294	$25,530,362	$8,074,224	$401,875	$0	$92,267	$3,009,447	$44,092	$2,652,870	$0	$0	($8,693)	$0
	Misc Revenue														
4082	Retail Services Revenues	($160,963)	($99,691)	($15,449)	($32,898)	($6,858)	$0	($5,083)	($622)	($9)	($344)	$0	$0	($9)	$0
4084	Service Transaction Requests (STR) Revenues	($4,152)	($2,571)	($398)	($848)	($177)	$0	($131)	($16)	($0)	($9)	$0	$0	($0)	$0
4090	Electric Services Incidental to Energy Sales	($278,736)	($172,633)	($26,752)	($56,968)	($11,876)	$0	($8,802)	($1,077)	($16)	($595)	$0	$0	($16)	$0
4220	Other Electric Revenues	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4225	Late Payment Charges	($1,000,000)	($783,940)	($111,445)	($92,163)	($11,917)	$0	($494)	($40)	$0	$0	$0	$0	$0	$0
4235	Miscellaneous Service Revenues	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Sub-total	*($1,443,850)*	*($1,058,836)*	*($154,044)*	*($182,878)*	*($30,829)*	*$0*	*($14,510)*	*($1,755)*	*($25)*	*($948)*	*$0*	*$0*	*($26)*	*$0*

	Operating and Maintenance														
5005	Operation Supervision and Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5010	Load Dispatching	$989,692	$855,386	$77,554	$30,558	$3,579	$0	$2,743	$10,495	$152	$9,221	$0	$0	$5	$0
5020	Overhead Distribution Lines and Feeders - Operation Labour	$98,452	$88,705	$6,888	$831	$19	$0	$3	$1,043	$16	$946	$0	$0	$1	$0
5025	Overhead Distribution Lines & Feeders - Operation Supplies and Expenses	$20,440	$18,416	$1,430	$173	$4	$0	$1	$217	$3	$196	$0	$0	$0	$0
5035	Overhead Distribution Transformers- Operation	$29,734	$26,744	$2,146	$254	$3	$0	$0	$301	$5	$281	$0	$0	$0	$0
5040	Underground Distribution Lines and Feeders - Operation Labour	$225,560	$203,238	$15,772	$1,903	$44	$0	$7	$2,391	$36	$2,167	$0	$0	$2	$0
5045	Underground Distribution Lines & Feeders - Operation Supplies & Expenses	$1,199,565	$1,080,851	$83,878	$10,121	$234	$0	$37	$12,718	$191	$11,527	$0	$0	$9	$0
5055	Underground Distribution Transformers - Operation	$19,683	$17,704	$1,421	$168	$2	$0	$0	$199	$3	$186	$0	$0	$0	$0
5065	Meter Expense	$881,674	$672,878	$116,973	$82,782	$7,356	$0	$1,426	$0	$0	$0	$0	$0	$259	$0
5070	Customer Premises - Operation Labour	$270,095	$242,391	$19,455	$2,391	$52	$0	$8	$3,208	$42	$2,545	$0	$0	$2	$0
5075	Customer Premises - Materials and Expense	$14,371	$12,897	$1,035	$127	$3	$0	$0	$171	$2	$135	$0	$0	$0	$0
5085	Miscellaneous Distribution Expens	$3,319,923	$2,869,395	$260,155	$102,507	$12,005	$0	$9,200	$35,205	$510	$30,931	$0	$0	$15	$0
5090	Underground Distribution Lines and Feeders - Rental Paid	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5095	Overhead Distribution Lines and Feeders - Rental Paid	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5096	Other Rent	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5105	Maintenance Supervision and Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5120	Maintenance of Poles, Towers and Fixtures	$177,135	$159,948	$12,004	$1,421	$35	$0	$5	$1,961	$29	$1,731	$0	$0	$1	$0
5125	Maintenance of Overhead Conductors and Device	$210,001	$188,798	$15,154	$1,862	$41	$0	$7	$2,124	$33	$1,982	$0	$0	$2	$0
5130	Maintenance of Overhead Services	$222,471	$182,054	$22,960	$12,077	$412	$0	$168	$2,657	$35	$2,107	$0	$0	$0	$0
5135	Overhead Distribution Lines and Feeders - Right of Way	$1,171,351	$1,055,387	$81,952	$9,892	$229	$0	$36	$12,408	$186	$11,252	$0	$0	$8	$0
5145	Maintenance of Underground Conduit	$133,867	$120,844	$9,109	$1,081	$26	$0	$4	$1,474	$22	$1,306	$0	$0	$1	$0
5150	Maintenance of Underground Conductors and Devices	$272,687	$245,154	$19,677	$2,418	$53	$0	$9	$2,758	$43	$2,574	$0	$0	$2	$0
5155	Maintenance of Underground Services	$164,794	$134,856	$17,008	$8,946	$306	$0	$124	$1,968	$26	$1,561	$0	$0	$0	$0
5160	Maintenance of Line Transformers	$158,376	$142,450	$11,430	$1,355	$16	$0	$2	$1,602	$25	$1,495	$0	$0	$0	$0
5175	Maintenance of Meters	$1,730,278	$1,320,517	$229,558	$162,459	$14,435	$0	$2,799	$0	$0	$0	$0	$0	$509	$0
	Sub-total	*$11,310,149*	*$9,638,614*	*$1,005,559*	*$433,326*	*$38,853*	*$0*	*$16,580*	*$92,900*	*$1,357*	*$82,143*	*$0*	*$0*	*$817*	*$0*
	Billing and Collection														
5305	Supervision	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5310	Meter Reading Expense	$444,603	$376,370	$30,209	$35,656	$1,988	$0	$322	$0	$0	$0	$0	$0	$58	$0
5315	Customer Billing	$8,846,969	$7,929,862	$669,076	$237,052	$6,773	$0	$1,088	$1,559	$993	$272	$0	$0	$294	$0
5320	Collecting	$1,879,280	$1,684,468	$142,126	$50,355	$1,439	$0	$231	$331	$211	$58	$0	$0	$63	$0
5325	Collecting- Cash Over and Shor	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5330	Collection Charges	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5335	Bad Debt Expense	$1,540,308	$1,184,754	$139,624	$144,025	$71,905	$0	$0	$0	$0	$0	$0	$0	$0	$0
5340	Miscellaneous Customer Accounts Expense	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Sub-total	*$12,711,160*	*$11,175,454*	*$981,033*	*$467,088*	*$82,104*	*$0*	*$1,641*	*$1,890*	*$1,204*	*$329*	*$0*	*$0*	*$415*	*$0*
	Sub Total Operating, Maintenance and Billing	*$24,021,309*	*$20,814,068*	*$1,986,592*	*$900,414*	*$120,957*	*$0*	*$18,221*	*$94,790*	*$2,561*	*$82,473*	*$0*	*$0*	*$1,232*	*$0*
	Amortization Expense - Customer Related	$12,735,578	$10,465,306	$1,260,989	$733,845	$78,445	$0	$37,950	$83,262	$1,202	$73,129	$0	$0	$1,449	$0
	Amortization Expense - General Plant assigned to Meters	$4,482,049	$3,907,664	$367,771	$114,554	$5,663	$0	$1,299	$44,746	$673	$39,801	$0	$0	($122)	$0
	Admin and General	$24,647,180	$21,257,842	$2,075,947	$969,478	$130,441	$0	$19,779	$101,540	$2,594	$88,284	$0	$0	$1,275	$0
	Allocated PILs	$594,677	$517,450	$49,561	$15,720	$783	$0	$180	$5,806	$85	$5,109	$0	$0	($17)	$0
	Allocated Debt Return	$6,535,487	$5,686,766	$544,678	$172,763	$8,610	$0	$1,977	$63,806	$930	$56,144	$0	$0	($186)	$0
	Allocated Equity Return	$11,688,847	$10,170,893	$974,168	$308,990	$15,399	$0	$3,536	$114,118	$1,663	$100,414	$0	$0	($333)	$0
	PLCC Adjustment for Line Transformer	$863,582	$776,804	$62,306	$7,383	$88	$0	$12	$8,783	$0	$8,205	$0	$0	$0	$0
	PLCC Adjustment for Primary Costs	$6,447,825	$5,795,951	$465,778	$57,454	$1,254	$0	$203	$65,736	$0	$61,395	$0	$0	$55	$0
	PLCC Adjustment for Secondary Costs	$1,934,452	$1,737,902	$132,043	$16,068	$0	$0	$0	$20,248	$0	$28,191	$0	$0	$0	$0
	Total	$74,015,418	**$63,450,496**	**$6,445,537**	**$2,951,982**	**$328,128**	**$0**	**$68,218**	**$411,544**	**$9,683**	**$346,613**	**$0**	**$0**	**$3,216**	**$0**

Below: Grouping to avoid disclosure

Scenario 1

Accounts included in Avoided Costs Plus General Administration Allocation

Accounts	Total	Residential	GS <50	GS 50 to 1,499 kW	GS 1,500 to 4,999 kW	GS >50-Intermediate	Large Use	Street Light	Sentinel	Unmetered Scattered Load	Embedded Distributor	Standby Power GS 50 to 1,499 kW	Standby Power GS 1,500 to 4,999 kW	Standby Power Large Use
Distribution Plant														
CWMC	$ 54,968,547	$ 41,951,009	$ 7,292,739	$ 5,161,109	$ 458,587	$ -	$ 88,934	$ -	$ -	$ -	$ -	$ -	$ 16,170	$ -
Accumulated Amortization														
Accum. Amortization of Electric Utility Plant - Meters only	$ (28,716,207)	$ (21,915,694)	$ (3,809,811)	$ (2,696,223)	$ (239,571)	$ -	$ (46,460)	$ -	$ -	$ -	$ -	$ -	$ (8,447)	$ -
Meter Net Fixed Assets	$ 26,252,340	$ 20,035,315	$ 3,482,927	$ 2,464,886	$ 219,016	$ -	$ 42,474	$ -	$ -	$ -	$ -	$ -	$ 7,722	$ -
Misc Revenue														
CWNB	$ (443,850)	$ (274,896)	$ (42,599)	$ (90,714)	$ (18,912)	$ -	$ (14,016)	$ (1,715)	$ (25)	$ (948)	$ -	$ -	$ (26)	$ -
NFA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LPHA	$ (1,000,000)	$ (783,940)	$ (111,445)	$ (92,163)	$ (11,917)	$ -	$ (494)	$ (40)	$ -	$ -	$ -	$ -	$ -	$ -
Sub-total	$ (1,443,850)	$ (1,058,836)	$ (154,044)	$ (182,878)	$ (30,829)	$ -	$ (14,510)	$ (1,755)	$ (25)	$ (948)	$ -	$ -	$ (26)	$ -
Operation														
CWMC	$ 881,674	$ 672,878	$ 116,973	$ 82,782	$ 7,356	$ -	$ 1,426	$ -	$ -	$ -	$ -	$ -	$ 259	$ -
CCA	$ 284,466	$ 255,288	$ 20,490	$ 2,518	$ 55	$ -	$ 9	$ 3,379	$ 44	$ 2,680	$ -	$ -	$ 2	$ -
Sub-total	$ 1,166,140	$ 928,166	$ 137,463	$ 85,300	$ 7,410	$ -	$ 1,435	$ 3,379	$ 44	$ 2,680	$ -	$ -	$ 262	$ -
Maintenance														
1860	$ 1,730,278	$ 1,320,517	$ 229,558	$ 162,459	$ 14,435	$ -	$ 2,799	$ -	$ -	$ -	$ -	$ -	$ 509	$ -
Billing and Collection														
CWMR	$ 444,603	$ 376,370	$ 30,209	$ 35,656	$ 1,988	$ -	$ 322	$ -	$ -	$ -	$ -	$ -	$ 58	$ -
CWNB	$ 10,726,249	$ 9,614,330	$ 811,201	$ 287,407	$ 8,211	$ -	$ 1,319	$ 1,890	$ 1,204	$ 329	$ -	$ -	$ 357	$ -
Sub-total	$ 11,170,852	$ 9,990,700	$ 841,410	$ 323,063	$ 10,199	$ -	$ 1,641	$ 1,890	$ 1,204	$ 329	$ -	$ -	$ 415	$ -
Total Operation, Maintenance and Billing	$ 14,067,270	$ 12,239,383	$ 1,208,431	$ 570,822	$ 32,045	$ -	$ 5,875	$ 5,269	$ 1,248	$ 3,010	$ -	$ -	$ 1,186	$ -
Amortization Expense - Meters	$ 4,800,190	$ 3,663,419	$ 636,847	$ 450,700	$ 40,047	$ -	$ 7,766	$ -	$ -	$ -	$ -	$ -	$ 1,412	$ -
Allocated PILs	$ 50,868	$ 38,783	$ 6,761	$ 4,799	$ 427	$ -	$ 83	$ -	$ -	$ -	$ -	$ -	$ 15	$ -
Allocated Debt Return	$ 559,038	$ 426,222	$ 74,307	$ 52,741	$ 4,692	$ -	$ 910	$ -	$ -	$ -	$ -	$ -	$ 166	$ -
Allocated Equity Return	$ 999,850	$ 762,307	$ 132,899	$ 94,328	$ 8,392	$ -	$ 1,628	$ -	$ -	$ -	$ -	$ -	$ 296	$ -
Total	**$ 19,033,365**	**$ 16,071,278**	**$ 1,905,200**	**$ 990,512**	**$ 54,774**	**$ -**	**$ 1,753**	**$ 3,514**	**$ 1,224**	**$ 2,061**	**$ -**	**$ -**	**$ 3,049**	**$ -**

Scenario 2

Accounts included in Directly Related Customer Costs Plus General Administration Allocation

Accounts	Total	Residential	GS <50	GS 50 to 1,499 kW	GS 1,500 to 4,999 kW	GS >50-Intermediate	Large Use	Street Light	Sentinel	Unmetered Scattered Load	Embedded Distributor	Standby Power GS 50 to 1,499 kW	Standby Power GS 1,500 to 4,999 kW	Standby Power Large Use
Distribution Plant														
CWMC	$ 54,968,547	$ 41,951,009	$ 7,292,739	$ 5,161,109	$ 458,587	$ -	$ 88,934	$ -	$ -	$ -	$ -	$ -	$ 16,170	$ -
Accumulated Amortization														
Accum. Amortization of Electric Utility Plant - Meters only	$ (28,716,207)	$ (21,915,694)	$ (3,809,811)	$ (2,696,223)	$ (239,571)	$ -	$ (46,460)	$ -	$ -	$ -	$ -	$ -	$ (8,447)	$ -
Meter Net Fixed Assets	$ 26,252,340	$ 20,035,315	$ 3,482,927	$ 2,464,886	$ 219,016	$ -	$ 42,474	$ -	$ -	$ -	$ -	$ -	$ 7,722	$ -
Allocated General Plant Net Fixed Assets	$ 5,136,082	$ 3,943,573	$ 673,634	$ 468,163	$ 41,267	$ -	$ 7,994	$ -	$ -	$ -	$ -	$ -	$ 1,451	$ -
Meter Net Fixed Assets Including General Plant	$ 31,388,422	$ 23,978,888	$ 4,156,562	$ 2,933,049	$ 260,283	$ -	$ 50,468	$ -	$ -	$ -	$ -	$ -	$ 9,173	$ -
Misc Revenue														
CWNB	$ (443,850)	$ (274,896)	$ (42,599)	$ (90,714)	$ (18,912)	$ -	$ (14,016)	$ (1,715)	$ (25)	$ (948)	$ -	$ -	$ (26)	$ -
NFA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LPHA	$ (1,000,000)	$ (783,940)	$ (111,445)	$ (92,163)	$ (11,917)	$ -	$ (494)	$ (40)	$ -	$ -	$ -	$ -	$ -	$ -
Sub-total	*$ (1,443,850)*	*$ (1,058,836)*	*$ (154,044)*	*$ (182,878)*	*$ (30,829)*	*$ -*	*$ (14,510)*	*$ (1,755)*	*$ (25)*	*$ (948)*	*$ -*	*$ -*	*$ (26)*	*$ -*
Operation														
CWMC	$ 881,674	$ 672,878	$ 116,973	$ 82,782	$ 7,356	$ -	$ 1,426	$ -	$ -	$ -	$ -	$ -	$ 259	$ -
CCA	$ 284,466	$ 255,288	$ 20,490	$ 2,518	$ 55	$ -	$ 9	$ 3,379	$ 44	$ 2,680	$ -	$ -	$ 2	$ -
Sub-total	*$ 1,166,140*	*$ 928,166*	*$ 137,463*	*$ 85,300*	*$ 7,410*	*$ -*	*$ 1,435*	*$ 3,379*	*$ 44*	*$ 2,680*	*$ -*	*$ -*	*$ 262*	*$ -*
Maintenance														
1860	$ 1,730,278	$ 1,320,517	$ 229,558	$ 162,459	$ 14,435	$ -	$ 2,799	$ -	$ -	$ -	$ -	$ -	$ 509	$ -
Billing and Collection														
CWMR	$ 444,603	$ 376,370	$ 30,209	$ 35,656	$ 1,988	$ -	$ 322	$ -	$ -	$ -	$ -	$ -	$ 58	$ -
CWNB	$ 10,726,249	$ 9,614,330	$ 811,201	$ 287,407	$ 8,211	$ -	$ 1,319	$ 1,890	$ 1,204	$ 329	$ -	$ -	$ 357	$ -
Sub-total	*$ 11,170,852*	*$ 9,990,700*	*$ 841,410*	*$ 323,063*	*$ 10,199*	*$ -*	*$ 1,641*	*$ 1,890*	*$ 1,204*	*$ 329*	*$ -*	*$ -*	*$ 415*	*$ -*
Total Operation, Maintenance and Billing	$ 14,067,270	$ 12,239,383	$ 1,208,431	$ 570,822	$ 32,045	$ -	$ 5,875	$ 5,269	$ 1,248	$ 3,010	$ -	$ -	$ 1,186	$ -
Amortization Expense - Meters	$ 4,800,190	$ 3,663,419	$ 636,847	$ 450,700	$ 40,047	$ -	$ 7,766	$ -	$ -	$ -	$ -	$ -	$ 1,412	$ -
Amortization Expense - General Plant assigned to Meters	$ 456,523	$ 350,526	$ 59,876	$ 41,613	$ 3,668	$ -	$ 711	$ -	$ -	$ -	$ -	$ -	$ 129	$ -
Admin and General	$ 14,430,021	$ 12,500,337	$ 1,262,785	$ 614,605	$ 34,558	$ -	$ 6,378	$ 5,644	$ 1,265	$ 3,222	$ -	$ -	$ 1,227	$ -
Allocated PILs	$ 60,820	$ 46,416	$ 8,069	$ 5,710	$ 507	$ -	$ 98	$ -	$ -	$ -	$ -	$ -	$ 18	$ -
Allocated Debt Return	$ 668,407	$ 510,116	$ 88,678	$ 62,758	$ 5,576	$ -	$ 1,081	$ -	$ -	$ -	$ -	$ -	$ 197	$ -
Allocated Equity Return	$ 1,195,459	$ 912,353	$ 158,603	$ 112,244	$ 9,973	$ -	$ 1,934	$ -	$ -	$ -	$ -	$ -	$ 352	$ -
Total	**$ 34,234,839**	**$ 29,163,716**	**$ 3,269,244**	**$ 1,675,575**	**$ 95,546**	**$ -**	**$ 9,335**	**$ 9,158**	**$ 2,488**	**$ 5,283**	**$ -**	**$ -**	**$ 4,495**	**$ -**

Scenario 3

Minimum System Customer Costs Adjusted for PLCC - High Limit Fixed Customer Charge

USoA Account #	Accounts	Total	Residential	GS <50	GS 50 to 1,499 kW	GS 1,500 to 4,999 kW	GS >50-Intermediate	Large Use	Street Light	Sentinel	Unmetered Scattered Load	Embedded Distributor	Standby Power GS 50 to 1,499 kW	Standby Power GS 1,500 to 4,999 kW	Standby Power Large Use
	Distribution Plant														
	CDMPP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Poles, Towers and Fixtures	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	BCP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	PNCP	$ 195,211,077	$ 175,501,184	$ 14,086,319	$ 1,730,901	$ 37,725	$ -	$ 6,103	$ 1,974,258	$ 30,513	$ 1,842,411	$ -	$ -	$ 1,664	$ -
	SNCP	$ 34,887,045	$ 31,822,213	$ 2,006,658	$ 211,102	$ 7,210	$ -	$ 976	$ 464,421	$ 6,101	$ 368,364	$ -	$ -	$ -	$ -
	Overhead Conductors and Devices	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	LTNCP	$ 37,379,339	$ 33,620,543	$ 2,697,755	$ 319,683	$ 3,826	$ -	$ 531	$ 378,206	$ 5,845	$ 352,948	$ -	$ -	$ -	$ -
	CWCS	$ 77,858,292	$ 63,713,700	$ 8,035,368	$ 4,226,642	$ 144,355	$ -	$ 58,629	$ 929,852	$ 12,214	$ 737,530	$ -	$ -	$ -	$ -
	CWMC	$ 54,952,377	$ 41,951,009	$ 7,292,739	$ 5,161,109	$ 458,587	$ -	$ 88,934	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Sub-total	*$ 400,288,130*	*$ 346,608,650*	*$ 34,118,837*	*$ 11,649,438*	*$ 651,703*	*$ -*	*$ 155,173*	*$ 3,746,738*	*$ 54,673*	*$ 3,301,254*	*$ -*	*$ -*	*$ 1,664*	*$ -*
	Accumulated Amortization														
	Accum. Amortization of Electric Utility Plant -Line Transformers, Services and Meters	$ (143,600,366)	$ (123,255,250)	$ (12,726,061)	$ (4,863,994)	$ (313,543)	$ -	$ (77,520)	$ (1,240,706)	$ (18,151)	$ (1,096,158)	$ -	$ -	$ (8,983)	$ -
	Customer Related Net Fixed Assets	$ 256,687,764	$ 223,353,400	$ 21,392,776	$ 6,785,444	$ 338,159	$ -	$ 77,652	$ 2,506,032	$ 36,522	$ 2,205,097	$ -	$ -	$ (7,318)	$ -
	Allocated General Plant Net Fixed Assets	$ 50,424,973	$ 43,962,894	$ 4,137,586	$ 1,288,780	$ 63,716	$ -	$ 14,615	$ 503,415	$ 7,570	$ 447,773	$ -	$ -	$ (1,375)	$ -
	Customer Related NFA Including General Plant	$ 307,112,738	$ 267,316,294	$ 25,530,362	$ 8,074,224	$ 401,875	$ -	$ 92,267	$ 3,009,447	$ 44,092	$ 2,652,870	$ -	$ -	$ (8,693)	$ -
	Misc Revenue														
	CWNB	$ (443,850)	$ (274,896)	$ (42,599)	$ (90,714)	$ (18,912)	$ -	$ (14,016)	$ (1,715)	$ (25)	$ (948)	$ -	$ -	$ (26)	$ -
	NFA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	LPHA	$ (1,000,000)	$ (783,940)	$ (111,445)	$ (92,163)	$ (11,917)	$ -	$ (494)	$ (40)	$ -	$ -	$ -	$ -	$ -	$ -
	Sub-total	*$ (1,443,850)*	*$ (1,058,836)*	*$ (154,044)*	*$ (182,878)*	*$ (30,829)*	*$ -*	*$ (14,510)*	*$ (1,755)*	*$ (25)*	*$ (948)*	*$ -*	*$ -*	*$ (26)*	*$ -*
	Operating and Maintenance														
	1815-1855	$ 4,309,615	$ 3,724,781	$ 337,709	$ 133,066	$ 15,583	$ -	$ 11,943	$ 45,699	$ 662	$ 40,152	$ -	$ -	$ 20	$ -
	1830 & 1835	$ 1,290,243	$ 1,162,509	$ 90,270	$ 10,896	$ 252	$ -	$ 40	$ 13,668	$ 205	$ 12,394	$ -	$ -	$ 9	$ -
	1850	$ 207,794	$ 186,898	$ 14,997	$ 1,777	$ 21	$ -	$ 3	$ 2,102	$ 32	$ 1,962	$ -	$ -	$ -	$ -
	1840 & 1845	$ 1,425,125	$ 1,284,088	$ 99,650	$ 12,024	$ 278	$ -	$ 44	$ 15,109	$ 227	$ 13,694	$ -	$ -	$ 10	$ -
	CWMC	$ 881,674	$ 672,878	$ 116,973	$ 82,782	$ 7,356	$ -	$ 1,426	$ -	$ -	$ -	$ -	$ -	$ 259	$ -
	CCA	$ 284,466	$ 255,288	$ 20,490	$ 2,518	$ 55	$ -	$ 9	$ 3,379	$ 44	$ 2,680	$ -	$ -	$ 2	$ -
	O&M	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	1830	$ 177,135	$ 159,948	$ 12,004	$ 1,421	$ 35	$ -	$ 5	$ 1,961	$ 29	$ 1,731	$ -	$ -	$ 1	$ -
	1835	$ 210,001	$ 188,798	$ 15,154	$ 1,862	$ 41	$ -	$ 7	$ 2,124	$ 33	$ 1,982	$ -	$ -	$ 2	$ -
	1855	$ 387,265	$ 316,910	$ 39,968	$ 21,023	$ 718	$ -	$ 292	$ 4,625	$ 61	$ 3,668	$ -	$ -	$ -	$ -
	1840	$ 133,867	$ 120,844	$ 9,109	$ 1,081	$ 26	$ -	$ 4	$ 1,474	$ 22	$ 1,306	$ -	$ -	$ 1	$ -
	1845	$ 272,687	$ 245,154	$ 19,677	$ 2,418	$ 53	$ -	$ 9	$ 2,758	$ 43	$ 2,574	$ -	$ -	$ 2	$ -
	1860	$ 1,730,278	$ 1,320,517	$ 229,558	$ 162,459	$ 14,435	$ -	$ 2,799	$ -	$ -	$ -	$ -	$ -	$ 509	$ -
	Sub-total	*$ 11,310,149*	*$ 9,638,614*	*$ 1,005,559*	*$ 433,326*	*$ 38,853*	*$ -*	*$ 16,580*	*$ 92,900*	*$ 1,357*	*$ 82,143*	*$ -*	*$ -*	*$ 817*	*$ -*
	Billing and Collection														
	CWNB	$ 10,726,249	$ 9,614,330	$ 811,201	$ 287,407	$ 8,211	$ -	$ 1,319	$ 1,890	$ 1,204	$ 329	$ -	$ -	$ 357	$ -
	CWMR	$ 444,603	$ 376,370	$ 30,209	$ 35,656	$ 1,988	$ -	$ 322	$ -	$ -	$ -	$ -	$ -	$ 58	$ -
	BDHA	$ 1,540,308	$ 1,184,754	$ 139,624	$ 144,025	$ 71,905	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Sub-total	*$ 12,711,160*	*$ 11,175,454*	*$ 981,033*	*$ 467,088*	*$ 82,104*	*$ -*	*$ 1,641*	*$ 1,890*	*$ 1,204*	*$ 329*	*$ -*	*$ -*	*$ 415*	*$ -*
	Sub Total Operating, Maintenance and Billing	*$ 24,021,309*	*$ 20,814,068*	*$ 1,986,592*	*$ 900,414*	*$ 120,957*	*$ -*	*$ 18,221*	*$ 94,790*	*$ 2,561*	*$ 82,473*	*$ -*	*$ -*	*$ 1,232*	*$ -*
	Amortization Expense - Customer Related	$ 12,735,578	$ 10,465,306	$ 1,260,989	$ 733,845	$ 78,445	$ -	$ 37,950	$ 83,262	$ 1,202	$ 73,129	$ -	$ -	$ 1,449	$ -
	Amortization Expense - General Plant assigned to Meters	$ 4,482,049	$ 3,907,664	$ 367,771	$ 114,554	$ 5,663	$ -	$ 1,299	$ 44,746	$ 673	$ 39,801	$ -	$ -	$ (122)	$ -
	Admin and General	$ 24,647,180	$ 21,257,842	$ 2,075,947	$ 969,478	$ 130,441	$ -	$ 19,779	$ 101,540	$ 2,594	$ 88,284	$ -	$ -	$ 1,275	$ -
	Allocated PILs	$ 594,677	$ 517,450	$ 49,561	$ 15,720	$ 783	$ -	$ 180	$ 5,806	$ 85	$ 5,109	$ -	$ -	$ (17)	$ -
	Allocated Debt Return	$ 6,535,487	$ 5,686,766	$ 544,678	$ 172,763	$ 8,610	$ -	$ 1,977	$ 63,806	$ 930	$ 56,144	$ -	$ -	$ (186)	$ -
	Allocated Equity Return	$ 11,688,847	$ 10,170,893	$ 974,168	$ 308,990	$ 15,399	$ -	$ 3,536	$ 114,118	$ 1,663	$ 100,414	$ -	$ -	$ (333)	$ -
	PLCC Adjustment for Line Transformer	$ 863,582	$ 776,804	$ 62,306	$ 7,383	$ 88	$ -	$ 12	$ 8,783	$ -	$ 8,205	$ -	$ -	$ -	$ -
	PLCC Adjustment for Primary Costs	$ 6,447,825	$ 5,795,951	$ 465,778	$ 57,454	$ 1,254	$ -	$ 203	$ 65,736	$ -	$ 61,395	$ -	$ -	$ 55	$ -
	PLCC Adjustment for Secondary Costs	$ 1,934,452	$ 1,737,902	$ 132,043	$ 16,068	$ -	$ -	$ -	$ 20,248	$ -	$ 28,191	$ -	$ -	$ -	$ -
	Total	**$ 74,015,418**	**$ 63,450,496**	**$ 6,445,537**	**$ 2,951,982**	**$ 328,128**	**$ -**	**$ 68,218**	**$ 411,544**	**$ 9,683**	**$ 346,613**	**$ -**	**$ -**	**$ 3,216**	**$ -**

5. STANDBY RATES

5.1. LOAD DISPLACEMENT STANDBY

Standby rates are being examined as part of the OEB's consultation on Commercial and Industrial Rate Design ("C&I Rate Design"), with the potential implementation of a Capacity Reserve Charge to replace Standby Charges.[3] As a result, Hydro Ottawa is not seeking Standby Rates on a final basis as part of this Application.

Once a final OEB report and policy change related to C&I Rate Design is released and electricity distributors understand the resulting impact on Standby Charges, Hydro Ottawa will determine next steps in requesting Standby rates on a final basis.

5.2. RELIABILITY STANDBY

Upon issuance of the final report for C&I Rate Design, Hydro Ottawa will review the treatment of Standby Rates relating to reliability. Seeing as Hydro Ottawa's intended rate design was linked to the current Standby rate design for load displacement (as initially proposed in the utility's 2017 rate adjustment application[4]), Hydro Ottawa believes it would be prudent at this time for the policy change related to C&I Rate Design to be completed prior to the utility seeking to introduce new rates to customers that may be addressed in that consultation generically.

If Hydro Ottawa is unable to recover the costs associated with additional reliability as a result of the outcomes emerging from the OEB's consultation on C&I Rate Design, a separate application relating to Standby Reliability charges will be filed.

[3] Ontario Energy Board, *Rate Design for Commercial and Industrial Electricity Customers*, EB-2015-0043.
[4] Hydro Ottawa Limited, *2017 Electricity Distribution Rate Application*, EB-2016-0084 (August 15, 2016).

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Hydro Ottawa 2021 Cost Allocation and Rate Design - Custom IR

Report prepared by
Elenchus Research Associates Inc.

29 January 2020

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1 INTRODUCTION

Hydro Ottawa Limited ("Hydro Ottawa") has prepared its 2021-2025 Custom IR Application as a cost of service rate application based on a forward test year. The relevant filing requirements for this Application are set out in Chapter 2 of the July 12, 2018 update to the document entitled *Ontario Energy Board, Filing Requirements for Electricity Distribution Rate Applications, 2018 Edition for 2019 Rate Applications* ("Filing Requirements").

Section 2.7 of the Filing Requirements sets out the expectations of the Board with respect to Exhibit 7: Cost Allocation. The Filing Requirements on page 44 state:

> *A completed cost allocation study using the OEB-approved methodology, or a comparable study and model must be filed. This filing must reflect future loads and costs and be supported by appropriate explanations and live Microsoft Excel spreadsheets. The most current update of the model is available on the OEB's website. Sheets 11 and 12 of the RRWF21 must also be completed.* [1]

Hydro Ottawa asked Elenchus Research Associated (Elenchus) to assist it by preparing an appropriate cost allocation study for its 2021-2025 Custom IR rate application.

In addressing the cost allocation issues, Elenchus was guided by the Filing Requirements, the November 28, 2007 *Report of the Board, Application of Cost Allocation for Electricity Distributors* (EB-2007-0667) ("CA Application Report") which "sets out the Board's policies in relation to specific cost allocation matters for electricity distributors"[2] and the March 31, 2011 *Report of the Board, Review of Electricity Distribution Cost Allocation Policy* (EB-2010-0219) ("CA Review Report") in which the Board narrowed some revenue to cost ratio ranges, and committed to further consultations on unmetered and standby loads, as well as the Board's decisions in various electricity distributor cost of service proceedings that addressed relevant issues.

1.1 PURPOSE OF THE COST ALLOCATION STUDY

In the context of a cost of service rate application based on 2021 forward test year, the primary purpose of the cost allocation study ("CA Study") is to determine the proportions of a distributor's total revenue requirement that are the "responsibility" of each rate class.

[1] *Ontario Energy Board, Filing Requirements for Electricity Distribution Rate Applications (July 12, 2018), p. 44.*

[2] Ontario Energy Board, *Report of the Board, Application of Cost Allocation for Electricity Distributors* (EB-2007-0667), November 28, 2007, page 1.

In addition, cost allocation studies provide revenue to cost ratios for each customer class that can be examined to ensure that they generally fall within the Board-specified ranges (or move toward those ranges where appropriate to mitigate rate impacts) and generally are not moving away from 100%.

Conceptually, Hydro Ottawa's prospective year CA Study for the 2021 test year is based on an allocation of the 2021 test year costs (i.e., the 2021 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. By definition, this approach will result in a total revenue to cost ratio at proposed rates of 100%. Given a revenue deficiency for the test year, that is, existing rates are insufficient to recover Hydro Ottawa's 2021 revenue requirement, the total revenue to cost ratio at current rates would be somewhat below 100%.

1.2 HYDRO OTTAWA'S 2016 COST ALLOCATION

The last cost allocation study filed by Hydro Ottawa was in 2015 in Proceeding EB-2015-0004, based on the v 3.3 Cost Allocation Model[3]. The 2021 model was prepared in accordance with the internal documentation in the v 3.7 Cost Allocation Model (CA Model).

Hydro Ottawa's 2016 CA Study was prepared in accordance with the Filing Requirements, the November 28, 2007 *Report of the Board, Application of Cost Allocation for Electricity Distributors* (EB-2007-0667) ("CA Application Report") which "sets out the Board's policies in relation to specific cost allocation matters for electricity distributors"[4] and the March 31, 2011 *Report of the Board, Review of Electricity Distribution Cost Allocation Policy* (EB-2010-0219) ("CA Review Report").

Hydro Ottawa filed a separate cost allocation model for each year of the rate period in Proceeding EB-2015-0004. These cost allocation models formed the basis for differential rate increases for each class in each year of the rate period. In preparation of the cost allocation and rate design for this application Hydro Ottawa informed Elenchus that the most significant asset entering service during the rate period is a transmission station.

This asset is not expected to materially change the allocation of costs among rate classes to the extent that would require separate cost allocation models during the rate period. Elenchus advised that a single cost allocation model based on the test year would be

[3] The models initially filed in EB-2015-0004 were based on v 3.2 as they were prepared before v 3.3 was provided by the Board. The final "Settlement" models were based on v 3.3.

[4] Ontario Energy Board, *Report of the Board, Application of Cost Allocation for Electricity Distributors* (EB-2007-0667), November 28, 2007, page 1.

suitable for the purposes of cost allocation and rate design for this CIR application. Aside from the Sentinel class that requires bill impact mitigation, uniform annual rate increases from 2022 to 2025 are appropriate.

1.3 STRUCTURE OF THE REPORT

The remainder of this report is divided into five additional sections. Section 2 provides an overview of the Hydro Ottawa CA Study, explaining the model run included in the study, as well as the load and cost information used for the run. Section 3 explains the methodology used to develop the 2021 Hydro Ottawa model by documenting each step taken in completing the model. Section 4 summarizes the results of the Hydro Ottawa CA Study, showing the class revenue requirements and revenue to cost ratios generated by the CA model. Section 5 shows the fixed charge unit costs per month and the fixed charge boundary values as calculated in the cost allocation models for 2021. Section 6 shows the rate design approach proposed by Hydro Ottawa.

2 OVERVIEW OF THE HYDRO OTTAWA 2021 CA STUDY

2.1 MODEL RUN INCLUDED IN THE HYDRO OTTAWA COST ALLOCATION STUDY

Section 2.7.3 of the updated Filing Requirements specifies that the third table in sheet 11 of the RRWF, "...combines information from the previous two tables in the form of revenue-to-cost ratios and includes the following information for each class:"

- *The previously approved ratios most recently implemented by the distributor;*
- *The ratios that would result from the most recent approved distribution rates and the distributor's forecast of billing quantities in the test year, prorated upwards or downwards (as applicable) to match the revenue requirement, and expressed as ratios with the class revenue requirements derived in the updated cost allocation model; and*
- *The ratios that are proposed for the test year.*

For clarity, the following designations are used.

Ottawa-2016: The Hydro Ottawa 2016 revenue to cost ratios.

Ottawa-2021: The version 3.7 CA Model with 2021 loads, costs, and revenues

2.2 LOAD AND CUSTOMER INFORMATION

The updated Filing Requirements specify that "This filing must reflect future loads and costs..." and "If a distributor is not able to update its load profiles at this time, an explanation should be provided and the distributor should confirm that it intends to put plans in place to update its load profiles the next time a cost allocation model is filed. In such cases, the load profiles provided by Hydro One for use in the original Informational Filing may be used, scaled to match the load forecast as it relates to the respective rate classes (see section 2.3.2 above)." p. 44).

The Hydro Ottawa-2021 model has been prepared using the following load and load profile information:

Annual Loads (kW and kWh, as appropriate) and customer counts: The 2021 load forecast and customer counts by class being used by Ottawa in its application were also used for the 2021 CA model.

Hourly load profile: Hydro Ottawa was unable to obtain hourly load data required to derive updated load profiles. In lieu of updated hourly load profiles, Elenchus has derived demand data figures with hourly demand figures used in prior rate applications adjusted to the monthly 2021 load forecast.

Hourly load profiles prepared by Hydro One for the 2006 Cost Allocation Information Filing (CAIF) are used for all classes except the Large Use class. Load data for the Large Use class is from 2013. The sources of load data used to derive 2021 demand data is unchanged from the load data used in Hydro Ottawa's 2016-2020 cost of service application (EB-2015-0004).

The Board has indicated that demand data should not be updated unless all classes can be updated. Hydro Ottawa updated the load data for the Large Use class at that time because of the change in composition of its Large Use customers. Elenchus, in its report on Hydro Ottawa's 2016-2020 cost allocation models[5], supported updating Large Use data because the class is not weather-sensitive. Incorporating the 2013 Large Use data did not require weather-normalizing demand so adjusting for differences between weather in 2006 and 2013 was not required. Demand profiles from the different years were all scaled to annual forecast consumption in 2016-2020, mitigating most of the impact of using demand profiles from different years.

Elenchus' position was that the benefit of using data that more accurately reflected Hydro Ottawa's Large Use customers outweighed the drawbacks, which are largely minimized because the class is not weather-sensitive. In the absence of more current

[5] EB-2015-0004, Exhibit G, Tab 1, Schedule 1, Attachment A

data, Elenchus used the same load research data used in the EB-2015-0004 proceeding to derive 2021 demand data.

2.3 COST INFORMATION

As noted earlier, the Filing Requirements mandate that the cost allocation models be prepared on the basis of prospective test year information. In the case of Hydro Ottawa, the financial information for the forecast year has been prepared at the USoA level with respect to capital assets. Operations, Maintenance and Administration costs were established in conjunction with Hydro Ottawa's budgeting process.

3 HYDRO OTTAWA COST ALLOCATION STUDY METHODOLOGY

This section documents Elenchus' methodology for the Hydro Ottawa Cost Allocation Study, the 2021 CA Model.

3.1 2021 HYDRO OTTAWA CA MODEL

3.1.1 HOURLY LOAD PROFILE (HONI FILE)

As previously described, the hourly load profile data is primarily from Hydro One's 2006 CAIF. The Hydro Ottawa hourly load shapes derived by Hydro One for the 2006 CAIF were not updated. However, the demand allocators derived by Hydro One for the 2006 CAIF were revised to reflect changes in the relative loads for the classes from 2006 to 2021. This was done by scaling the hourly load profiles of each class on the Hourly Load Shape by Class worksheet of the HONI file to levels consistent with the 2021 load forecast years while maintaining the hourly load shapes.

Elenchus had previously calculated and applied annual scaling factors for EB-2015-0004. The demand data in this application relies on monthly consumption scaling factors to better reflect trends in seasonal energy use since 2006 caused by energy efficiency improvements in lighting and heating and cooling. For the Large User customer class, 2013 actual interval hourly data was used, scaled to levels consistent with the 2021 load forecast months while maintaining the hourly load shapes.

3.1.2 DEMAND ALLOCATORS

The demand allocators used in the Hydro Ottawa 2021 CA model were derived using the same methodology as Hydro Ottawa used for the 2016-2020 CA models; however, they were re-determined using the forecast 2021 hourly load profiles resulting from the preceding step. Using the 2021 hourly load profiles by class, the 12 monthly coincident

and non-coincident peaks for the rate classes were determined. The allocators were then derived as follows:

The 1, 4 and 12 NCP values for each class were calculated by selecting the peak in the year (1 NCP), summing the four highest monthly peaks (4 NCP) and summing the 12 monthly peaks for each class (12 NCP), respectively.

The total 1, 4 and 12 NCP values are the totals of the corresponding class NCP values.

The 1, 4 and 12 CP values for each class were derived by identifying the hour in each month when the coincident peak occurred and then selecting the peak in the year (1 CP), adding the demands during the four highest coincident peak hours (4 CP) and summing the demand for each class during the 12 monthly coincident peak hours (12 CP), respectively.

The total 1, 4 and 12 CP values are the totals of the corresponding class CP values, which are the values used to identify the relevant coincident peak hours.

3.1.3 2021 Demand Data (Hydro Ottawa 2021 Model)

The demand allocators derived in the updated Hydro One file as described in the preceding section were input at the appropriate cells at sheet I8 Demand Data of the 2021 Hydro Ottawa CA Model. However, the Line Transformer and Secondary 1NCP, 4NCP and 12NCP values for GS > 50 to 1499, GS > 1500 to 4999, and Large User customer classes are not equal to the full class NCP values since not all customers in these customer classes use these facilities. The Line Transformer and Secondary 1NCP, 4NCP and 12NCP values were therefore determined from the full load data NCP values using the ratio of values in the 2016-2020 models, which were taken from the 2006 CA Model.

3.1.4 Meter Reading and Customer Billing Adjustment

Hydro Ottawa has vendors that provide both customer billing and meter reading services. The costs of these services are included entirely within Customer Billing (USoA No. 5315). The meter reading costs that are included in Customer Billing have been reclassified to Meter Reading Expense (USoA No. 5310) so that the relevant balance is allocated by the relevant allocation factors (CWMR) instead of the Customer Billing allocation factors (CWNB).

3.1.5 DIRECT ALLOCATION

Demonstrating and Selling Expense (USoA No. 5510) has been directly assigned to rate classes within tab 'I9 Direct Allocation'. This cost is directly allocated based on analysis of the proportionate estimated direct support effort, in terms of time, attributable to each of Hydro Ottawa's Key Account customers, by customer class.

This allocation is more reflective of the costs caused by each class than the default composite OM&A allocator, which would allocate most of the cost to the Residential class that is only responsible for a small share. Demonstration and Selling Expense is the only cost that is directly allocated.

4 SUMMARY OF REVENUE TO COST RATIOS

The class revenue-to-cost ratios as determined in the Hydro Ottawa cost allocation model is shown in Table 1, below.

Table 1: Revenue to Cost Ratios

Customer Class	Ottawa 2016	Ottawa 2021 Status Quo Rates	Board Target Range
Residential	102.9	103.98	85-115
GS < 50 kW	118.5	123.53	80-120
GS > 50 to 1,499 kW	87.4	85.07	80-120
GS > 1,500 to 4,999 kW	103.2	97.07	80-120
Large Use	88.1	79.48	85-115
Street Light	80.0	126.22	80-120
Sentinel	61.2	54.29	80-120
USL	119.9	113.31	80-120
Standby Power	22.5	155.69	
Total	100.0	100.00	

The Hydro Ottawa 2021 ratios (at Status Quo rates) reflect the impact of changes in throughput by class as well as changes in costs from 2016 through the 2021 forecast test year.

Table 2 presents the revenue responsibility (i.e., allocation of the total revenue requirement to the rate classes) in the model. This revenue responsibility is presented in both dollar and percentage terms.

Table 2: Revenue Responsibility by Rate Class

Customer Class	Ottawa 2016		Ottawa 2021	
	$	%	$	%
Residential	94,252,272	53.8	118,467,234	55.1
GS < 50 kW	18,493,124	10.6	21,458,225	10.0
GS > 50 to 1,499 kW	42,966,162	24.5	53,434,771	24.9
GS > 1,500 to 4,999 kW	10,435,898	6.0	11,287,559	5.3
Large Use	6,837,135	3.9	8,700,527	4.0
Street Light	1,519,551	0.9	971,554	0.5
Sentinel	8,546	0.0	9,764	0.0
USL	473,436	0.3	543,397	0.3
Standby Power	58,540	0.0	13,205	0.0
Total	**175,044,665**	**100.0**	**214,886,236**	**100.0**

5 FIXED CHARGE RATES

The Hydro Ottawa cost allocation model produced the following customer unit cost per month values:

Table 3: 2021 Customer Unit Cost per Month

Customer Class	Avoided Cost	Directly Related	Minimum System with PLCC[6] Adjustment
Residential	4.23	7.68	16.61
GS < 50 kW	6.25	10.73	21.04
GS > 50 to 1,499 kW	26.42	44.74	78.79
GS > 1,500 to 4,999 kW	66.93	117.00	403.82
Large Use	12.85	70.42	526.69
Street Light	0.07	0.18	8.09
Sentinel	1.85	3.77	14.52
USL	0.05	0.13	8.58
Standby Power	84.58	124.83	89.70

In accordance with Board policy,[7] the following boundary values would apply for the fixed monthly service charge:

[6] PLCC: 'Peak Load Carrying Capacity'

[7] Ontario Energy Board, *Report of the Board, Application of Cost Allocation for Electricity Distributors* (EB-2007-0667), November 28, 2007, pages 12-13

Table 4: 2021 Fixed Charge Boundary Values

Customer Class	Cost Allocation		Existing Rate	Boundary Values	
	Low	High		Minimum	Maximum
Residential	4.23	16.61	27.79	4.23	27.79
GS < 50 kW	6.25	21.04	19.32	6.25	21.04
GS > 50 to 1,499 kW	26.42	78.79	200.00	26.42	200.00
GS > 1,500 to 4,999 kW	66.93	403.82	4,193.93	66.93	4,193.93
Large Use	12.85	526.69	15,231.32	12.85	15,231.32
Street Light	0.07	8.09	0.91	0.07	8.09
Sentinel	1.85	14.52	3.17	1.85	14.52
USL	0.05	8.58	5.09	0.05	8.58
Standby Power	84.58	124.83	145.13	84.58	145.13

6 RATE DESIGN

The results of the cost allocation study for 2021 for Hydro Ottawa are the starting point for Hydro Ottawa's Distribution rate design.

The revenue requirement by class determined in the cost allocation study is used to calculate the revenue to cost ratio by customer class. Distribution Revenues are assumed to increase from 2020 approved Distribution rates by 9.13%, the overall revenue requirement increase proposed for 2021.

The revenue to cost ratios by customer class for 2021 are analyzed to determine if the ratios are within the ranges of revenue to cost ratios approved by the OEB for each customer class.

The following table shows the revenue to cost ratios from the cost allocation model and the OEB approved revenue to cost ratio ranges by customer class.

Table 5: Revenue to Cost Ratios

Customer Class	Cost Allocation Study	OEB Approved Range	Within Range
Residential	103.98	85 to 115	Yes
GS<50	123.53	80 to 120	No
GS 50 to 1,499 kW	85.07	80 to 120	Yes
GS 1,500 to 4,999 kW	97.07	80 to 120	Yes
Large Use	79.48	85 to 115	No
Street Light	126.22	80 to 120	No
Sentinel	54.29	80 to 120	No
Unmetered Scattered Load	113.31	80 to 120	Yes
Standby Power	155.69		

As shown in the above table, GS<50, Large Use, Street Light and Sentinel Light have revenue to cost ratios that are not within the OEB approved range of revenue to cost ratios for the class.

OEB guidelines are that the revenue to cost ratios for customer classes should be brought to within the OEB approved revenue to cost ratio ranges taken into consideration the bill impact to customers.

Hydro Ottawa is proposing to reduce the revenue to cost ratios for GS<50 and Street Light customer classes that exceed the revenue to cost ratio upper range to bring the revenue to cost ratios for these two customer classes to 120.

Hydro Ottawa is proposing to increase the revenue to cost ratio for the Large Use and Sentinel customer classes that are below the revenue to cost ratio lower range to bring the revenue to cost ratios for the Large Use to 85 and Sentinel to 80.

Hydro Ottawa proposes to mitigate the bill impact to Sentinel customer class of the increase in the revenue to cost ratio to the target of 80 from the current 54.29 by implementing revenue to cost ratio increases over a 5-year period. For 2021, the Sentinel customer class revenue to cost ratio is proposed to be 59.75.

The revenue to cost ratio for Standby Power in the cost allocation study is 155.69. In Proceeding EB-2015-0043, the OEB is reviewing the rate design for Commercial and Industrial Electricity customers, including Standby Rates rate design. Since the OEB review is still ongoing, Hydro Ottawa is proposing to maintain the revenue to cost ratio for Standby Power in this application.

Once the proposed revenue to cost ratio by customer class have been determined as described above, Hydro Ottawa calculated that after reducing the revenue requirement for GS<50 and Street Light and increasing the revenue requirement for Large Use and Sentinel for 2021 , there is a revenue requirement shortfall that needs to be recovered from other customer classes. Hydro Ottawa is proposing to recover the revenue shortfall from the customer classes that have revenue to cost ratios below 100, that is the GS 50 to 1,499 kW, GS 1,500 to 4,999 kW and Large use classes.

The following tables shows the revenue to cost ratios and revenue requirement being proposed by Hydro Ottawa by customer class.

Table 6: Proposed Customer Class Revenue to Cost Ratios

Customer Class	Cost Allocation Study	Proposed	Within Range
Residential	103.98	103.99	Yes
GS<50	123.53	119.77	Yes
GS 50 to 1,499 kW	85.07	85.57	Yes
GS 1,500 to 4,999 kW	97.07	97.62	Yes
Large Use	79.48	85.50	Yes
Street Light	126.22	120.00	Yes
Sentinel	54.29	59.75	No
Unmetered Scattered Load	113.31	113.25	Yes
Standby Power	155.69	155.69	

Table 7: Proposed Customer Class Revenue Requirement ($)

Customer Class	Revenues at Current rates	Adjustment	Proposed
Residential	123,184,118		123,184,118
GS<50	26,507,795	(757,926)	25,749,870
GS 50 to 1,499 kW	45,455,011	240,230	45,695,240
GS 1,500 to 4,999 kW	10,956,607	57,906	11,014,513
Large Use	6,914,855	519,678	7,434,533
Street Light	1,226,285	(60,420)	1,165,865
Sentinel	5,301	533	5,834
Unmetered Scattered Load	615,705		615,705
Standby Power	20,559	-	20,559
Total	**214,886,236**	**0**	**214,886,236**

The distribution rate design by customer class was based on the following criteria:

- Residential: 100% fixed charge
- All other customer classes fixed and variable charges

The GS 50 to 1,499 kW, GS 1,500 to 4,999 kW, Large Use and Standby Power customer classes have fixed distribution charges that exceed the upper range of Fixed distribution charges as calculated in the cost allocation study. Hydro Ottawa is proposing to maintain the fixed charge for these classes at their 2020 approved values. For these customer classes, the variable distribution charge will be changed to recover each class' proposed revenue requirement.

For the remaining customer classes, Hydro Ottawa is proposing to maintain the proportion of revenues collected from fixed and variable distribution charges, taking into consideration bill impacts by customer class.

Table 8 shows the proposed distribution rates.

Table 8: Distribution Rates

Customer Class	Approved		Proposed	
	Fixed	Variable	Fixed	Variable
Residential	27.79		30.33	
GS<50	19.32	0.025	20.46	0.0264
GS 50 to 1,499 kW	200.00	4.8760	200.00	5.4567
GS 1,500 to 4,999 kW	4,193.93	4.4562	4,193.93	5.0861
Large Use	15,231.32	4.2422	15,231.32	5.2741
Street Light	0.91	6.3414	0.94	6.5889
Sentinel	3.17	14.8502	3.88	18.1382
Unmetered Scattered Load	5.09	0.0242	5.55	0.0264
Standby Power	145.13	1.7766	158.38	1.9388

The following table shows the proportion of revenue requirement from fixed and variable distribution charges. Hydro Ottawa proposes to maintain the same shares of fixed and variable revenues by class except for classes that have existing fixed rates above the maximum.

Table 9: Proportion of Distribution Revenues (%)

Customer Class	Status Quo Rates[8]		Proposed Rates	
	Fixed	Variable	Fixed	Variable
Residential	100		100	
GS<50	25	75	25	75
GS 50 to 1,499 kW	19	81	17	83
GS 1,500 to 4,999 kW	35	65	31	69
Large Use	33	67	27	73
Street Light	64	36	64	36
Sentinel	52	48	52	48
Unmetered Scattered Load	38	62	38	62
Standby Power	28	72	28	72

[8] Status Quo shares of fixed and variable revenues are derived with forecast 2021 customer/connection counts and billing determinants and 2020 rates.

Figures used in CA model based on historic loads scaled by 2021 monthly consumption forecasts
See '2021 (Monthly Scaling)' tab. Results using annual scaling factors included for reference

	Residential	GS < 50 kW	GS > 50 < 1500	GS > 1500 < 5000	LU	Street Lighting	Sentinel Lighting	USL		standby
1 CP										
Transformation CP	498,428	117,727	464,152	110,159	84,759	-	-	1,383		412
Bulk Delivery CP	498,428	117,727	464,152	110,159	84,759	-	-	1,383		412
Total Sytem CP	498,428	117,727	464,152	110,159	84,759	-	-	1,383		412
4 CP										
Transformation CP	1,917,197	489,889	1,842,290	384,636	304,601	5,808	8	5,845		412
Bulk Delivery CP	1,917,197	489,889	1,842,290	384,636	304,601	5,808	8	5,845		412
Total Sytem CP	1,917,197	489,889	1,842,290	384,636	304,601	5,808	8	5,845		412
12 CP										
Transformation CP	4,905,357	1,316,881	5,119,659	1,090,578	884,827	31,331	53	18,342		642
Bulk Delivery CP	4,905,357	1,316,881	5,119,659	1,090,578	884,827	31,331	53	18,342		642
Total Sytem CP	4,905,357	1,316,881	5,119,659	1,090,578	884,827	31,331	53	18,342		642
1NCP										
Classification NCP from Load Da	575,660	145,496	498,153	125,654	95,229	6,444	15	1,896		1,152
Primary NCP	575,660	145,496	498,153	125,654	95,229	6,444	15	1,896		1,152
Line Transformer NCP	575,660	145,496	433,393	55,287	44,757	6,444	15	1,896		680
Secondary NCP	575,660	145,496	249,078	-	-	6,444	15	1,896		-
	-	-	-	-	-	-	-	-		-
4 NCP	-	-	-	-	-	-	-	-		-
Classification NCP from Load Da	2,133,287	561,644	1,967,131	486,541	374,664	23,998	58	7,492		412
Primary NCP	2,133,287	561,644	1,967,131	486,541	374,664	23,998	58	7,492		412
Line Transformer NCP	2,133,287	561,644	1,711,403	214,078	176,092	23,998	58	7,492		243
Secondary NCP	2,133,287	561,644	983,566	-	-	23,998	58	7,492		-
	-	-	-	-	-	-	-	-		-
12 NCP	-	-	-	-	-	-	-	-		-
Classification NCP from Load Da	5,508,979	1,531,293	5,508,529	1,295,932	1,012,783	62,128	142	21,161		642
Primary NCP	5,508,979	1,531,293	5,508,529	1,295,932	1,012,783	62,128	142	21,161		642
Line Transformer NCP	5,508,979	1,531,293	4,792,421	570,210	476,008	62,128	142	21,161		379
Secondary NCP	5,508,979	1,531,293	2,754,265	-	-	62,128	142	21,161		-

UNMETERED LOADS

On June 12, 2015, the OEB updated the cost allocation policy for the Street Lighting rate class and issued an update to the *Report of the Board: Review of the Board's Cost Allocation Policy for Unmetered Loads*.[1] As a result of the policy change, the OEB updated the cost allocation model with the 2016 version of the *Filing Requirements for Electricity Distribution Rate Applications*.

As a result of the cost allocation policy change, Hydro Ottawa updated its 2016-2020 Custom Incentive Rate-Setting application[2] to incorporate the updated cost allocation model and impact on rate design. As part of its 2016 rates, Hydro Ottawa moved Street Lighting and unmetered scattered load ("USL") within OEB-approved ranges. As part of the Approved Settlement Agreement,[3] Parties accepted Hydro Ottawa's inputs into the cost allocation models and placement of rate classes within their ranges, with the modification that Sentinel Lighting move within the OEB's approved range by 2020. Effective January 1, 2020, the Sentinel Lighting rates fall within the OEB-approved range. Hydro Ottawa is not proposing any further changes as a result of the OEB's review of the cost allocation policy for Unmetered Loads.

[1] Ontario Energy Board, Letter re: *Issuance of New Cost Allocation Policy for Street Lighting Rate Class*, EB-2012-0383 (June 12, 2015).
[2] Hydro Ottawa Limited, *2016-2020 Custom Incentive Rate-Setting Distribution Rate Application*, EB-2015-0004 (April 29, 2015).
[3] Hydro Ottawa Limited, *2016-2020 Custom Incentive Rate-Setting Approved Settlement Proposal*, EB-2015-0004 (December 7, 2015).