EXHIBIT 7 – COST ALLOCATION

2022 Cost of Service

Ottawa River Power Corp.
EB-2021-0052

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7.1 COST ALLOCATION STUDY REQUIREMENTS

7.1.1 OVERVIEW OF COST ALLOCATION

ORPC 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.

7.1.2 PREVIOUSLY APPROVED COST ALLOCATION STUDY (2016)

The Previously Board Approved ratios are presented as a point of reference to the proposed Test Year (2022) ratios. As part of its last Cost of Service Rate Application[1], ORPC updated the cost allocation revenue to cost ratios with 2016 base revenue requirement information. The revenue to cost ratios from the 2016 application are presented below:

Table 1 - Previously Approved Ratios (2016 COS)

Customer Class Name	**2016 Approved Revenue to Cost Ratio**
Residential	0.92
General Service < 50 kW	1.16
General Service 50 to 999 kW	1.17
General Service 1,000 to 4,999 kW	0.80
Unmetered Scattered Load	0.80
Sentinel Lights	0.80
Street Lighting	1.20

[1] EB-2014-0105 Ottawa River Power Inc. 2016 Cost of Service application.

7.1.3 NEW CUSTOMER CLASS

ORPC notes that there have been no changes in its class composition since 2016. The utility is not proposing to introduce any new customer classes.

7.1.4 ELIMINATION OF A CUSTOMER CLASS

ORPC is not proposing to eliminate any customer rate classes.

7.2 PROPOSED COST ALLOCATION STUDY (2022 USING THE 2021 MODEL)

The Cost Allocation Study for 2022 allocates the Test Year 2022 costs (i.e. the 2022 forecasted revenue requirement) to the various customer classes using allocators that are based on the forecast class loads (kW and kWh) by class and customer counts.

ORPC has used the latest OEB published Cost Allocation Model (issued June 24, 2021) and followed the instructions provided by the OEB to enter the 2022 data into this model.

Below is a summary of the process that ORPC applied in completing the 2022 Cost Allocation Model.

7.2.1 TRIAL BALANCE INPUT

ORPC populated the information in worksheet "I3, Trial Balance Data" with the 2022 forecasted data, Target Net Income, PILs, interest on long term debt, and the targeted Revenue Requirement and Rate Base.

The Applicant confirmed that the values balanced with the Revenue Requirement and the Rate Workform as per the Revenue Requirement Workform.

7.2.2 BREAK-OUT OF ASSETS

In worksheet "I4, Break-out of Assets", ORPC updated the allocation of the accounts based on Test Year 2022 values.

The Applicant confirmed that all items balanced as per the Cost Allocation model.

ORPC referred to the OEB's "Cost Allocation Information Filing Guidelines for Electricity Distributors" to confirm the understanding of bulk assets and definitions of primary and secondary assets.

7.2.3 MISCELLANOUES DATA

In worksheet "I5.1, Miscellaneous data", ORPC inputted:

- Structure kilometers of 362.27km. This is consisting of the utility having 155.00km of primary overhead, 30.01km of primary underground and 177.26km of secondary along roads where there is no primary distribution line. ORPC referred to the OEB's "Cost Allocation Information Filing Guidelines for Electricity Distributors" to confirm the definition of km.[2]
- The deemed equity component of 40% the rate base.
- A working capital allowance of 7.5%.
- The proportion of pole rental revenue from secondary poles / distribution lines is based on the analysis of the overhead primary and secondary line.

7.2.4 WEIGHTING FACTORS

As instructed by the Board, in worksheet "I5.2, Weighting Factors", ORPC 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.

The table below summarizes the weighting factors assigned to the customer classes for (a) Services Account 1855 and (b) billing and collecting:

[2] Cost Allocation Information Filing Guidelines for Electricity Distributors issued November 15, 2006, section 7.4.2.4

Table 2 - Weighting Factors

	1	2	3	7	8	9
	Residential	GS <50 kW	GS 50-999 kW	Streetlight	Sentinel	Unmetered Scattered Load
Insert Weighting Factor for Services Account 1855	1.0	2.0	10.0	0.3	0.3	0.3
Insert Weighting Factor for Billing and Collecting	1.0	1.0	0.9	0.9	2.2	1.0

Proposed Billing and Collecting Weighting Factors

- *Residential:* weighting factor set as "1" per Cost Allocation instruction sheet.
- *General Service <50 kW*: weighting factor is "0.98" (rounded to 1.0 in the CA model) as ORPC believes that no more time, attention and costs are spent on these customers as the residential class. Although the GS<50 kW customers are periodically monitored to assess if their kVA demand means that they qualify to move into the GS50 – 999 kW class, this is off-set by ORPC printing fewer bills and receiving fewer calls from customers in this rate class when compared to the Residential Class.
- *General Service 50-4,999 kW:* weighting factor "0.88". There is additional staff time required to prepare and validate each bill to ensure monthly consumption data aligns to the settlement data for the period. However, collection costs are lower than those incurred when dealing with General Service <50 kW customers and fewer bills are printed and fewer calls received from this rate class when compared to the Residential Class.
- *Street Lighting:* weighting factor "2.2" is proposed as this customer class does not give rise to collection activity so no collection costs have been allocated. The weighting factor reflects the extremely low volume of bills issued. ORPC discusses and confirms load profile data and bill impact with the Township when new rates and charges are introduced.
- *Sentinel Lighting:* weighting factor "0.9" is proposed because, similar to Street Lighting, this class does not give rise to collection costs. The weighting factor reflects that relatively fewer bills are issued to this customer class.
- *Unmetered Scattered Load:* weighting factor "0.98" is proposed because, similar to Sentinel Lighting, weighting factor reflects that relatively fewer bills are issued to this customer class.

A derivation of the billing and collecting weighting factors for the rate class is illustrated in the table below.

Table 3 – Breakdown of Weighting Factors

2022

Accounts 5305 - 5340	**2022**
5305-Supervision	61,129.00
5315-Customer Billing	611,929.00
5320-Collecting	127,047.00
5325-Collecting- Cash Over and Short	-
5330-Collection Charges	-
5340-Miscellaneous Customer Accounts Expenses	80.00

	Residential	**GS < 50 ***	**GS > 50**	**USL**	**Street Lighting**	**Sentinel Lighting**	
2021 Projected # of Customers (load forecast)	10191	1264	151	20	5	6	**11637**
# bills (per tab I6.2 of CA model)	122295	15168	1811	240	60	72	**139646**
Examples of Expenses							**Total Annual Cost**
5315 - Customer Billing - Labor & overheads	146,507.80	18,171.06	2,169.55	287.52	71.88	86.26	*167,294.07*
5315 - Customer Billing - IT - Labor & overheads	55,625.62	6,899.13	823.73	109.16	27.29	32.75	*63,517.68*
5315 - Customer Billing expenses (ERTH Holdings)	2,410.71	2,908.80	617.62	99.62	39.85	518.00	*6,594.60*
5315 - Customer Billing expenses (ESRI)	4,287.93	531.82	63.50	8.41	2.10	2.52	*4,896.29*
5315 - Customer Billing expenses (E-Billing Hosting)	10,175.33	1,262.02					*11,437.35*
5315 - Customer Billing expenses (Internet and Utilities)	29,827.09	3,699.39	441.69	58.53	14.63	17.56	*34,058.90*
5315 - Customer Billing expenses (Postage and Folding Machine Leases)	17,879.84	2,217.60	264.77	35.09	8.77	10.53	*20,416.60*
5315 - Customer Billing expenses (Canada Post)	98,955.44	12,273.24	1,465.38	194.20	48.55	58.26	*112,995.06*
5315 - Customer Billing expenses (Letterhead)	11,601.50	1,438.91	171.80	22.77	5.69	6.83	*13,247.50*
5315 - Customer Billing expenses (Supplies)	3,025.90	375.30	44.81	5.94	1.48	1.78	*3,455.21*
5315 - Customer Billing expenses (NorthStar)	81,383.34	10,093.81	1,205.16	159.71	39.93	47.91	*92,929.87*
5315 - Customer Billing expenses (Utilismart - Settlements)	50,890.93	6,311.90	753.62	99.87	24.97	29.96	*58,111.25*
5320 - Collecting - Labour	130,988.50	12,110.86	318.71	159.35	-	-	*143,577.42*
5320 - Collecting - Credit Bureau Fees	(620.28)	(57.35)	(1.51)	(0.75)	-	-	*(679.89)*
5325 - Collecting - Cash Over and Short	(1,022.78)	(94.56)	(2.49)	(1.24)	-	-	*(1,121.08)*
5330 - Returned Cheques and Reconnection Charges	(5,417.26)	(671.89)	(80.22)	(10.63)			(6,180.00)
5340 - Misc. Cust Account Exp. - Lawyer Requisitions	(236.68)	(29.35)	(3.50)	(0.46)			(270.00)
5340 - Misc. Cust Account Exp. - Supplies	199.06	24.69	2.95	0.39			227.09
5315 - Customer Billing	636,461.99	77,465.39	8,255.56	1,227.48	285.15	812.36	724,507.92
Total	5.20	5.11	4.56	5.11	4.75	11.28	
Weighting (Residential set as standard)	1.00	0.98	0.88	0.98	0.91	2.17	

The above table shows:

a) The annual costs to produce an electricity bill including, but not limited to, vendor maintenance fees for Customer Information Systems, bill-print scanning solutions for

document management and e-billing, collecting meter readings and interval data, bill data validation and labour time to calculate, print and validate bills. Costs are allocated based on the number of accounts and whether the expense is unique to a certain rate class.

b) Collection costs mainly relate to ORPC labour as the utility performs the majority of its own collections. Final billed customers overdue in excess of 3 to 6 months are referred to collections agencies.

7.2.5 REVENUE

In worksheet "I6.1 – Revenue", ORPC has inputted the 2022 Test Year load forecast data (kWh and kW), the proposed revenue deficiency and miscellaneous revenue as well as current rates (derived from the LDC's 2020 IRM rate application – EB-2020-0049: Final Rate Order, March 25, 2021). This is illustrated in the table below:

Table 4 - Worksheet "I6-1 Revenue" of the Cost Allocation Model

Total kWhs from Load Forecast	182,877,727
Total kWs from Load Forecast	223,329
Deficiency/sufficiency (F /F 8. cell F51)	101,962
Miscellaneous Revenue (RRWF 5. cell F48)	365,681

0

			1	2	3	7	8	9
	ID	Total	Residential	GS <50	GS>50-Regular	Street Light	Sentinel	Unmetered Scattered Load
Billing Data								
Forecast kWh	CEN	182,877,727	80,356,209	29,645,117	70,993,966	1,080,789	194,767	606,879
Forecast kW	CDEM	223,329			219,807	3,027	495	
Forecast kW, included in CDEM, of customers receiving line transformer allowance		30,565			30,565			
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	182,877,727	80,356,209	29,645,117	70,993,966	1,080,789	194,767	606,879
Existing Monthly Charge			$24.63	$23.74	$89.34	$2.51	$3.11	$10.91
Existing Distribution kWh Rate				$0.0135				$0.0037
Existing Distribution kW Rate					$3.7003	$13.7739	$9.6026	
Existing TOA Rate					$0.60			
Additional Charges								
Distribution Revenue from Rates		$4,893,817	$3,012,117	$760,302	$975,199	$130,518	$10,947	$4,733
Transformer Ownership Allowance		$18,339	$0	$0	$18,339	$0	$0	$0
Net Class Revenue	CREV	$4,875,478	$3,012,117	$760,302	$956,860	$130,518	$10,947	$4,733
			$0	$400,209	$813,351	$41,694	$4,752	$2,245
			$3,012,117	$360,093	$161,848	$88,824	$6,195	$2,487

7.2.6 CUSTOMER DATA

Worksheet "I6.2 Customer Data" has been updated with the required Bad Debt and Late Payment revenue data as well as the 2022 Test Year forecasted number of customers, connections and

number of devices. ORPC reviewed Navigant's report "*Cost Allocation to Different Types of Street Lighting Configurations*" (issued June 12, 2015) as well as the Board's letter dated June 12, 2015, "*Review of Cost Allocation Policy for Unmetered Loads – EB-2012-0383*" and has inputted the number of devices and connections for its' Street Lighting class.) Below is a summary of worksheet "I6.2 – Customer Data":

Table 5 - Worksheet "I6-2 Customer Data" of the Cost Allocation Model

Sheet I6.2 Customer Data Worksheet ▪

			1	2	3	7	8	9
	ID	Total	Residential	GS <50	GS>50-Regular	Street Light	Sentinel	Unmetered Scattered Load
Billing Data								
Bad Debt 3 Year Historical Average	BDHA	$104,382	$85,613	$13,605	$5,164	$0	$0	$0
Late Payment 3 Year Historical Average	LPHA	$42,200	$29,301	$7,188	$5,711			
Number of Bills	CNB	139,634	122,295	15,168.18	1,811.60	60.00	72.00	228.00
Number of Devices	CDEV							
Number of Connections (Unmetered)	CCON	3,115				2,949	166	
Total Number of Customers	CCA	11,636	10,191	1,264	151	5	6	19
Bulk Customer Base	CCB	11,636	10,191	1,264	151	5	6	19
Primary Customer Base	CCP	11,631	10,191	1,264	151	-	6	19
Line Transformer Customer Base	CCLT	11,488	10,191	1,264	8	-	6	19
Secondary Customer Base	CCS	11,628	10,191	1,264	143	5	6	19
Weighted - Services	CWCS	15,089	10,191	2,528	1,430	885	50	6
Weighted Meter -Capital	CWMC	1,915,334	1,226,766	464,715	223,853	-	-	-
Weighted Meter Reading	CWMR	17,344	10,192	1,370	5,782	-	-	-
Weighted Bills	CWNB	139,188	122,295	14,865	1,594	55	156	223
Bad Debt Data								
Historic Year:	2018	173,608	136,441	25,756	11,411			
Historic Year:	2019	34,385	30,181	4,204				
Historic Year:	2020	105,152	90,216	10,854	4,082			
Three-year average		**104,382**	**85,613**	**13,605**	**5,164**	-	-	-

7.2.7 METER CAPITAL & METER READING

ORPC has updated the capital cost per meter information in worksheet "I7.1 Meter Capital" and the meter reading information in worksheet "I7.2 Meter Reading".

7.2.8 DEMAND DATA

For previous ORPC Cost of Service applications, the Applicant relied on load profiles produced by Hydro One Networks Inc., (HONI) which were based on sample data from 2004. The coincident peak and non-coincident peak values populated in worksheet I8 of the OEB's Cost Allocation model were scaled from ORPC's initial cost allocation informational filing, using the ratio of the Test Year load forecast to the base year load for each rate class.

ORPC is supportive of other methods filed in recent application which provides a more realistic demand profile for its rate-classes based on recent demand and weather data (HDD and CDD). That being said, in the preparation of this application, OPRC has weighed the costs, both in terms of financial commitment and in terms of time and resources. ORPC has opted to use the HONI method in this case. ORPC is cognizant that updates to the load profiles based on recent data are in the early stages of being evaluated by the regulator and various stakeholders and hopes to learn from other's applications evidence, interrogatories and submissions in that respect.

ORPC intends to update its demand profiles in its next Cost of Service application.

The tables below summarize the NCP and CP demand values for 2022 by customer class which are used in the Cost Allocation model:

Table 6 - Non-Coincident Peak: Demand Data for 2022 Test Year (adjusted to 2022 Load Forecast)

Customer Classes		Total	1 Residential	2 GS <50	3 GS>50-Regular	7 Street Light	8 Sentinel	9 Unmetered Scattered Load
		CP Sanity Check	Check 12 CP	Check 1 CP	Check 1 CP	Check 12 CP	Check 1 CP	Pass
CO-INCIDENT PEAK								
1 CP								
Transformation CP	TCP1	42,365	21,099	8,079	12,819	251	45	72
Bulk Delivery CP	BCP1	42,365	21,099	8,079	12,819	251	45	72
Total Sytem CP	DCP1	42,365	21,099	8,079	12,819	251	45	72
4 CP								
Transformation CP	TCP4	127,921	56,326	24,033	46,098	1,002	181	280
Bulk Delivery CP	BCP4	127,921	56,326	24,033	46,098	1,002	181	280
Total Sytem CP	DCP4	127,921	56,326	24,033	46,098	1,002	181	280
12 CP								
Transformation CP	TCP12	404,704	181,026	78,345	140,954	3,008	542	830
Bulk Delivery CP	BCP12	404,704	181,026	78,345	140,954	3,008	542	830
Total Sytem CP	DCP12	404,704	181,026	78,345	140,954	3,008	542	830

Table 7 - Coincident Peak: Demand Data for 2022 Test Year (adjusted to 2022 Load Forecast)

NON CO_INCIDENT PEAK								
		NCP Sanity Check	Pass	Pass	Pass	Pass	Pass	Pass
1 NCP								
Classification NCP from Load Data Provider	DNCP1	39,623	21,099	7,172	10,984	251	45	72
Primary NCP	PNCP1	39,623	21,099	7,172	10,984	251	45	72
Line Transformer NCP	LTNCP1	28,639	21,099	7,172		251	45	72
Secondary NCP	SNCP1	28,639	21,099	7,172		251	45	72
4 NCP								
Classification NCP from Load Data Provider	DNCP4	143,120	76,591	25,579	39,480	1,003	181	287
Primary NCP	PNCP4	143,120	76,591	25,579	39,480	1,003	181	287
Line Transformer NCP	LTNCP4	103,640	76,591	25,579		1,003	181	287
Secondary NCP	SNCP4	103,640	76,591	25,579		1,003	181	287
12 NCP								
Classification NCP from Load Data Provider	DNCP12	335,071	159,905	63,737	108,997	1,358	245	830
Primary NCP	PNCP12	335,071	159,905	63,737	108,997	1,358	245	830
Line Transformer NCP	LTNCP12	226,074	159,905	63,737		1,358	245	830
Secondary NCP	SNCP12	226,074	159,905	63,737		1,358	245	830

ORPC has inputted the NCP and CP values derived from the "HONI" method into worksheet "I8 Demand Data" of the OEB's Cost Allocation Model.

ORPC confirms the following:

- The Applicant proposes to use the CP and NCP data, as calculated under the "traditional HONI method".
- The Applicant has filed the Cost Allocation model, as a live excel file, with this application.
- The Applicant has populated sheets 11 and 12 of the Revenue Requirement Workform.
- The Applicant confirms that the inputs to the model are consistent with the test year load forecast, changes to customer classes and load profiles.

7.2.9 DIRECT ALLOCATION

ORPC confirms that no Direct Allocations were entered in worksheet "I9. Direct Allocation"

7.2.10 WORKSHEET O1-O2

The revenue to cost ratios calculated in worksheet "O1 Revenue to Cost|RR" of the Cost Allocation model updated for the Test Year 2022 is presented in the table below:

Table 8 – Worksheet O1 – Revenue to Cost Ratios of the Cost Allocation Model [3]

Rate Base Assets		Total	1 Residential	2 GS <50	3 GS>50-Regular	7 Street Light	8 Sentinel	9 Unmetered Scattered Load
crev	Distribution Revenue at Existing Rates	$4,875,478	$3,012,117	$760,302	$956,860	$130,518	$10,947	$4,733
mi	Miscellaneous Revenue (mi)	$365,681	$262,976	$57,764	$36,705	$6,681	$1,016	$539
		Miscellaneous Revenue Input equals Output						
	Total Revenue at Existing Rates	$5,241,158	$3,275,093	$818,065	$993,565	$137,199	$11,964	$5,272
	Factor required to recover deficiency (1 + D)	1.0164						
	Distribution Revenue at Status Quo Rates	$4,955,456	$3,061,529	$772,774	$972,557	$132,659	$11,127	$4,811
	Miscellaneous Revenue (mi)	$365,681	$262,976	$57,764	$36,705	$6,681	$1,016	$539
	Total Revenue at Status Quo Rates	$5,321,137	$3,324,505	$830,538	$1,009,262	$139,340	$12,143	$5,349
	Expenses							
di	Distribution Costs (di)	$1,354,463	$858,619	$250,881	$201,711	$35,688	$4,948	$2,617
cu	Customer Related Costs (cu)	$1,086,234	$903,287	$127,283	$44,806	$8,182	$1,341	$1,335
ad	General and Administration (ad)	$1,267,697	$912,624	$197,828	$128,679	$23,175	$3,328	$2,062
dep	Depreciation and Amortization (dep)	$957,283	$621,073	$184,818	$123,281	$23,221	$3,290	$1,599
INPUT	PILs (INPUT)	$0	$0	$0	$0	$0	$0	$0
INT	Interest	$212,359	$140,465	$40,663	$24,648	$5,398	$805	$380
	Total Expenses	$4,878,036	$3,436,069	$801,473	$523,124	$95,664	$13,712	$7,993
	Direct Allocation	$0	$0	$0	$0	$0	$0	$0
NI	Allocated Net Income (NI)	$443,101	$293,089	$84,847	$51,429	$11,264	$1,679	$793
	Revenue Requirement (includes NI)	$5,321,137	$3,729,159	$886,320	$574,553	$106,928	$15,391	$8,786
		Revenue Requirement Input equals Output						
	Rate Base Calculation							
	Net Assets							
dp	Distribution Plant - Gross	$19,828,482	$13,070,344	$3,791,041	$2,338,225	$518,969	$75,408	$34,495
gp	General Plant - Gross	$2,549,425	$1,688,068	$480,598	$296,272	$69,489	$10,306	$4,693
accum dep	Accumulated Depreciation	($7,678,773)	($5,023,149)	($1,511,185)	($925,778)	($181,311)	($25,401)	($11,949)
co	Capital Contribution	($3,172,244)	($2,110,194)	($555,823)	($370,714)	($112,531)	($16,412)	($6,571)
	Total Net Plant	$11,526,890	$7,625,069	$2,204,630	$1,338,005	$294,616	$43,902	$20,668
	Net Assets							
dp	Distribution Plant - Gross	$19,828,482	$13,070,344	$3,791,041	$2,338,225	$518,969	$75,408	$34,495
gp	General Plant - Gross	$2,549,425	$1,688,068	$480,598	$296,272	$69,489	$10,306	$4,693
accum dep	Accumulated Depreciation	($7,678,773)	($5,023,149)	($1,511,185)	($925,778)	($181,311)	($25,401)	($11,949)
co	Capital Contribution	($3,172,244)	($2,110,194)	($555,823)	($370,714)	($112,531)	($16,412)	($6,571)
	Total Net Plant	$11,526,890	$7,625,069	$2,204,630	$1,338,005	$294,616	$43,902	$20,668
	Directly Allocated Net Fixed Assets	$0	$0	$0	$0	$0	$0	$0
COP	Cost of Power (COP)	$19,698,362	$8,663,764	$3,192,215	$7,639,810	$116,306	$20,959	$65,307
	OM&A Expenses	$3,708,394	$2,674,531	$575,992	$375,196	$67,045	$9,617	$6,014
	Directly Allocated Expenses	$0	$0	$0	$0	$0	$0	$0
	Subtotal	***$23,406,757***	***$11,338,295***	***$3,768,207***	***$8,015,006***	***$183,351***	***$30,577***	***$71,321***
	Working Capital	$1,755,507	$850,372	$282,616	$601,125	$13,751	$2,293	$5,349
	Total Rate Base	$13,282,396	$8,475,441	$2,487,245	$1,939,131	$308,368	$46,195	$26,017
		Rate Base Input equals Output						
	Equity Component of Rate Base	$5,312,959	$3,390,177	$994,898	$775,652	$123,347	$18,478	$10,407
	Net Income on Allocated Assets	$443,101	($111,564)	$29,064	$486,137	$43,676	($1,569)	($2,644)
	Net Income on Direct Allocation Assets	$0	$0	$0	$0	$0	$0	$0
	Net Income	$443,101	($111,564)	$29,064	$486,137	$43,676	($1,569)	($2,644)
	RATIOS ANALYSIS							
	REVENUE TO EXPENSES STATUS QUO%	100.00%	89.15%	93.71%	175.66%	130.31%	78.90%	60.89%
	EXISTING REVENUE MINUS ALLOCATED COSTS	($79,978)	($454,065)	($68,255)	$419,012	$30,271	($3,428)	($3,514)
		Deficiency Input Does Not Equal Output						
	STATUS QUO REVENUE MINUS ALLOCATED COSTS	($0)	($404,654)	($55,783)	$434,708	$32,412	($3,248)	($3,436)
	RETURN ON EQUITY COMPONENT OF RATE BASE	8.34%	-3.29%	2.92%	62.67%	35.41%	-8.49%	-25.40%

Table 9 – Worksheet O2 – Revenue to Cost Ratios of the Cost Allocation Model

	1	2	3	7	8	9
Summary	**Residential**	**GS <50**	**GS>50-Regular**	**Street Light**	**Sentinel**	**Unmetered Scattered Load**
Customer Unit Cost per month - Avoided Cost	$6.50	$8.59	$24.94	$0.21	$0.58	$5.08
Customer Unit Cost per month - Directly Related	$9.89	$12.71	$37.91	$0.33	$0.91	$7.92
Customer Unit Cost per month - Minimum System with PLCC Adjustment	$17.38	$22.52	$64.95	$2.57	$7.44	$13.02
Existing Approved Fixed Charge	$24.63	$23.74	$89.34	$2.51	$3.11	$10.91

7.3 CLASS REVENUE REQUIREMENTS

7.3.2 CLASS REVENUE ANALYSIS

The table below shows the results from the previous Cost Allocation study from the 2016 Test Year as approved in ORPC's 2016 Cost of Service rate application (EB-2016-0105):

Table 10 – 2016 Test Year Results of the Cost Allocation Study (EB-2015-0105)

Cost Allocation Results	**REVENUE ALLOCATION (sheet O1)**							**CUSTOMER UNIT COST PER MONTH (sheet O2)**			
Customer Class Name	**Service Rev Req (row40)**		**Misc. Revenue (mi) (row19)**		**Base Rev Req (row80)**		**Rev2Cost Expenses %**	**Avoided Costs (Minimum Charge)**	**Directly Related**	**Minimum System with PLCC * adjustment**	**Maximum Charge**
Residential	3,108,489	64.62%	183,833	64.73%	2,924,656	64.61%	92.51%	$6.85	$10.45	$18.50	$18.50
General Service < 50 kW	753,643	15.67%	44,028	15.50%	709,614	15.68%	111.90%	$7.02	$10.89	$21.44	$22.97
General Service > 50 to 4999 kW	799,337	16.62%	39,732	13.99%	759,605	16.78%	115.32%	$27.32	$39.01	$85.43	$378.72
Sentinel Ligthing	18,756	0.39%	1,260	0.44%	17,496	0.39%	76.73%	$0.72	$1.16	$7.60	$7.60
Streetlights	124,748	2.59%	14,882	5.24%	109,866	2.43%	122.10%	$0.66	$1.05	$3.27	$3.27
Unmetered Scattered Load	5,617	0.12%	274	0.10%	5,343	0.12%	53.32%	$2.88	$4.59	$10.83	$10.83
TOTAL	**4,810,590**	**100.00%**	**284,010**	**100.00%**	**4,526,580**	**100.00%**					

The table below shows the results from the latest 2022 Test Year Cost Allocation study. These results are used to compare and analyze the distribution costs under each option and help the utility determine its' 2022 proposed ratios.

Table 11 - Results of the Cost Allocation Study

Cost Allocation Results	**REVENUE ALLOCATION (sheet O1)**							**CUSTOMER UNIT COST PER MONTH (sheet O2)**				
Customer Class Name	**Service Rev Req (row40)**		**Misc. Revenue (mi) (row19)**		**Base Rev Req**		**Rev2Cost Expenses %**	**Avoided Costs (Minimum Charge)**	**Directly Related**	**Minimum System with PLCC * adjustment**	**Maximum Charge**	**Maximum Charge or Existing Rate**
Residential	3,729,159	70.08%	262,976	71.91%	3,466,151	69.95%	89.15%	$6.50	$9.89	$17.38	$17.38	$24.63
GS<50 kW	886,320	16.66%	57,764	15.80%	828,565	16.72%	93.70%	$8.59	$12.71	$22.52	$22.52	$23.74
GS 50 to 4999 kW	574,553	10.80%	36,705	10.04%	537,848	10.85%	175.63%	$24.94	$37.91	$64.95	$64.95	$89.34
Sentinel Lighting	15,391	0.29%	1,016	0.28%	14,375	0.29%	78.90%	$0.58	$0.91	$7.44	$7.44	$7.44
Street Lighting	106,928	2.01%	6,681	1.83%	100,251	2.02%	130.32%	$0.21	$0.33	$2.57	$2.57	$2.57
Unmetered Scattered Load	8,786	0.17%	539	0.15%	8,248	0.17%	60.88%	$5.08	$7.92	$13.02	$13.02	$13.02
Other Class					0						$0.00	$0.00
TOTAL	**5,321,137**	**100.00%**	**365,681**	**100.00%**	**4,955,456**	**100.00%**						

The table below shows the allocation percentage and base revenue requirement allocation under the three scenarios of (a) existing rates, (b) cost allocation results and (c) proposed 2022 proposed allocation.

Table 12- Base Revenue Requirement Under 3 Scenarios

	Proposed Base Revenue Requirement %					
Customer Class Name	**Cost Allocation Results**		**Existing Rates**		**Proposed Allocation**	
Residential	69.95%	3,466,341	61.78%	3,061,481	64.95%	3,218,569
GS<50 kW	16.72%	828,552	15.59%	772,556	15.59%	772,714
GS 50 to 4999 kW	10.85%	537,667	19.63%	972,756	16.65%	824,853
Sentinel Lighting	0.29%	14,371	0.22%	10,902	0.23%	11,293
Street Lighting	2.02%	100,100	2.68%	132,806	2.45%	121,456
Unmetered Scattered Load	0.17%	8,424	0.10%	4,955	0.13%	6,632
Other Class						
TOTAL	**100.00%**	**4,955,456**	**100.00%**	**4,955,456**	**100.00%**	**4,955,517**

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

Table 13 - Revenue Offset Allocation as per Cost Allocation Study

	Revenue Offsets	
Customer Class Name	**%**	**$**
Residential	71.91%	262,976
GS<50 kW	15.80%	57,764
GS 50 to 4999 kW	10.04%	36,705
Sentinel Lighting	0.28%	1,016
Street Lighting	1.83%	6,681
Unmetered Scattered Load	0.15%	539
Other Class		
TOTAL	**100.00%**	**365,681**

The table below shows the allocation of the service revenue requirement under the same three scenarios.

Table 14 - Service Revenue Requirement Under 3 Scenarios

	Service Revenue Requirement $		
Customer Class Name	**Existing Rates**	**Cost Allocation**	**Rate Application**
Residential	3,324,505	3,729,159	3,481,544
GS<50 kW	830,538	886,320	830,479
GS 50 to 4999 kW	1,009,262	574,553	861,558
Sentinel Lighting	12,143	15,391	12,310
Street Lighting	139,340	106,928	128,138
Unmetered Scattered Load	5,349	8,786	7,170
Other Class			
TOTAL	**5,321,137**	**5,321,137**	**5,321,959**

7.4 REVENUE-TO-COST RATIOS

The results of a cost allocation study are typically presented in the form of revenue to cost ratios. The ratio is shown by rate classification and is the percentage of distribution revenue collected by rate classification compared to the costs allocated to the classification.

In the "Review of Electricity Distribution Cost Allocation Policy - EB-2010-0219" report (issued March 31, 2011), the Board established what it considered to be the appropriate ranges of revenue to cost ratios. The ranges are Residential 0.85 to 1.15 and all other classes 0.80 to 1.20.

7.4.1 COST ALLOCATION RESULTS AND ANALYSIS

The table below illustrates ORPC's proposed Revenue to Cost reallocation based on an analysis of the proposed results from the Cost Allocation Study vs. the Board's floor and ceiling ranges.

Table 15 – Proposed Revenue Allocation

Customer Class Name	Calculated R/C Ratio	Proposed R/C Ratio	Variance	Floor	Ceiling	Shortfall
Residential	0.8915	0.9336	-0.04	0.85	1.15	-156,675.1
GS<50 kW	0.9370	0.9370	-0.00	0.80	1.20	-10.9
GS 50 to 4999 kW	1.7563	1.5000	0.26	0.80	1.20	147,276.8
Sentinel Lighting	0.7890	0.8000	-0.01	0.80	1.20	-169.1
Street Lighting	1.3032	1.2000	0.10	0.80	1.20	11,030.3
Unmetered Scattered Load	0.6088	0.8000	-0.19	0.80	1.20	-1,680.2

* Ratios highlighted in yellow fell outside of the floor to ceiling range under the Cost Allocation Model.

The information below addresses the method and logic used to update the revenue to cost ratios from the Cost Allocation study to determine the proposed ratios.

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.

In reviewing the calculated revenue to cost results from the Cost Allocation study, there were four customer classes that are outside of the Board's floor/ceiling parameters. ORPC has applied the following methodology for adjusting revenue-to-cost ratio, namely:

- For General Service 50 to 4,999 kW customer class, the 2022 Cost Allocation model produced a revenue to cost ratio of 175.66. The utility has adjusted this to 150.00 in the Test Year 2022 with the intention of further adjusting the revenue to cost ratio down to the ceiling of 1.20% over the next two years. As a result of applying a revenue to cost ratio of 150.00 for this customer class, ORPC projects the total bill impact, including Rate Riders for disposition of Deferral / Variance accounts is 1.80% below the current monthly bill.
- For Street Lighting and USL, ORPC adjusted the revenue-to-cost ratios down to the ceiling of 1.20% in accordance with Board policy. Based on the output of the 2022 Cost Allocation model, the revenue to cost ratio are 1.30% and 1.43% respectively. (The bill impact implications are discussed in detail in Exhibit 8).
- For Sentinel Lighting, the revenue to cost ratio as calculated in the Cost Allocation model of 0.76% fell short of the floor of 0.80% and ORPC adjusted the revenue-to-cost ratio to 80%. ORPC notes that the adjustment was a 2-step adjustment. The utility first adjusted the revenue to cost ratio to the floor of 0.80%. In analysing the shortfall allocation, the utility opted to eliminate the cross subsidization of this particular class to alleviate impact on classes that whose revenue exceed their costs. (The bill impact implications are discussed in detail in Exhibit 8).

ORPC is also proposing the following:

- For General Service <50 kW and Unmetered Scattered Load, ORPC is not requesting any adjustment to the ratio;

- For residential, ORPC adjusted its revenue to cost ratio to 0.93% from 0.89%. As a result of applying a revenue to cost ratio of 93.0% for this customer class, ORPC projects the total bill impact, including Rate Riders for disposition of Deferral / Variance accounts is a 0.80% above the current monthly bill.

ORPC is proposing to adjust the revenue to cost ratios over the period of the 2022 Test Year and recommends that these ratios are held constant over the years of 2022 and 2023, as illustrated below:

Table 16 – Revenue to Cost Ratios 2022, 2023 and 2024

Customer Class Name	Calculated R/C Ratio	Proposed R/C Ratio	Variance	2023	2024	2025
Residential	0.8915	0.9336	-0.04	97.33	97.33	97.33
GS<50 kW	0.9371	0.9370	-0.00	96.00	96.00	96.00
GS 50 to 4999 kW	1.7566	1.5000	0.26	119.96	119.96	119.96
Sentinel Lighting	0.7890	0.8000	-0.01	95.97	95.97	95.97
Street Lighting	1.3031	1.2000	0.10	119.84	119.84	119.84
Unmetered Scattered Load	0.6089	0.8000	-0.19	97.94	97.94	97.94

Also, ORPC wish to note that in determining the proposed cost-to-revenue ratio adjustments, the LDC has considered the bill impact for each rate class. In ORPC's opinion, these ratios do not result in a bill impact increase of more than 3% for each rate class. For further details about the class specific bill impacts, please refer to Exhibit 8.

The table on the following page shows the completed worksheet "11. Cost Allocation" from the OEB's 2022 Revenue Requirement Workform. This table provides information on previously approved Revenue to Cost ratios and proposed ratios.

Table 17 - OEB Rev Reqt Workform: worksheet "11. Cost Allocation"

A) Allocated Costs

Classes	Costs Allocated from Previous Study	%	Costs Allocated in Test Year Study (Column 7A)	%
Residential	$2,692,038.19	59.81%	$3,729,158.57	70.29%
GS<50 kW	$796,632.01	17.54%	$886,320.20	16.70%
GS 50 to 4999 kW	$907,833.73	19.17%	$574,553.18	10.83%
Sentinel Lighting	$13,573.63	3.08%	$15,391.36	2.02%
Street Lighting	$134,441.27	0.10%	$106,927.72	0.17%
Unmetered Scattered Load	$4,311.42	0.00%	$8,785.62	0.00%
Total	$4,795,652.48	99.70%	$5,321,136.65	100.00%

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		$3,012,117.35	$3,061,480.65	$3,218,568.61	$262,976.13
GS<50 kW		$760,301.72	$772,555.57	$772,714.26	$57,763.75
GS 50 to 4999 kW		$956,860.01	$972,755.99	$824,853.09	$36,705.04
Sentinel Lighting		$4,732.93	$10,902.00	$11,293.37	$1,016.41
Street Lighting		$10,947.32	$132,806.22	$121,456.47	$6,680.89
Unmetered Scattered Load		$130,518.24	$4,955.46	$6,631.67	$538.65
Total		$4,875,477.59	$4,955,455.90	$4,955,517.48	$365,680.87

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)	
	2016			
	%	%	%	%
Residential	91.52	89.15	93.36	85 - 115
GS<50 kW	115.84	93.68	93.70	80 - 120
GS 50 to 4999 kW	116.62	175.69	149.95	80 - 120
Sentinel Lighting	0.80	130.45	119.84	80 - 120
Street Lighting	78.89	62.54	81.61	80 - 120
Unmetered Scattered Load	119.93			80 - 120

D) Proposed Revenue-to-Cost Ratios

Class		Proposed Revenue-to-Cost Ratios			Policy Range
		2023	2023	2024	
		%	%	%	%
Residential		97.33	97.33	97.33	85 - 115
GS<50 kW		96.00	96.00	96.00	80 - 120
GS 50 to 4999 kW		119.96	119.96	119.96	80 - 120
Sentinel Lighting		95.97	95.97	95.97	80 - 120
Street Lighting		119.84	119.84	119.84	80 - 120
Unmetered Scattered Load		97.94	97.94	97.94	80 - 120

7.4.2 HOST DISTRIBUTOR

ORPC is not a Host Distributor therefore evidence of consultation with embedded distributors is not applicable.

7.4.3 UNMETERED LOADS

On June 12, 2015, the OEB released their report on "Review of the Board's Cost Allocation Policy for Unmetered Loads", which amended section 2.4.6 of the DSC (Distribution System Code). The amendment outlined a new cost allocation policy for the Street Lighting rate class. A new "street lighting adjustment factor" is used to allocate costs to the Street Lighting rate class for primary and line transformer assets. The "street lighting adjustment factor" replaces the "number of connections" allocator. The Model has been updated to reflect the street lighting adjustment factor. ORPC implemented these changes in its' 2016 Cost of Service application (EB-2015-0110) and has continued to follow this policy in this 2022 Cost of Service application.

ORPC has not communicated with Unmetered Scattered Load, Street Lighting or Sentinel Lighting customers because there is no material change to the level of rates and charges currently applied.

7.4.4 MICROFIT CLASS

ORPC is proposing no change to the MicroFIT Monthly Service Charge of $4.55 - provincial-wide rate that

7.4.5 STANDBY RATES

The utility is not seeking Standby Rates in this application.