

EXHIBIT 7 – COST ALLOCATION

2027 Cost of Service

Lakefront Utilities Inc.
EB-2020-0054

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7.1 COST ALLOCATION STUDY REQUIREMENTS

7.1.1 Overview of Cost Allocation

LUI is submitting this cost allocation informational filing in accordance with the Board's Cost Allocation Reports of November 28, 2007, and March 31, 2011 (EB-2010-0219), and all subsequent updates.

The filing identifies cross-subsidization among rate classifications and supports future rate applications, with updated parameters and inputs used to adjust rates accordingly. LUI notes that it is not requesting to eliminate existing or introduce new classes. LUI confirms that it does not have any embedded distributors, does not propose a MicroFIT rate different from the existing rate, and does not propose new or revised standby rates. LUI also confirms that it is not proposing to continue rebalancing beyond the test year. LUI also confirms that it does not have any embedded distributors and, as such, the embedded distributor requirements are not applicable.

7.1.2 Previously Approved Cost Allocation

The Previously Board Approved ratios are presented as a reference point to the proposed 2027 ratios. As part of its last Cost of Service Rate Application, LUI updated the cost allocation revenue to cost ratios with 2022 base revenue requirement information. The revenue to cost ratios from the 2022 as well as the proposed ratios are presented below. LUI notes that there have been no changes in its class composition since 2022.

Table 1 – Previously Approved Ratios vs Proposed Ratio (2022 CoS)

Customer Class Name	Previously Approved Ratios (2022)	Proposed Ratios (2027)
Residential	98.35%	101.61%
GS<50	98.91%	80.21%
GS 50-2999	103.30%	113.17%
GS 3000-4999	120.00%	
USL	98.34%	120.06%
Sentinel	98.35%	79.97%
Street Lighting	120.00%	80.00%

7.2 PROPOSED COST ALLOCATION (2027)

The Cost Allocation Study allocates the 2027 test year costs to the various customer classes using allocators based on the forecast class loads (kW and kWh) by class, customer counts, etc.

LUI has used the most up to date 2027 OEB-approved Cost Allocation Model and followed the instructions and guidelines issued by the OEB.

7.2.1 Inputs to the Cost Allocation Model

Sheet I3, Trial Balance Data

LUI populated the information on Sheet I3, Trial Balance Data with the 2027 forecasted data, Target Net Income, PILs, long-term debt interest, and the targeted Revenue Requirement and Rate Base.

Table 2 – Cost Allocation Integrity Check against RRWF (Sheet I3 TB Data)

Particulars	Previously Approved Particulars (2022)	2027 Proposed Particulars
Return on Deemed Equity	\$793,917	\$1,188,033
Income Taxes (Grossed up)	\$111,760	\$175,565
Deemed Interest Expense	\$455,099	\$729,584
Service Revenue Requirement	\$5,246,524	\$7,915,851
Revenue Requirement to be Used in LUIs model (\$)	\$5,246,524	\$7,915,851
Rate Base (\$)	\$22,919,093	\$32,602,451

Table 3 – 2027 Grouped Accounts (Sheet I3 TB Data)

Grouped Account	2022 Balance	2027 Balance	Variance
Land and Buildings	\$1,524,514	\$1,401,157	-\$123,357
TS Primary Above 50	\$0	\$2,239,342	\$2,239,342
DS	\$5,653,902	\$3,694,592	-\$1,959,310
Poles, Wires	\$19,357,183	\$29,281,367	\$9,924,184
Line Transformers	\$6,820,253	\$6,218,377	-\$601,876
Services and Meters	\$4,754,985	\$6,728,277	\$1,973,292
General Plant	\$0	\$0	\$0
Equipment	\$2,736,020	\$2,758,188	\$22,168
IT Assets	\$934,065	\$1,079,425	\$145,360
CDM Expenditures and Recoveries	\$0	\$0	\$0
Other Distribution Assets	\$401,553	\$912,556	\$511,003
Contributions and Grants	-\$4,239,197	-\$9,879,169	-\$5,639,972
Accumulated Amortization	-\$17,522,273	-\$14,474,943	\$3,047,330
Non-Distribution Asset	\$0	\$0	\$0
Unclassified Asset	\$0	\$0	\$0
Liability	\$0	\$0	\$0
Equity	-\$793,917	-\$1,188,033	-\$384,742
Sales of Electricity	\$0	\$0	\$0
Distribution Services Revenue	\$0	\$0	\$0
Late Payment Charges	-\$45,500	-\$60,659	-\$15,159
Specific Service Charges	-\$143,880	-\$436,998	-\$293,118
Other Distribution Revenue	-\$234,892	-\$259,296	-\$24,404
Other Revenue - Unclassified	\$0	-\$3,090	-\$3,090
Other Income & Deductions	-\$5,000	-\$3,996	\$1,004
Power Supply Expenses (Working Capital)	\$30,424,042	\$31,037,388	-\$2,570,549
Other Power Supply Expenses	\$0	\$0	\$0
Operation (Working Capital)	\$707,393	\$1,019,234	\$299,653
Maintenance (Working Capital)	\$312,541	\$382,921	\$70,380
Billing and Collection (Working Capital)	\$554,533	\$697,145	\$138,680
Community Relations (Working Capital)	\$19,757	\$14,456	-\$5,301
Community Relations - CDM (Working Capital)	\$0	\$0	\$0
Administrative and General Expenses (Working Capital)	\$1,167,520	\$831,150	-\$336,370
Insurance Expense (Working Capital)	\$32,000	\$39,166	\$7,166
Bad Debt Expense (Working Capital)	\$25,750	\$58,987	\$33,237
Advertising Expenses	\$0	\$650,681	\$420,725
Charitable Contributions	\$0	\$0	\$0
Amortization of Assets	\$1,001,950	\$1,616,283	\$614,333
Other Amortization - Unclassified	\$0	\$0	\$0
Interest Expense - Unclassified	\$455,099	\$729,584	\$268,728
Income Tax Expense - Unclassified	\$111,760	\$175,565	\$59,729
Other Distribution Expenses	\$64,305	\$512,647	\$448,342
Non-Distribution Expenses	\$0	\$0	\$0
Unclassified Expenses	\$0	\$0	\$0
Total	\$54,074,465	\$65,772,301	\$8,267,407

Sheet I4 BO Assets,

In sheet I4, Break-out of Assets, LUI reviewed its primary and secondary assets to ensure that the model uses the most up-to-date information. The table at the next page shows LUI's updated breakout between primary and secondary from its last cost of service in 2022.

Table 4 – Breakout of Assets (Sheet I4 BO Assets)

Account	Description	BREAK OUT (%) 2022 CoS	BREAK OUT (%) 2027 CoS
1565	Conservation and Demand Management		
1805	Land		
1805-1	Land Station >50 kV		
1805-2	Land Station <50 kV	100.00%	100.00%
1806	Land Rights		
1806-1	Land Rights Station >50 kV		
1806-2	Land Rights Station <50 kV	100.00%	100.00%
1808	Buildings and Fixtures		
1808-1	Buildings and Fixtures > 50 kV		
1808-2	Buildings and Fixtures < 50 KV	100.00%	100.00%
1810	Leasehold Improvements		
1810-1	Leasehold Improvements >50 kV		
1810-2	Leasehold Improvements <50 kV	100.00%	100.00%
1815	Transformer Station Equipment - Normally Primary above 50 kV		
1820	Distribution Station Equipment - Normally Primary below 50 kV		
1820-1	Distribution Station Equipment - Normally Primary below 50 kV (Bulk)		
1820-2	Distribution Station Equipment - Normally Primary below 50 kV Primary)	100.00%	100.00%
1820-3	Distribution Station Equipment - Normally Primary below 50 kV (Wholesale Meters)	0.00%	0.00%
1825	Storage Battery Equipment		
1825-1	Storage Battery Equipment > 50 kV		
1825-2	Storage Battery Equipment <50 kV	100.00%	100.00%
1830	Poles, Towers and Fixtures		
1830-3	Poles, Towers and Fixtures - sub transmission Bulk Delivery		
1830-4	Poles, Towers and Fixtures - Primary	82.61%	82.61%
1830-5	Poles, Towers and Fixtures - Secondary	17.39%	17.39%
1835	Overhead Conductors and Devices		
1835-3	Overhead Conductors and Devices - Sub transmission Bulk Delivery		
1835-4	Overhead Conductors and Devices - Primary	57.00%	57.00%
1835-5	Overhead Conductors and Devices - Secondary	43.00%	43.00%
1840	Underground Conduit		
1840-3	Underground Conduit - Bulk Delivery		
1840-4	Underground Conduit - Primary	34.50%	34.50%
1840-5	Underground Conduit - Secondary	65.50%	65.50%
1845	Underground Conductors and Devices		
1845-3	Underground Conductors and Devices - Bulk Delivery		
1845-4	Underground Conductors and Devices - Primary	34.50%	34.50%
1845-5	Underground Conductors and Devices - Secondary	65.50%	65.50%
1850	Line Transformers		
1855	Services		
1860	Meters		

Sheet I5.1 Misc Data

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

Table 5 – Miscellaneous Data (Sheet I5 Misc Data)

	2022 CoS	2027 CoS
Structure KM (kms of Roads in Service Area that have distribution line)	156	156
Deemed Equity Component of Rate Base (ref: RRWF 7. cell F24)	40%	40%
Working Capital Allowance to be included in Rate Base (%)	7.5%	7.5%
A portion of pole leasing revenue from Secondary - Remainder assumed to be Primary (%)	17%	17%

As instructed by the Board, in Sheet I5.2, Weighting Factors, LUI has used LDC-specific factors rather than continue to use OEB-approved default factors. LUI 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 details are shown at the next page and results shown below.

Sheet I5.2 Weighting Factors

Table 6 –2022 BA Weighting Factors (Sheet I5.2 Weighting Factors)

	1	2	3	7		9
	Residential	GS <50	GS 50 to 4,999 kW	Street Light	Sentinel	Unmetered Scattered Load
Insert Weighting Factor for Services Account 1855	1.0	2.0	10.0	0.0	0.0	1.0
Insert Weighting Factor for Billing and Collecting	1.0	1.1	1.7	0.9	0.9	0.9

Table 7 –2027 Proposed Weighting Factors (Sheet I5.2 Weighting Factors)

	1	2	3	7		9
	Residential	GS <50	GS 50 to 4,999 kW	Streetlight		Unmetered Scattered Load
Insert Weighting Factor for Services Account 1855	1.0	2.0	10.0	0.0	0.0	1.0
Insert Weighting Factor for Billing and Collecting	1.0	1.2	2.3	0.9	0.9	0.9

Account 1855 – Services (Overhead and Underground)

LUI reviewed the allocation of Account 1855 service assets as part of the preparation of the Cost Allocation model. Consistent with the approach approved in LUI's 2022 Cost of Service application, customer class weighting factors were used to recognize the differing levels of service investment associated with each customer class. The 2022 Board-approved weighting factors were applied to current customer counts to derive an updated allocation of the Account 1855 embedded net book value by customer class.

LUI notes that detailed asset records for Account 1855 are not maintained at a level that would permit a direct assignment of service asset book value to individual customer classes. As a result, the allocation continues to rely on the Board-approved weighting methodology rather than a detailed asset-by-asset class assignment. LUI considers this approach reasonable as the nature of the assets recorded in Account 1855 and the relationship between customer classes have not materially changed since the 2022 rebasing application.

The resulting allocation reflects updated customer counts while maintaining the weighting relationships previously approved by the OEB. LUI submits that this approach provides a reasonable and practical estimate of the distribution of service asset investment among customer classes for the purpose of cost allocation.

LUI will continue to review opportunities to improve the tracking and assignment of service asset investments and will assess whether a more refined allocation methodology can be developed for a future rebasing application.

Billing and Collecting Weighting Factors

LUI derives billing and collecting weighting factors using a combination of billing determinants (number of bills) and time-based allocation depending on the nature of the underlying activity.

Billing-related costs (e.g., billing services) are allocated based on the number of bills by customer class, reflecting that these costs are primarily driven by billing volumes.

Customer service and collection-related activities (e.g., call handling, staff time) are allocated using a time-based approach, which reflects the relative level of effort required to serve each customer class.

Each cost within billing and collecting is reviewed individually to determine the most appropriate allocator (i.e., bills or time). The resulting allocated costs are then used to calculate cost per customer by class, which forms the basis for the derivation of the billing and collecting weighting factors (normalized to Residential = 1.00).

A working Excel model has been filed in support of this application, providing transparency of the calculations, assumptions, and allocation methodologies used.

This approach is considered reasonable as it aligns the allocation of costs with the underlying cost drivers and reflects differences in both billing volumes and customer service requirements across classes.

Table 8 – Billing & Collecting Weighting Factors.

Customer Class	Customers	Annual Bills	Bill Share (%)	Time Allocation (%)
Residential	10,465	125,585	88.28%	65.0%
GS < 50 kW	1,131	13,575	9.54%	22.0%
GS > 50 kW	108	1,299	0.91%	11.5%
Unmetered	99	1,192	0.84%	0.5%
Street Lighting	2	24	0.02%	0.5%
Sentinel Lighting	49	588	0.41%	0.5%
Total	11,855	142,264	100.00%	100.0%

Table 9 – Billing & Collecting Costs by Account.

Account	Description	2027 Balance (\$)	Allocation Method
5315	Customer Billing	312,832	Per Bill
5320	Collecting	47,390	Time Allocation
5325	Cash Over/Short	-	Time Allocation
5330	Collection Charges	511	Time Allocation
5340	Miscellaneous Customer Accounts	90,723	Per Bill
Total		451,455	

Table 10 – Resulting Billing & Collecting Weighting Factors.

Customer Class	Allocated Cost (\$)	Cost per Customer (\$)	Weighting Factor
Residential	387,854	37.06	1.00
GS < 50 kW	49,207	43.50	1.17
GS > 50 kW	9,278	85.69	2.31
Unmetered	3,381	34.04	0.92
Street Lighting	68	34.04	0.92
Sentinel Lighting	1,668	34.04	0.92

Sheet I6.1 Revenue

LUI has populated the I6.1 Revenue Tab with the 2027 proposed load forecast. LUI confirms that the revenue sufficiency/deficiency reconciles with the RRWF, as does the Miscellaneous Revenues.

2027 Board Approved existing rates were entered at rows 33 to 37 of the table below.

Table 11 – Revenue Inputs to the CA Model (I6.1 Revenues)

Sheet I6.1 Revenue Worksheet -

Total kWhs from Load Forecast	246,490,297
Total kW from Load Forecast	309,719
Deficiency/sufficiency (RRWF 8. cell F51)	- 987,025
Miscellaneous Revenue (RRWF 5. cell F48)	764,039

			1	2	3	7	8	9
	ID	Total	Residential	GS <50	GS 50 to 4,999 kW	Street Light	Sentinel	Unmetered Scattered Load
Billing Data								
Forecast kWh	CEN	246,490,297	87,951,385	37,827,326	118,852,354	1,165,955	44,093	649,183
Forecast kW	CDEM	309,719			306,600	3,006	113	
Forecast kWh, included in CDEM, of customers receiving line transformer allowance		220,551			220,551			
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	246,490,297	87,951,385	37,827,326	118,852,354	1,165,955	44,093	649,183
Existing Monthly Charge			\$28.79	\$29.77	\$108.33	\$2.19	\$6.97	\$11.56
Existing Distribution kWh Rate				\$0.0110				\$0.0172
Existing Distribution kW Rate					\$4.3243	\$5.7488	\$15.8805	
Existing TOA Rate					(\$0.60)			
Additional Charges								
Distribution Revenue from Rates		\$6,032,457	\$3,615,600	\$820,234	\$1,466,589	\$99,195	\$5,897	\$24,942
Transformer Ownership Allowance		(\$132,331)	\$0	\$0	(\$132,331)	\$0	\$0	\$0
Net Class Revenue	CREV	\$6,164,787	\$3,615,600	\$820,234	\$1,598,919	\$99,195	\$5,897	\$24,942

Sheet I6.2 Customer Data

LUI has populated the I6.2 Customer Data with the required information using the 2027 proposed customer forecast to determine the number of customers, devices, and bills. The LUI confirms using a three-year historical average to calculate the late payment charges and bad debt by class.

Table 12 – Customer Inputs to the CA Model (I6.2 Customer Data)

Sheet I6.2 Customer Data Worksheet -

			1	2	3	7	8	9
	ID	Total	Residential	GS <50	GS 50 to 4,999 kW	Street Light	Sentinel	Unmetered Scattered Load
Billing Data								
Bad Debt 3 Year Historical Average	BDHA	\$23,470	\$19,812	\$3,658	\$0	\$0	\$0	\$0
Late Payment 3 Year Historical Average	LPHA	\$73,632	\$56,697	\$13,990	\$2,945			
Number of Bills	CNB	142,264	125,585	13,575.18	1,299.35	24.00	588.00	1,191.73
Number of Devices	CDEV					3,117	49	
Number of Connections (Unmetered)	CCON	3,265				3,117	49	99
Total Number of Customers	CCA	11,855	10,465	1,131	108	2	49	99
Bulk Customer Base	CCB	-						
Primary Customer Base	CCP	12,158	10,465	1,131	108	304	49	99
Line Transformer Customer Base	CCLT	12,115	10,465	1,131	65	304	49	99
Secondary Customer Base	CCS	11,812	10,465	1,131	65	2	49	99
Weighted - Services	CWCS	13,480	10,465	2,263	653	-	-	99
Weighted Meter -Capital	CWMC	1,637,614	1,415,444	162,942	59,228	-	-	-
Weighted Meter Reading	CWMR	17,576	10,465	1,697	5,414	-	-	-
Weighted Bills	CWNB	146,205	125,585	15,933	3,004	22	540	1,120

Bad Debt Data

Historic Year:	2023	21,349	18,950	2,399				
Historic Year:	2024	- 205	- 205					
Historic Year:	2025	49,267	40,691	8,575				
Three-year average		23,470	19,812	3,658	-	-	-	-

Street Lighting Adjustment Factors

NCP Test Results	4 NCP
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	Primary Asset Data		Line Transformer Asset Data	
Class	Customers/ Devices	4 NCP	Customers/ Devices	4 NCP
Residential	10,465	34,910	10,465	34,910
Street Light	3,117	1,016	3,117	1,016

Street Lighting Adjustment Factors	
Primary	10.2384
Line Transformer	10.2384

Sheet I7.1 Meter Capital

LUI has updated the meter capital to reflect current and accurate costs per meter.

Table 13 – 2022 Meter Capital inputs to the CA Model (I7.1 Meter Capital)

List of Types of Meters Installed	20227 Cost Installed
200A - 3 Phase	783
A3RL-3 Phase	1074
A3RLQ - 3 Phase	1074
A3TL 120V 20A - 3 Phase	1007
ICON AS - 120V	154
ISA2 - 240V - Single Phase	166
ISA2-1 - 20A	267

Table 14 – 2027 Meter Capital inputs to the CA Model (I7.1 Meter Capital)

List of Types of Meters Installed	2027 Cost Installed
A1RL	500
A3RL	600
KV2C	556
INA	138
ISA	105
SS4	523
SSA	120

Sheet I7.2 Meter Reading

LUI has updated the meter capital to reflect current and accurate costs per meter. LUI notes that there have been no changes to its meter reading factors since its last cost of service in 2022.

Table 15 – Meter Reading Weighting Factors (I7.2 Meter Reading)

Meter Details	2022	2027
Smart Meter	1.00	1.00
Smart Meter with Demand	1.00	1.00
Interval	50	50

Sheet I8 Demand Data

Updated Load Profile Methodology

In prior cost of service applications, LUI relied on load profiles developed by Hydro One Networks Inc. (“HONI”) in 2006 using 2004 data. These legacy profiles were scaled to the Test Year using the ratio of forecasted load to base year load by rate class.

Consistent with the expectations outlined in Chapter 2, Section 2.1.7 of the Filing Requirements, and reinforced in the OEB’s 2022 Decision and Order, LUI has undertaken an update of its load profiles using the most recent data available. The updated approach replaces the legacy scaling methodology with a utility-specific, data-driven model based on actual hourly load and weather conditions.

This approach reflects current customer usage patterns, incorporates weather sensitivity, and produces class-specific hourly load shapes, representing a material improvement over the legacy scaled profiles derived from 2004 data.

Overview of Approach

LUI developed a weather-normalized hourly load model using the most recent complete year of available data. The objective of this approach is to produce representative load shapes and peak demand metrics that reflect typical (i.e., “normal”) weather conditions, rather than anomalies present in any single year.

This methodology allows LUI to derive both coincident and non-coincident peak demand measures directly from normalized hourly load data, improving the accuracy and relevance of cost allocation inputs.

Data Inputs

The analysis is based on hourly data and includes:

- Actual hourly load for the study year (2025)
- Hourly Heating Degree Days (HDD) and Cooling Degree Days (CDD) using the same weather station as the Load Forecast.
- 10-year average hourly HDD and CDD (representing normal weather)
- Calendar variables, including:
 - Weekend indicators
 - Hour-of-day effects (H0–H23)

A consistent weather station (Ottawa International Airport), base temperature, and calculation methodology were used for both historical and normal weather data to ensure comparability. Use of a single year is appropriate given normalization to 10-year weather.

Data Sources and Availability

LUI confirms that the hourly load data used in the development of the load profiles was obtained from its billing and data management systems, including NorthStar and Utilismart Corporation, which represent the authoritative sources of interval consumption data within its service territory. LUI notes that extracting and validating hourly data is both time-intensive and involves additional cost, as it requires coordination with third-party service providers. In this case, obtaining a complete and reliable dataset took approximately three months. As a result, LUI relied on the most recent complete and quality-assured dataset available at the time of the application, being the 2025 study year.

LUI notes that this approach is somewhat consistent with historical practice in that the original load profiles developed by Hydro One were based on the most recent year of available data at the time and were relied upon across the sector for an extended period. In that context, the use of a single, recent and validated study year is considered appropriate or until a time when Hydro One or IESO makes the hourly data easily available.

LUI further notes that the application of 10-year average weather normalization mitigates the impact of any year-specific anomalies and ensures that the resulting load shapes are representative of typical system conditions. Accordingly, LUI submits that this approach is reasonable and consistent with the intent of the Filing Requirements to rely on the most recent and reliable data available.

Implementation of the Regression Model

In implementing the regression model, LUI specified hourly load as a function of weather and calendar effects, together with intra-day load variation. The model includes hourly Heating Degree Days (HDD) and Cooling Degree Days (CDD), a weekend indicator, and a set of hourly indicator variables (H0–H23).

For the purposes of this analysis, hourly HDD and CDD were constructed using hourly temperature data relative to a standard base temperature of 18°C. HDD and CDD values were calculated for each hour based on the deviation of actual temperature from this base, consistent with standard industry practice. These variables capture the relationship between temperature and electricity demand.

The hourly indicator variables (H0–H23) are used to capture intra-day load variation. LUI initially tested a specification that included a full set of hourly indicators in combination with an intercept term. As these indicators sum to one for each observation, this specification results in perfect multicollinearity (i.e., the “dummy variable trap”).

To address this, LUI adopted a standard regression formulation that omits one hourly indicator variable and estimates the model using Excel’s LINEST function. This approach allows for stable estimation of the regression coefficients, including the intercept.

Under this specification:

- One hourly indicator (H5) is omitted and serves as the reference hour
- The intercept represents the baseline load level corresponding to the reference hour
- The remaining hourly coefficients represent deviations from that reference hour

- HDD, CDD, and weekend variables are estimated concurrently within the same regression framework

Following estimation, the coefficients are recombined to produce a complete 24-hour load profile for each rate class. The full regression model, including the underlying data, constructed variables, and resulting coefficients, is provided in the accompanying Excel model to ensure transparency and reproducibility.

Development of Hourly Load Profiles

Using the estimated regression coefficients, LUI constructed hourly load profiles by:

- Combining the intercept and hourly indicator coefficients to derive the average load for each hour of the day
- Incorporating weather normalization (as described above) to ensure profiles reflect typical conditions
- Producing a continuous 24-hour load shape for each customer class

This approach allows the model to capture both:

- Intra-day load variation (through hourly effects), and
- Weather sensitivity (through HDD/CDD coefficients)

The resulting profiles are smooth, internally consistent, and grounded in observed system data.

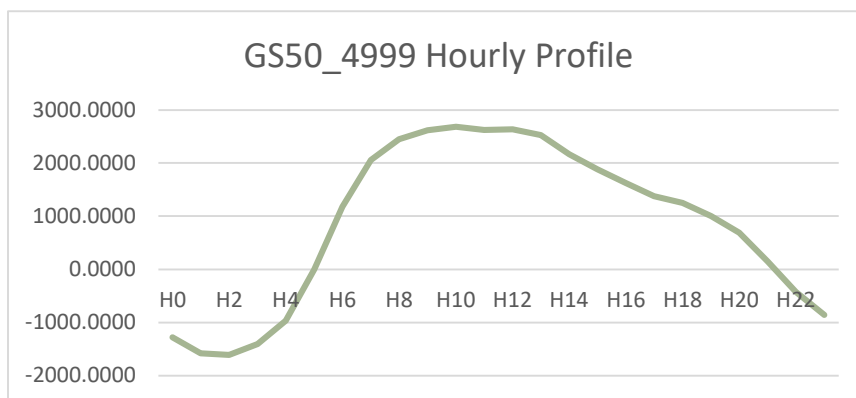
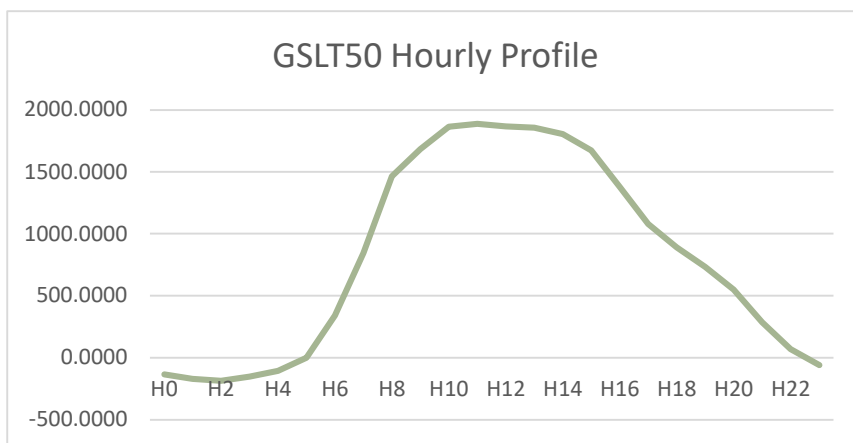
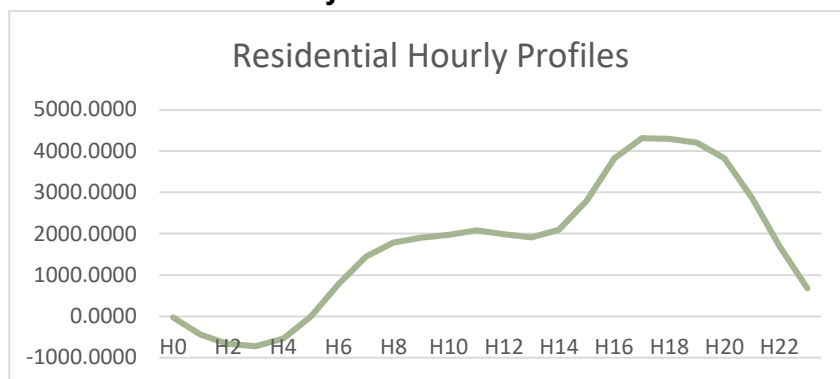
Resulting Insight

The regression-based approach produces intuitive and realistic hourly load shapes. For example, as illustrated in the figure below for the Residential class, the model captures:

- Lower overnight consumption
- Gradual morning ramp-up
- Midday stabilization
- Pronounced evening peak

These patterns are consistent with expected customer usage behavior and provide a strong empirical basis for cost allocation.

Table 16 – Major Class Load Profiles



Weather Normalization

Weather normalization is performed by applying the estimated regression coefficients to 10-year average (normal) HDD and CDD values, while maintaining the original calendar structure (hour-of-day and weekend indicators).

The regression model is estimated once using study-year data and is not re-estimated using normal weather conditions. Instead, the estimated coefficients are held constant and only the weather inputs (HDD and CDD) are replaced with their 10-year average values.

This approach produces an hourly load series that reflects expected consumption under typical weather conditions, while preserving actual system usage characteristics. The structural relationships embedded in the model remain unchanged.

Peak Demand Determination

All peak demand metrics used for cost allocation are derived from the weather-normalized hourly load series.

Non-Coincident Peak (NCP):

Represents each class's own peak demand, independent of system conditions. LUI has calculated:

- NCP1 (maximum hourly load)
- NCP4 (fourth highest hour)
- NCP12 (sum of top 12 hours)
- Monthly NCP values (maximum hourly load within each month)

Coincident Peak (CP):

Represents demand during system peak hour(s). Class-level coincident demand is determined by selecting normalized load during the identified system peak intervals, consistent with the applicable cost allocation framework.

Validation

As a validation step, LUI reviewed the resulting weather-normalized load profiles to ensure they produce reasonable and intuitive results under typical weather conditions. The normalized profiles reflect expected customer usage patterns, including daily load variation and seasonal effects, without being driven by extreme weather observed in the study year.

LUI also confirmed that the calculation of non-coincident and coincident peak demand metrics remains consistent with the established approach historically used in cost allocation studies, including the methodology underlying the legacy HONI load profiles. While the underlying load shapes have been updated using more recent data and weather normalization, the peak extraction itself has not changed.

This provides continuity with prior applications, while improving the accuracy and relevance of the underlying load data.

The methodology is transparent, reproducible, and based on observable system data.

Resulting Output

The final output of this process is a weather-normalized hourly load profile for each rate class. These profiles form the basis of the demand allocators used in the cost allocation model.

A working model has been developed and filed with this application. It is simple and intuitive. Within the model, one can find the methodology, data inputs, regression, intercepts for each class and profiles. LUI has also created a tab showing a comparison of the profiles going back to the original HONI in 2004, escalated 2012-2016 and 2022.

Given the clear direction in the Filing Requirements to update load profiles using the most recent data available, LUI has proceeded with the implementation of this methodology in the current application. LUI remains open to feedback and will incorporate any guidance provided by the OEB through the course of this proceeding.

Table 17 – Proposed Demand Data (Load Profiles)

			1	2	3	7	8	9	
Customer Classes			Total	Residential	GS <50	GS 50 to 4,999 kW	Street Light	Sentinel	Unmetered Scattered Load
			CP Sanity Check	Pass	Pass	Pass	Pass	Pass	Pass
CO-INCIDENT PEAK									
1 CP									
Transformation CP	TCP1	17,590	9,430	3,043	4,967	-	70	5	
Bulk Delivery CP	BCP1	17,590	9,430	3,043	4,967	-	70	5	
Total Sytem CP	DCP1	17,590	9,430	3,043	4,967	-	70	5	
4 CP									
Transformation CP	TCP4	69,011	30,827	13,395	24,178	-	286	20	
Bulk Delivery CP	BCP4	69,011	30,827	13,395	24,178	-	286	20	
Total Sytem CP	DCP4	69,011	30,827	13,395	24,178	-	286	20	
12 CP									
Transformation CP	TCP12	193,460	80,760	38,156	72,720	-	853	59	
Bulk Delivery CP	BCP12	193,460	80,760	38,156	72,720	-	853	59	
Total Sytem CP	DCP12	193,460	80,760	38,156	72,720	-	853	59	
NON CO_INCIDENT PEAK									
			NCP Sanity Check	Pass	Pass	Pass	Pass	Pass	Pass
1 NCP									
Classification NCP from Load Data Provider	DNCP1	20,099	9,430	3,505	6,491	254	77	5	
Primary NCP	PNCP1	20,099	9,430	3,505	6,491	254	77	5	
Line Transformer NCP	LTNCP1	17,383	9,430	3,505	3,775	254	77	5	
Secondary NCP	SNCP1	17,383	9,430	3,505	3,775	254	77	5	
4 NCP									
Classification NCP from Load Data Provider	DNCP4	77,059	34,910	13,843	25,647	1,016	293	20	
Primary NCP	PNCP4	77,059	34,910	13,843	25,647	1,016	293	20	
Line Transformer NCP	LTNCP4	66,328	34,910	13,843	14,917	1,016	293	20	
Secondary NCP	SNCP4	66,328	34,910	13,843	14,917	1,016	293	20	
12 NCP									
Classification NCP from Load Data Provider	DNCP12	215,838	93,837	39,145	74,933	3,047	856	59	
Primary NCP	PNCP12	215,838	93,837	39,145	74,933	3,047	856	59	
Line Transformer NCP	LTNCP12	184,487	93,837	39,145	43,582	3,047	856	59	
Secondary NCP	SNCP12	184,487	93,837	39,145	43,582	3,047	856	59	

* The CA model rounds the profile results.

7.2.2 Outputs to the Cost Allocation Model

The tables below show the output of the Cost Allocation Study.

Table 18 –Outputs to the CA model (O1 Revenue to Cost|RR)

		1	2	3	7	8	9
	Total	Residential	GS <50	GS 50 to 4,999 kW	Street Light	Sentinel	Unmetered Scattered Load
Distribution Revenue at Existing Rates	\$6,164,787	\$3,615,600	\$820,234	\$1,598,919	\$99,195	\$5,897	\$24,942
Miscellaneous Revenue (mi)	\$764,039	\$578,038	\$99,248	\$65,150	\$14,730	\$2,528	\$4,345
	Miscellaneous Revenue Input equals Output						
Total Revenue at Existing Rates	\$6,928,826	\$4,193,638	\$919,482	\$1,664,069	\$113,925	\$8,425	\$29,287
Factor required to recover deficiency (1 + D)	1.1601						
Distribution Revenue at Status Quo Rates	\$7,151,812	\$4,194,483	\$951,559	\$1,854,917	\$115,077	\$6,841	\$28,936
Miscellaneous Revenue (mi)	\$764,039	\$578,038	\$99,248	\$65,150	\$14,730	\$2,528	\$4,345
Total Revenue at Status Quo Rates	\$7,915,851	\$4,772,521	\$1,050,807	\$1,920,067	\$129,807	\$9,370	\$33,281
Expenses							
Distribution Costs (di)	\$1,203,289	\$658,596	\$221,604	\$286,728	\$28,545	\$3,794	\$4,022
Customer Related Costs (cu)	\$954,998	\$737,893	\$99,312	\$89,020	\$22,576	\$2,021	\$4,176
General and Administration (ad)	\$2,048,100	\$1,312,054	\$308,257	\$365,670	\$48,858	\$5,624	\$7,637
Depreciation and Amortization (dep)	\$1,616,283	\$887,711	\$289,838	\$389,948	\$39,898	\$5,458	\$3,429
PILs (INPUT)	\$175,565	\$89,540	\$32,824	\$47,396	\$4,730	\$665	\$410
Interest	\$729,584	\$372,097	\$136,403	\$196,963	\$19,655	\$2,763	\$1,703
Total Expenses	\$6,727,818	\$4,057,891	\$1,088,237	\$1,375,725	\$164,262	\$20,326	\$21,378
Direct Allocation	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Allocated Net Income (NI)	\$1,188,033	\$605,912	\$222,115	\$320,728	\$32,006	\$4,498	\$2,773
Revenue Requirement (includes NI)	\$7,915,851	\$4,663,803	\$1,310,352	\$1,696,454	\$196,268	\$24,824	\$24,151
	Revenue Requirement Input equals Output						
Rate Base Calculation							
Net Assets							
Distribution Plant - Gross	\$49,563,112	\$26,552,192	\$9,030,721	\$12,405,200	\$1,286,791	\$176,320	\$111,888
General Plant - Gross	\$4,750,169	\$2,479,787	\$878,803	\$1,231,724	\$130,819	\$17,644	\$11,392
Accumulated Depreciation	(\$14,474,943)	(\$8,158,168)	(\$2,551,690)	(\$3,374,651)	(\$316,658)	(\$46,448)	(\$27,329)
Capital Contribution	(\$9,879,169)	(\$5,576,309)	(\$1,759,584)	(\$2,190,230)	(\$292,946)	(\$34,184)	(\$25,916)
Total Net Plant	\$29,959,168	\$15,297,502	\$5,598,251	\$8,072,044	\$808,005	\$113,331	\$70,035
Directly Allocated Net Fixed Assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cost of Power (COP)	\$31,037,388	\$11,106,490	\$4,759,846	\$14,937,383	\$146,537	\$5,542	\$81,589
OM&A Expenses	\$4,206,387	\$2,708,542	\$629,172	\$741,418	\$99,979	\$11,440	\$15,836
Directly Allocated Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	\$35,243,774	\$13,815,032	\$5,389,018	\$15,678,801	\$246,516	\$16,982	\$97,425
Working Capital	\$2,643,283	\$1,036,127	\$404,176	\$1,175,910	\$18,489	\$1,274	\$7,307
Total Rate Base	\$32,602,451	\$16,333,629	\$6,002,427	\$9,247,954	\$826,494	\$114,605	\$77,342
	Rate Base Input equals Output						
Equity Component of Rate Base	\$13,040,981	\$6,533,452	\$2,400,971	\$3,699,181	\$330,598	\$45,842	\$30,937
Net Income on Allocated Assets	\$1,188,033	\$714,629	(\$37,430)	\$544,342	(\$34,455)	(\$10,956)	\$11,903
Net Income on Direct Allocation Assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Income	\$1,188,033	\$714,629	(\$37,430)	\$544,342	(\$34,455)	(\$10,956)	\$11,903
RATIOS ANALYSIS							
REVENUE TO EXPENSES STATUS QUO%	100.00%	102.33%	80.19%	113.18%	66.14%	37.74%	137.80%
EXISTING REVENUE MINUS ALLOCATED COSTS	(\$987,025)	(\$470,165)	(\$390,870)	(\$32,385)	(\$82,343)	(\$16,399)	\$5,136
	Deficiency Input equals Output						
STATUS QUO REVENUE MINUS ALLOCATED COSTS	\$0	\$108,717	(\$259,545)	\$223,613	(\$66,461)	(\$15,455)	\$9,130
RETURN ON EQUITY COMPONENT OF RATE BASE	9.11%	10.94%	-1.56%	14.72%	-10.42%	-23.90%	38.48%

Table 19 –Outputs to the CA model (O2 Fixed Charge|Floor|Ceiling)

	1	2	3	7	8	9
<u>Summary</u>	Residential	GS <50	GS 50 to 4,999 kW	Street Light	Sentinel	Unmetered Scattered Load
Customer Unit Cost per month - Avoided Cost	\$6.14	\$6.74	\$70.20	\$0.59	\$2.80	\$2.87
Customer Unit Cost per month - Directly Related	\$10.77	\$12.49	\$135.75	\$1.17	\$5.57	\$5.60
Customer Unit Cost per month - Minimum System with PLCC Adjustment	\$19.38	\$26.66	\$166.43	\$4.23	\$9.33	\$20.13
Existing Approved Fixed Charge	\$28.79	\$29.77	\$108.33	\$2.19	\$6.97	\$11.56

7.3 ALLOCATION OF REVENUE REQUIREMENT TO EACH CLASS

7.3.1 Class Revenue Analysis

Table 20 below shows the results of the cost allocation. These results compare and analyze the distribution costs and help the LUI determine its 2027 proposed ratios.

Table 20 - Results of the Cost Allocation Study

Customer Class Name	Service Rev Req (row40)		Misc. Revenue (mi) (row19)		Base Rev Req		Rev2Cost Expenses %
Residential	4,663,803	58.92%	578,038	75.66%	4,085,766	57.13%	102.33%
General Service < 50 kW	1,310,352	16.55%	99,248	12.99%	1,211,104	16.93%	80.19%
General Service > 50 to 4999 kW	1,696,454	21.43%	65,150	8.53%	1,631,304	22.81%	113.18%
Unmetered Scattered Load	24,151	0.31%	4,345	0.57%	19,806	0.28%	137.80%
Sentinel	24,824	0.31%	2,528	0.33%	22,296	0.31%	37.74%
Streetlights	196,268	2.48%	14,730	1.93%	181,537	2.54%	66.14%
other							
TOTAL	7,915,851	100.00%	764,039	100.00%	7,151,812	100.00%	

Table 21 below shows the allocation percentage and base revenue requirement allocation under existing rates, cost allocation results, and proposed 2027 proposed allocation.

Table 21- Base Revenue Requirement Under 3 Scenarios

Customer Class Name	Proposed Base Revenue Requirement %					
	Cost Allocation Results		Existing Rates		Proposed Allocation	
Residential	57.13%	4,085,766	60.10%	4,298,238	58.18%	4,161,018
General Service < 50 kW	16.93%	1,211,103	14.75%	1,054,692	13.31%	951,787
General Service > 50 to 4999 kW	22.81%	1,631,304	20.12%	1,439,019	25.93%	1,854,748
Unmetered Scattered Load	0.28%	19,806	0.49%	35,124	0.34%	24,650
Sentinel	0.31%	22,296	0.29%	20,429	0.24%	17,324
Streetlights	2.54%	181,537	4.25%	304,309	1.99%	142,285
other						
TOTAL	100.00%	7,151,812	100.00%	7,151,812	100.00%	7,151,812

Table **22** below shows the revenue offset allocation which resulted from the Cost Allocation Study (Sheet O1).

Table 22 - Revenue Offset Allocation as per Cost Allocation Study

Customer Class Name	Revenue Offsets	
	%	\$
Residential	75.66%	578,038
General Service < 50 kW	12.99%	99,248
General Service > 50 to 4999 kW	8.53%	65,150
Unmetered Scattered Load	0.57%	4,345
Sentinel	0.33%	2,528
Streetlights	1.93%	14,730
other		
TOTAL	100.00%	764,039

Table 23 shows the allocation of the service revenue requirement under the same three scenarios.

Table 23 - Service Revenue Requirement Under 3 Scenarios

Customer Class Name	Service Revenue Requirement \$		
	Existing Rates	Cost Allocation	Proposed Allocation
Residential	4,876,276	4,663,803	4,739,055
General Service < 50 kW	1,153,940	1,310,352	1,051,035
General Service > 50 to 4999 kW	1,504,169	1,696,453	1,919,898
Unmetered Scattered Load	39,470	24,151	28,995
Sentinel	22,958	24,824	19,853
Streetlights	319,039	196,268	157,016
TOTAL	7,915,851	7,915,851	7,915,851

7.4 REVENUES-TO-COST RATIOS

7.4.1 Adjustment to Revenue to Cost Ratios

The table on the next page shows Appendix 2-P of the Board Appendices, while Table 23 below shows the LUI's proposed ratios. The Appendix provides information on previously approved ratios and proposed ratios. The section following Appendix 2-P addresses the method and logic used to update the ratios from the Cost Allocation study to the proposed ratios.

Table 24 – Proposed Revenue Allocation

Customer Class Name	Calculated R/C Ratio	Proposed R/C Ratio	Variance	Shortfall Allocation
Residential	1.0233	1.0161	-0.0072	33,465
General Service < 50 kW	0.8019	0.8021	0.0002	-228
General Service > 50 to 4999 kW	1.1318	1.1317	-0.0001	169
Unmetered Scattered Load	1.3780	1.2006	-0.1775	4,286
Sentinel	0.3774	0.7997	0.4223	-10,483
Streetlights	0.6614	0.8000	0.1386	-27,209

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

* The slight variance from the floor and ceiling are due to rounding.

The proposed revenue-to-cost ratios were determined using a step-based approach consistent with the OEB's policy range of 0.85 to 1.15.

LUI reviewed the calculated revenue-to-cost ratios resulting from the cost allocation model and identified customer classes that fell outside the applicable target range. Customer classes with ratios below the minimum threshold were adjusted upward to the applicable floor, while customer classes with ratios above the maximum threshold were adjusted downward to the applicable ceiling.

Accordingly, the Unmetered Scattered Load class was adjusted downward from 1.3780 to 1.2000, while the Sentinel and Streetlight classes were adjusted upward from 0.3774 and 0.6614, respectively, to 0.8000. No material adjustments were made to customer classes whose calculated ratios were already within the acceptable range.

LUI did not propose any additional movement toward a revenue-to-cost ratio of 1.00 beyond that required to bring customer classes within the OEB's target range. This approach minimizes customer rate impacts and limits revenue shifts between classes while maintaining consistency with the OEB's cost allocation policy.

The resulting proposed revenue-to-cost ratios represent the minimum adjustments necessary to achieve compliance with the applicable target range. The associated revenue shifts are reflected in the shortfall reconciliation and are revenue neutral in aggregate.

Table 25 - OEB Appendix 2-P

A) Allocated Costs

Classes	Costs Allocated from Previous Study	%	Costs Allocated in Test Year Study (Column 7A)	%
Residential	\$2,844,347	59.05%	\$4,663,803	58.92%
General Service < 50 kW	\$676,122	14.04%	\$1,310,352	16.55%
General Service > 50 to 4999 kW	\$1,187,104	24.64%	\$1,696,454	21.43%
Unmetered Scattered Load	\$85,733	1.78%	\$24,151	0.31%
Sentinel	\$5,357	0.11%	\$24,824	0.31%
Streetlights	\$18,589	0.39%	\$4,663,803	2.48%
Total	\$4,817,252		\$7,915,851	100.00%

B) Calculated Class Revenues

(from CA - O1 row 18)				
Classes (same as previous table)	Column 7B Load Forecast (LF) X current approved rates	Column 7C L.F. X current approved rates X (1 + d)	Column 7D LF X proposed rates	Column 7E Miscellaneous Revenue
Residential	\$3,615,600	\$4,194,483	\$4,161,018	\$578,038
General Service < 50 kW	\$820,234	\$951,559	\$951,787	\$99,248
General Service > 50 to 4999 kW	\$1,598,919	\$1,854,917	\$1,854,748	\$65,150
Unmetered Scattered Load	\$24,942	\$28,936	\$24,650	\$4,345
Sentinel	\$5,916	\$6,841	\$17,324	\$2,528
Streetlights	\$99,195	\$115,077	\$142,285	\$14,730
Total	\$6,164,806	\$7,151,812	\$7,151,812	\$764,039

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

Class	Previously Approved Ratios Most Recent Year:	Status Quo Ratios (7C + 7E) / (7A)	Proposed Ratios (7D + 7E) / (7A)	Policy Range
	2022			
	%	%	%	%
Residential	91.08%	102.33%	101.61%	
General Service < 50 kW	120.00%	80.19%	80.21%	
General Service > 50 to 4999 kW	120.00%	113.18%	113.17%	
Unmetered Scattered Load	108.68%	137.80%	120.06%	
Sentinel	89.99%	37.74%	79.97%	
Streetlights	107.28%	66.14%	80.00%	

D) Proposed Revenue-to-Cost Ratios

Class	Proposed Revenue-to-Cost Ratios	Policy Range
Residential	101.61%	
General Service < 50 kW	80.21%	
General Service > 50 to 4999 kW	113.17%	
Unmetered Scattered Load	120.06%	
Sentinel	79.97%	
Streetlights	80.00%	

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