# RATE DESIGN SUMMARY

## 1. INTRODUCTION

This Schedule provides a list of schedules throughout this Application that detail Hydro Ottawa's proposed rate design for 2026-2030. This design incorporates the updated data from the recent cost allocation study, as well as the revenue and cost ratios from the five cost allocation models to calculate Hydro Ottawa's 2026-2030 proposed fixed and variable charges. Moreover, Hydro Ottawa's rate design leverages the OEB's Custom Incentive Rate-setting framework to address evolving customer needs by promoting innovative solutions, customer choice and grid flexibility, while maintaining a strong focus on cost control and system efficiency.

The following schedule provide further details on Hydro Ottawa's rate design:

- Schedule 1-3-1 - Rate Setting Framework
- Schedule 6-1-1 - Revenue Requirement and Deficiency or Sufficiency
- Schedule 7-1-1 - Cost Allocation
- Schedule 7-1-3 - Standby Service Charge
- Schedule 8-1-2 - Fixed/Variable Proportion
- Schedule 8-5-2 - Rate Mitigation

For information on the bill impact of this rate design, please refer to Schedule 8-5-1 - Bill impacts and Tariff of Rates and Charges.

# FIXED / VARIABLE PROPORTION

## 1. INTRODUCTION

This Schedule explains how Hydro Ottawa's proposed rates have been designed to collect the requested revenue requirement from 2026-2030. In accordance with section 2.8.1 of the OEB's *Chapter 2 Filing Requirements for Electricity Distribution Rate Applications - 2025 Edition for 2026 Rate Applications*, dated December 9, 2024, the 2025 current and 2026-2030 proposed fixed/variable proportion for each rate class is outlined below. The Test Year fixed/variable rates have been calculated using the proposed revenue load and customer forecast detailed in Schedule 3-1-1 - Revenue Load and Customer Forecast.

Hydro Ottawa is requesting approval of a Base Revenue Requirement from distribution rates in 2026 of $298.9M. Table 1 summarizes the requested revenue from distribution rates for the 2026-2030 rate period. Please see Schedule 6-1-1 - Revenue Requirement and Revenue Deficiency or Sufficiency for the calculation of revenue required from distribution rates and of revenue deficiency.

**Table 1 – Revenue from Distribution Rates 2026-2030 ($'000s)**

| | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|
| Revenue from Distribution Rates | $ 298,975 | $ 324,743 | $ 352,420 | $ 376,208 | $ 399,932 |

## 2. FIXED/VARIABLE PROPORTION

Hydro Ottawa has determined the distribution fixed/variable split and charges for each rate class. Table 2 below provides the current and proposed fixed/variable split. Tables 3 through 5 below provide the current and proposed fixed/variable charges. Please refer to Schedule 8-5-1 - Bill Impacts and Tariff of Rates and Charges for the current approved 2025 and proposed 2026-2030 Bill Impacts and Tariffs of Rates and Charges.

## Table 2 – Current and Proposed Fixed/Variable Split

| | 2025 | | 2026 | | 2027 | | 2028 | | 2029 | | 2030 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fixed | Variable | Fixed | Variable | Fixed | Variable | Fixed | Variable | Fixed | Variable | Fixed | Variable |
| Residential | 100% | 0% | 100% | 0% | 100% | 0% | 100% | 0% | 100% | 0% | 100% | 0% |
| GS < 50 kW | 25% | 75% | 25% | 75% | 25% | 75% | 25% | 75% | 25% | 75% | 25% | 75% |
| GS 50 to 1,499 kW | 14% | 86% | 12% | 88% | 11% | 89% | 10% | 90% | 10% | 90% | 9% | 91% |
| GS 1,500 to 4,999 kW | 26% | 74% | 23% | 77% | 21% | 79% | 20% | 80% | 19% | 81% | 18% | 82% |
| Large Use | 24% | 76% | 20% | 80% | 18% | 82% | 16% | 84% | 15% | 85% | 13% | 87% |
| Street Lighting | 63% | 37% | 65% | 35% | 65% | 35% | 65% | 35% | 66% | 34% | 66% | 34% |
| Sentinel Lighting | 52% | 48% | 50% | 50% | 51% | 49% | 52% | 48% | 51% | 49% | 50% | 50% |
| Unmetered Scattered Load | 41% | 59% | 43% | 57% | 43% | 57% | 44% | 56% | 44% | 56% | 45% | 55% |
| Standby Power GS 50 to 1,499 KW | 28% | 72% | 8% | 92% | 7% | 93% | 7% | 93% | 6% | 94% | 6% | 94% |
| Standby Power GS 1,500 to 4,999 KW | 28% | 72% | 22% | 78% | 21% | 79% | 19% | 81% | 18% | 82% | 18% | 82% |
| Standby Power Large Use | 28% | 72% | 4% | 96% | 4% | 96% | 3% | 97% | 3% | 97% | 3% | 97% |

Table 3 details current and proposed fixed and variable charges for 2025 and 2026 by rate class.

**Table 3 – Current and Proposed Fixed/Variable Charges**

| | 2025 Approved | | 2026 Proposed | |
|---|---|---|---|---|
| | Fixed $ | Variable $/kWh or $/kW | Fixed $ | Variable $/kWh or $/kW |
| Residential | $ 34.26 | $ 0.0000 | $ 41.13 | $ 0.0000 |
| GS < 50 kW | $ 23.53 | $ 0.0305 | $ 28.10 | $ 0.0364 |
| GS 50 to 1,499 kW | $ 200.00 | $ 6.5553 | $ 200.00 | $ 8.0854 |
| GS 1,500 to 4,999 kW | $ 4,126.75 | $ 6.0796 | $ 4,126.75 | $ 7.7560 |
| Large Use | $ 14,946.93 | $ 6.0316 | $ 14,946.93 | $ 7.8803 |
| Street Lighting | $ 1.12 | $ 7.8164 | $ 1.28 | $ 9.0220 |
| Sentinel Lighting | $ 7.02 | $ 32.9297 | $ 7.76 | $ 36.4171 |
| Unmetered Scattered Load | $ 7.09 | $ 0.0338 | $ 8.17 | $ 0.0389 |
| Standby Power GS 50 to 1,499 kW | $ 186.89 | $ 2.4940 | $ 186.89 | $ 4.0421 |
| Standby Power GS 1,500 to 4,999 kW | $ 186.89 | $ 2.2877 | $ 186.89 | $ 3.8760 |
| Standby Power Large Use | $ 186.89 | $ 2.5388 | $ 186.89 | $ 3.9399 |

Table 4 outlines current and proposed fixed charges by rate class based on 12 equal monthly charges.

**Table 4 – Current and Proposed Fixed Charges**

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|
| Residential | $ 34.26 | $ 41.13 | $ 44.38 | $ 47.69 | $ 50.41 | $ 53.15 |
| GS < 50 kW | $ 23.53 | $ 28.10 | $ 30.32 | $ 32.42 | $ 34.24 | $ 35.84 |
| GS 50 to 1,499 kW | $ 200.00 | $ 200.00 | $ 200.00 | $ 200.00 | $ 200.00 | $ 200.00 |
| GS 1,500 to 4,999 kW | $ 4,126.75 | $ 4,126.75 | $ 4,126.75 | $ 4,126.75 | $ 4,126.75 | $ 4,126.75 |
| Large Use | $ 14,946.93 | $ 14,946.93 | $ 14,946.93 | $ 14,946.93 | $ 14,946.93 | $ 14,946.93 |
| Street Lighting | $ 1.12 | $ 1.28 | $ 1.20 | $ 1.25 | $ 1.28 | $ 1.29 |
| Sentinel Lighting | $ 7.02 | $ 7.76 | $ 8.37 | $ 9.00 | $ 9.51 | $ 10.03 |
| Unmetered Scattered Load | $ 7.09 | $ 8.17 | $ 8.80 | $ 9.41 | $ 9.95 | $ 10.41 |
| Standby Power GS 50 to 1,499 kW | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 |
| Standby Power GS 1,500 to 4,999 kW | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 |
| Standby Power Large Use | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 |

Table 5 summarizes current and proposed variable charges by rate class.

**Table 5 – Current and Proposed Variable Charges ($/kWh or $/kW)**

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|
| Residential | $ 0.0000 | $ 0.0000 | $ 0.0000 | $ 0.0000 | $ 0.0000 | $ 0.0000 |
| GS < 50 kW | $ 0.0305 | $ 0.0364 | $ 0.0393 | $ 0.0420 | $ 0.0444 | $ 0.0465 |
| GS 50 to 1,499 kW | $ 6.5553 | $ 8.0854 | $ 8.8107 | $ 9.5497 | $ 10.1577 | $ 10.7699 |
| GS 1,500 to 4,999 kW | $ 6.0796 | $ 7.7560 | $ 8.5495 | $ 9.3593 | $ 10.0269 | $ 10.6090 |
| Large Use | $ 6.0316 | $ 7.8803 | $ 8.8746 | $ 9.8872 | $ 10.6261 | $ 11.6566 |
| Street Lighting | $ 7.8164 | $ 9.0220 | $ 8.3632 | $ 8.7708 | $ 8.9377 | $ 9.0324 |
| Sentinel Lighting | $ 32.9297 | $ 36.4171 | $ 39.3161 | $ 42.2271 | $ 44.6606 | $ 47.0779 |
| Unmetered Scattered Load | $ 0.0338 | $ 0.0389 | $ 0.0419 | $ 0.0448 | $ 0.0474 | $ 0.0496 |
| Standby Power GS 50 to 1,499 kW | $ 2.4940 | $ 4.0421 | $ 4.4048 | $ 4.7743 | $ 5.0783 | $ 5.3844 |
| Standby Power GS 1,500 to 4,999 kW | $ 2.2877 | $ 3.8760 | $ 4.2729 | $ 4.6778 | $ 5.0116 | $ 5.3027 |
| Standby Power Large Use | $ 2.5388 | $ 3.9399 | $ 4.4370 | $ 4.9433 | $ 5.3128 | $ 5.8280 |

## 3. FIXED CHARGES COMPARED TO COST ALLOCATION CEILING

Table 6 below details current and proposed fixed charges by customer class compared to 2026 upper and lower bounds (floor and ceiling) calculated on sheet O-2 in the Cost Allocation Model in Excel Attachment 7-1-1(A) - OEB Workform - 2026 Cost Allocation Model.

**Table 6 – Comparison of 2025 Current and 2026-2030 Proposed Fixed Charges to Cost Allocation Floor and Ceiling**

| Customer Class | 2026 Cost Allocation | | Proposed Rates | | | | |
|---|---|---|---|---|---|---|---|
| | Floor | Ceiling | 2026 | 2027 | 2028 | 2029 | 2030 |
| Residential | $ 3.62 | $ 20.02 | $ 41.13 | $ 44.38 | $ 47.69 | $ 50.41 | $ 53.15 |
| GS < 50 kW | $ 5.68 | $ 27.02 | $ 28.10 | $ 30.32 | $ 32.42 | $ 34.24 | $ 35.84 |
| GS > 50 to 1,499 kW | $ 28.71 | $ 85.37 | $ 200.00 | $ 200.00 | $ 200.00 | $ 200.00 | $ 200.00 |
| GS > 1,500 to 4,999 kW | $ 59.24 | $ 474.11 | $ 4,126.75 | $ 4,126.75 | $ 4,126.75 | $ 4,126.75 | $ 4,126.75 |
| Large Use | $ 103.37 | $ 2,351.03 | $ 14,946.93 | $ 14,946.93 | $ 14,946.93 | $ 14,946.93 | $ 14,946.93 |
| Unmetered Scattered Load | $ 0.20 | $ 9.21 | $ 8.17 | $ 8.80 | $ 9.41 | $ 9.95 | $ 10.41 |
| Sentinel Lighting | $ 1.20 | $ 19.55 | $ 7.76 | $ 8.37 | $ 9.00 | $ 9.51 | $ 10.03 |
| Street Lighting | $ 0.14 | $ 6.58 | $ 1.28 | $ 1.20 | $ 1.25 | $ 1.28 | $ 1.29 |
| Standby Power GS 50 to 1,499 kW | $ 10.83 | $ 28.44 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 |
| Standby Power GS 1,500 to 4,999 kW | $ 10.83 | $ 28.43 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 |
| Standby Power Large Use | $ 10.83 | $ 28.44 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 | $ 186.89 |

Hydro Ottawa continues to adhere to the OEB policy on distribution rate design for residential customers.[1] This policy directed electricity distributors to transition residential customers to a fully fixed distribution charge. As part of this Application, Hydro Ottawa's residential distribution charge is proposed to remain a fully fixed charge.

For General Service (GS) <50 kW, Unmetered Scattered Load, Sentinel and Street Lighting classes, Hydro Ottawa's proposed rate design is based on maintaining the fixed/variable split. The subsections below provide further details on the fixed/variable proportion for General Service < 50 kW, GS 50-1,499 kW, GS 1,500-4,999 kW, Large Use and Standby classes.

### *3.1. GENERAL SERVICE < 50 kW*

For 2026-2030, Hydro Ottawa is proposing to maintain the current fixed/variable split for GS <50 kW. Maintaining the current fixed/variable split of 25% fixed and 75% variable results in proposed fixed charges above the calculated ceiling amount in the Cost Allocation models submitted in this Application as Excel Attachments 7-1-1(A) through (E).

Hydro Ottawa proposed keeping the current fixed/variable split in determining the fixed charge to ensure the majority of General Service <50 kW rate class customers are not paying less than a Residential customer. Please see Schedule 7-1-1 - Cost Allocation for further details.

### *3.2. GENERAL SERVICE >50 kW AND LARGE USE CLASSES*

For the GS 50-1,499 kW, General Service 1,500-4,999 kW and Large Use classes, the 2025 approved fixed charge remains higher than the upper bound calculated in the proposed Cost Allocation models included as Excel Attachments 7-1-1(A) though (E). For 2026-2030 Hydro Ottawa proposes to maintain the current fixed charge. As a result, the variable charges are adjusted for these classes to recover the proposed class-level revenue requirement in 2026-2030.

[1] Ontario Energy Board, *Board Policy - A New Distribution Rate Design for Residential Electricity Customers*, EB-2012-0410 (April 2, 2015).

Under the proposed rate design, the fixed charge for 2026-2030 is the higher of the previous year's fixed charge or the fixed charge percentage multiple by the rate class's annual calculated revenue requirement.

### *3.3. STANDBY*

For 2026-2030, Hydro Ottawa is proposing to hold the Standby fixed charge to the 2025 approved rate. The 2026-2030 volumetric rates have been designed to be 50% of the proposed variable rates of the General Service 50-1,499 kW, General Service 1,500-4,999 kW and Large Use class in the same year. In months where the Backup Overrun Adjustment applies, Hydro Ottawa proposes to apply the Backup Overrun Adjustment at the current approved distribution volumetric rate for the applicable rate class. Refer to Schedule 7-1-3 - Standby Service Charge for more information.

## 4. CHARGING FIXED CHARGE ON A PER DAY BASIS

Effective January 1, 2026, Hydro Ottawa intends to bill the fixed monthly charge by entering a per day rate into the billing system and posted on its website. Currently, the fixed charge is entered as a fixed monthly charge and prorated per Hydro Ottawa's Conditions of Service (COS)[2]. As such, Hydro Ottawa's COS will be required to be updated as a result of this change.

Consequently, the fixed charge billed on a monthly bill will vary slightly depending on the number of days in that particular month, rather than historically only for those bills that required proration. Hydro Ottawa believes this will be most visible to customers that historically were billed on a calendar month and monitor charges on a rate basis as they previously would not have experienced variations month to month on the fixed charge. However, by posting a calculated daily rate, this approach will provide better visibility to customers when charges are applied to partial months, for example during a move-in or move-out process.

[2] As has been approved since at least Hydro Ottawa's decision and order during EB-2007-0713.

The Proposed Monthly fixed charge will be annualized (multiplying by 12) and then divided by the total number of days in the year. This daily value, rounded to four decimal places, is then multiplied by the number of days in the billing period to determine the billable fixed charge, which will subsequently be rounded to two decimal places. For example, where the number of days in a billing period is 30 days, Hydro Ottawa's monthly fixed charge to a residential customer is $40.57.

Table 7 provides a sample calculation of the rate per day on the proposed 2026's monthly fixed charge. This methodology would be applied to all 2026-2030's fixed charges (including the Standard Supply Service Charge and the Smart Metering Charge.)

**Table 7 - 2026 Fixed Rate Per Day Calculation**

| | Proposed Monthly Fixed Charge | Daily Equivalent | # Days in Bill Period | # Days in Bill Period | # Days in Bill Period |
|---|---|---|---|---|---|
| | A | A x 12 / 365[3] | 30 | 31 | 28 |
| Residential | $ 41.13 | $ 1.3522 | $ 40.57 | $ 41.92 | $ 37.86 |
| GS < 50 kW | $ 28.10 | $ 0.9238 | $ 27.71 | $ 28.64 | $ 25.87 |
| GS 50 to 1,499 kW | $ 200.00 | $ 6.5753 | $ 197.26 | $ 203.83 | $ 184.11 |
| GS 1,500 to 4,999 kW | $ 4,126.75 | $ 135.6740 | $ 4,070.22 | $ 4,205.89 | $ 3,798.87 |
| Large Use | $ 14,946.93 | $ 491.4059 | $ 14,742.18 | $ 15,233.58 | $ 13,759.37 |
| Unmetered Scattered Load | $ 8.17 | $ 0.2686 | $ 8.06 | $ 8.33 | $ 7.52 |
| Sentinel Lighting | $ 7.76 | $ 0.2551 | $ 7.65 | $ 7.91 | $ 7.14 |
| Street Lighting | $ 1.28 | $ 0.0421 | $ 1.26 | $ 1.31 | $ 1.18 |
| Standby Power GS 50 to 1,499 kW | $ 186.89 | $ 6.1443 | $ 184.33 | $ 190.47 | $ 172.04 |
| Standby Power GS 1,500 to 4,999 kW | $ 186.89 | $ 6.1443 | $ 184.33 | $ 190.47 | $ 172.04 |
| Standby Power Large Use | $ 186.89 | $ 6.1443 | $ 184.33 | $ 190.47 | $ 172.04 |

Bill impacts continue to be presented using the equal 12 month presentment and therefore does not impact the comparison to the 2025 approved rates.

## 5. TRANSFORMER OWNERSHIP CREDIT

As part of the Approved Settlement Proposal from Hydro Ottawa's 2021-2025 Rate Application,[4] the Transformer Ownership Credit (TOC) has been discontinued for all customer-owned transformers as of November 1, 2025.

[3] 2026 rate per day is displayed as a proposed methodology to be used for 2026-2030, as 2028 is a leap year the divisor would be 366 days
[4] Hydro Ottawa Limited, *2021-2025 Custom Incentive Rate-Setting Approved Settlement Proposal*, EB-2019-0261 (September 18, 2020), page 27.

This discontinuation was initially outlined in the 2015 update of Hydro Ottawa's Conditions of Service (Version 5). Customers receiving the TOC were notified directly of this change in March 2020 as per the OEB's Letter of Direction at the outset of Hydro Ottawa's 2021-2025 Custom IR Application.[5] The discontinuation of the TOC has also been formally documented in subsequent versions of Hydro Ottawa's Conditions of Service (currently Version 9).[6]

[5] Ontario Energy Board, *Letter of Direction RE: Hydro Ottawa LImited 2021-2025 Electricity Distribution Rates*, EB-2019-0261 (March 4), page 2.
[6] Hydro Ottawa Limited, *Conditions of Service,* Version 9 (January 16, 2023), Section 2.5.5.4, page 72.

# REVENUE RECONCILIATION

## 1. INTRODUCTION

In accordance with section 2.8.10 of the OEB *Chapter 2 Filing Requirements for Electricity Distribution Rate Applications - 2025 Edition for 2026 Rate Applications*, dated December 9, 2024**,** this Schedule outlines Hydro Ottawa's revenue per rate class under current and proposed rates. Tables 1 through 5 below detail the calculations of revenue per rate class under proposed prior year rates. They also include a reconciliation of rate class revenue at prior year rates and other revenue to total revenue requirement.

The revenue deficiency/sufficiency was determined by calculating what the revenue would have been using prior year rates, monthly Service Charge (SC) and Volumetric Rate (Vol. R), and the forecasted 2026-2030 revenue load and customer/connection numbers. This produces the amount of revenue Hydro Ottawa would collect at prior year rates with an updated revenue load forecast.

Detailed calculations of revenue requirement at proposed rates can be found within Sheet 13: Rate Design in the Revenue Requirement Workforms which accompany Schedule 6-1-1 - Revenue Requirement and Revenue Deficiency or Sufficiency. More specifically, these workforms are included as the following Attachments:

- Attachment 6-1-1(A) - OEB Workform - 2026 Revenue Requirement Workform
- Attachment 6-1-1(B) - OEB Workform - 2027 Revenue Requirement Workform
- Attachment 6-1-1(C) - OEB Workform - 2028 Revenue Requirement Workform
- Attachment 6-1-1(D) - OEB Workform - 2029 Revenue Requirement Workform
- Attachment 6-1-1(E) - OEB Workform - 2030 Revenue Requirement Workform

## Table 1 – Revenue per Rate Class and Reconciliation to 2026 Revenue Requirement[1]

| Rate Class | Average # Customers / Connections | 2026 Consumption | | 2025 Rates | | Revenues at 2025 Rates ($'000s) |
|---|---|---|---|---|---|---|
| | | MWh | KW | Monthly SC | Vol. R (kWh/KW) | |
| Residential | 348,287 | 2,601,494 | - | $ 34.26 | $ - .0000 | $ 143,188 |
| General Service < 50kW | 26,016 | 722,556 | - | $ 23.53 | $ 0.0305 | $ 29,384 |
| General Service > 50 to 1,499 kW | 3,137 | 2,832,494 | 6,987,734 | $ 200.00 | $ 6.5553 | $ 53,335 |
| General Service > 1,500 to 4,999 kW | 70 | 705,932 | 1,518,409 | $ 4,126.75 | $ 6.0796 | $ 12,698 |
| Large Use | 11 | 544,235 | 1,015,559 | $ 14,946.93 | $ 6.0316 | $ 8,098 |
| Standby Power GS 50 to 1,499 kW | 2 | - | 13,037 | $ 186.89 | $ 2.4940 | $ 37 |
| Standby Power GS 1,500 to 4,999 kW | 2 | - | 4,090 | $ 186.89 | $ 2.2877 | $ 14 |
| Standby Power Large Use | 2 | - | 27,710 | $ 186.89 | $ 2.5388 | $ 75 |
| Unmetered Scattered Load | 4,263 | 14,392 | - | $ 7.09 | $ 0.0338 | $ 849 |
| Sentinel Lighting | 47 | - | 120 | $ 7.02 | $ 32.9297 | $ 8 |
| Street Lighting | 65,912 | 21,962 | 61,129 | $ 1.12 | $ 7.8164 | $ 1,364 |
| **Total Revenue at 2025 Rates** | | | | | | **$ 249,050** |
| | | | | Other Revenue | | $ 11,018 |
| | | | | Total Revenue | | $ 260,068 |
| | | | | 2026 Revenue Requirement | | $ 309,993 |
| | | | | 2026 Revenue Deficiency | | **$ (49,926)** |

[1] Totals may not sum due to rounding.

## Table 2 – Revenue per Rate Class and Reconciliation to 2027 Revenue Requirement[2]

| Rate Class | Average # Customers / Connections | 2027 Consumption | | 2026 Rates | | Revenues at 2026 Rates ($'000s) |
|---|---|---|---|---|---|---|
| | | MWh | KW | Monthly SC | Vol. R (kWh/KW) | |
| Residential | 351,762 | 2,628,618 | - | $ 41.13 | $ 0.0000 | $ 173,616 |
| General Service < 50kW | 26,138 | 722,196 | - | $ 28.10 | $ 0.0364 | $ 35,102 |
| General Service > 50 to 1,499 kW | 3,137 | 2,814,387 | 6,948,214 | $ 200.00 | $ 8.0854 | $ 63,708 |
| General Service > 1,500 to 4,999 kW | 69 | 698,762 | 1,501,652 | $ 4,126.75 | $ 7.7560 | $ 15,064 |
| Large Use | 12 | 566,903 | 1,081,955 | $ 14,946.93 | $ 7.8803 | $ 10,678 |
| Standby Power GS 50 to 1,499 kW | 2 | - | 12,986 | $ 186.89 | $ 4.0421 | $ 57 |
| Standby Power GS 1,500 to 4,999 kW | 2 | - | 4,045 | $ 186.89 | $ 3.8760 | $ 20 |
| Standby Power Large Use | 2 | - | 27,444 | $ 186.89 | $ 3.9399 | $ 113 |
| Unmetered Scattered Load | 4,383 | 14,472 | - | $ 8.17 | $ 0.0389 | $ 993 |
| Sentinel Lighting | 46 | - | 114 | $ 7.76 | $ 36.4171 | $ 8 |
| Street Lighting | 66,810 | 22,060 | 61,402 | $ 1.28 | $ 9.0220 | $ 1,580 |
| **Total Revenue at 2026 Rates** | | | | | | **$ 300,938** |
| | | | | Other Revenue | | $ 10,697 |
| | | | | Total Revenue | | $ 311,636 |
| | | | | 2027 Revenue Requirement | | $ 335,440 |
| | | | | 2027 Revenue Deficiency | | **$ (23,804)** |

[2] Totals may not sum due to rounding.

## Table 3 – Revenue per Rate Class and Reconciliation to 2028 Revenue Requirement[3]

| Rate Class | Average # Customers / Connections | 2028 Consumption | | 2027 Rates | | Revenues at 2027 Rates ($'000s) |
|---|---|---|---|---|---|---|
| | | MWh | KW | Monthly SC | Vol. R (kWh/KW) | |
| Residential | 355,313 | 2,663,642 | - | $ 44.38 | $ 0.0000 | $ 189,225 |
| General Service < 50kW | 26,264 | 724,707 | - | $ 30.32 | $ 0.0393 | $ 38,037 |
| General Service > 50 to 1,499 kW | 3,137 | 2,806,186 | 6,933,721 | $ 200.00 | $ 8.8107 | $ 68,620 |
| General Service > 1,500 to 4,999 kW | 69 | 693,528 | 1,489,421 | $ 4,126.75 | $ 8.5495 | $ 16,151 |
| Large Use | 13 | 613,629 | 1,214,025 | $ 14,946.93 | $ 8.8746 | $ 13,106 |
| Standby Power GS 50 to 1,499 kW | 2 | - | 12,977 | $ 186.89 | $ 4.4048 | $ 62 |
| Standby Power GS 1,500 to 4,999 kW | 2 | - | 4,012 | $ 186.89 | $ 4.2729 | $ 22 |
| Standby Power Large Use | 2 | - | 27,259 | $ 186.89 | $ 4.4370 | $ 125 |
| Unmetered Scattered Load | 4,503 | 14,552 | - | $ 8.80 | $ 0.0419 | $ 1,085 |
| Sentinel Lighting | 45 | - | 108 | $ 8.37 | $ 39.3161 | $ 9 |
| Street Lighting | 67,708 | 22,158 | 61,676 | $ 1.20 | $ 8.3632 | $ 1,491 |
| **Total Revenue at 2027 Rates** | | | | | | **$ 327,932** |
| | | | | Other Revenue | | $ 10,859 |
| | | | | Total Revenue | | $ 338,791 |
| | | | | 2028 Revenue Requirement | | $ 363,279 |
| | | | | 2028 Revenue Deficiency | | **$ (24,488)** |

[3] Totals may not sum due to rounding.

## Table 4 – Revenue per Rate Class and Reconciliation to 2029 Revenue Requirement[4]

| Rate Class | Average # Customers / Connections | 2029 Consumption | | 2028 Rates | | Revenues at 2028 Rates ($'000s) |
|---|---|---|---|---|---|---|
| | | MWh | KW | Monthly SC | Vol. R (kWh/KW) | |
| Residential | 358,968 | 2,682,208 | - | $ 47.69 | $ 0.0000 | $ 205,430 |
| General Service < 50kW | 26,393 | 722,940 | - | $ 32.42 | $ 0.0420 | $ 40,631 |
| General Service > 50 to 1,499 kW | 3,138 | 2,793,233 | 6,901,942 | $ 200.00 | $ 9.5497 | $ 73,443 |
| General Service > 1,500 to 4,999 kW | 69 | 685,488 | 1,470,630 | $ 4,126.75 | $ 9.3593 | $ 17,181 |
| Large Use | 14 | 666,917 | 1,384,839 | $ 14,946.93 | $ 9.8872 | $ 16,203 |
| Standby Power GS 50 to 1,499 kW | 2 | - | 12,908 | $ 186.89 | $ 4.7743 | $ 66 |
| Standby Power GS 1,500 to 4,999 kW | 2 | - | 3,961 | $ 186.89 | $ 4.6778 | $ 23 |
| Standby Power Large Use | 2 | - | 26,882 | $ 186.89 | $ 4.9433 | $ 137 |
| Unmetered Scattered Load | 4,622 | 14,633 | - | $ 9.41 | $ 0.0448 | $ 1,177 |
| Sentinel Lighting | 44 | - | 108 | $ 9.00 | $ 42.2271 | $ 9 |
| Street Lighting | 68,606 | 22,257 | 61,949 | $ 1.25 | $ 8.7708 | $ 1,572 |
| **Total Revenue at 2028 Rates** | | | | | | **$ 355,874** |
| | | | | Other Revenue | | $ 11,123 |
| | | | | Total Revenue | | $ 366,998 |
| | | | | 2029 Revenue Requirement | | $ 387,331 |
| | | | | 2029 Revenue Deficiency | | **$ (20,334)** |

[4] Totals may not sum due to rounding.

## Table 5 – Revenue per Rate Class and Reconciliation to 2030 Revenue Requirement[5]

| Rate Class | Average # Customers / Connections | 2030 Consumption | | 2029 Rates | | Revenues at 2029 Rates ($'000s) |
|---|---|---|---|---|---|---|
| | | MWh | KW | Monthly SC | Vol. R (kWh/KW) | |
| Residential | 362,676 | 2,713,673 | - | $ 50.41 | $ - .0000 | $ 219,390 |
| General Service < 50kW | 26,524 | 722,437 | - | $ 34.24 | $ 0.0444 | $ 42,974 |
| General Service > 50 to 1,499 kW | 3,139 | 2,784,137 | 6,879,660 | $ 200.00 | $ 10.1577 | $ 77,415 |
| General Service > 1,500 to 4,999 kW | 69 | 678,211 | 1,453,625 | $ 4,126.75 | $ 10.0269 | $ 17,992 |
| Large Use | 14 | 701,083 | 1,494,202 | $ 14,946.93 | $ 10.6261 | $ 18,389 |
| Standby Power GS 50 to 1,499 kW | 2 | - | 12,856 | $ 186.89 | $ 5.0783 | $ 70 |
| Standby Power GS 1,500 to 4,999 kW | 2 | - | 3,915 | $ 186.89 | $ 5.0116 | $ 24 |
| Standby Power Large Use | 2 | - | 26,582 | $ 186.89 | $ 5.3128 | $ 146 |
| Unmetered Scattered Load | 4,742 | 14,713 | - | $ 9.95 | $ 0.0474 | $ 1,264 |
| Sentinel Lighting | 43 | - | 108 | $ 9.51 | $ 44.6606 | $ 10 |
| Street Lighting | 69,504 | 22,355 | 62,184 | $ 1.28 | $ 8.9377 | $ 1,623 |
| **Total Revenue at 2029 Rates** | | | | | | **$ 379,297** |
| | | | | Other Revenue | | $ 11,460 |
| | | | | Total Revenue | | $ 390,757 |
| | | | | 2030 Revenue Requirement | | $ 411,392 |
| | | | | 2030 Revenue Deficiency | | **$ (20,636)** |

[5] Totals may not sum due to rounding.

# RETAIL TRANSMISSION AND LOW VOLTAGE SERVICE RATES

## 1. INTRODUCTION

This Schedule provides a summary of the proposed retail transmission service rates (RTSR) and low voltage (LV) service rates proposed for 2026-2030.

On June 28, 2012, the OEB issued a revision to *Guideline G-2008-0001: Electricity Distribution Retail Transmission Service Rates*, which outlined information that electricity distributors must file to adjust their RTSRs. In 2006, the OEB issued a Decision which determined that it was appropriate for an embedded electricity distributor, or a distributor with embedded distribution points (such as Hydro Ottawa), to establish and maintain a variance account for LV charges from its host distributor.[1]

Subsequent to the issuance of the aforementioned Decision, the OEB sent a letter in June 2006 notifying electricity distributors that the following accounts had been added to the Uniform System of Accounts (USofA): Account 4750, Charges – LV; Account 4075, Billed – LV; and Account 1550, LV Variance Account.[2] As a result, effective May 1, 2006, Account 1550 has been used to record the net of the amounts recorded in Accounts 4750 (amount charged by Hydro One Networks Inc. (Hydro One) for LV services) and 4075 (amount Hydro Ottawa customers are billed for LV services).

The OEB also provides a model (RTSR Model) which distributors are required to complete and file as part of their rate applications. The RTSR Model includes both calculation for RTSR and LV Rates by rate classification.

[1] Ontario Energy Board, *Decision with Reasons in the matter of a proceeding initiated by the Ontario Energy Board to make certain determinations of matters raised in applications by electricity distribution companies for 2006 rates pursuant to sections 19(4) and 78 of the Ontario Energy Board Act, 1998,* EB-2005-0529 (March 21, 2006).
[2] Ontario Energy Board, Letter re: *Smart Meters and Low Voltage Accounting Matters arising from the Board's 2006 EDR Decision on Common or Generic Issues*, EB-2006-0136 (June 13, 2006).

## 2. 2026-2030 RETAIL TRANSMISSION SERVICE RATES

Hydro Ottawa proposes to use the OEB RTSR model for its 2026-2030 rates. The RTSR model is designed to use a utility's billing determinants from the previous year, as reported through the Reporting and Record Keeping Requirements (RRRs). As such, the rates are derived from 2023 billing determinants, as these are the determinants that have been most recently reported through the utility's RRR filings.

To calculate Hydro Ottawa's 2026 RTSRs, the 2025 OEB-approved Hydro One Sub-Transmission Rates[3] and Uniform Transmission Rates (UTRs)[4] have been inflated by the Custom Revenue Cap Index (RCI) described in Hydro One's most recent Custom Application.[5] The rates provided in this Schedule form the basis of the transmission expense, as part of Hydro Ottawa's working capital allowance calculation. Please see Schedule 2-3-1 - Working Capital Requirement for more information regarding the utility's working capital.

Hydro Ottawa has attached the 2025 RTSR Model as Excel Attachment 8-2-1(A) - OEB Workform - 2026 RTSR Workform. The following changes were made to the OEB's 2025 RTSR model for the purpose of this application:

- On Tab 4. UTRs and Sub-Transmission; 2026 Estimate rates were added in column J and the 2023 rates in column E were replaced with 2024 approved rates; and
- Four additional tabs (Tab 10 - Tab 13) were created to calculate the low voltage rates for Test Years 2027-2030.

Hydro Ottawa proposes to annually update its RTSRs during the 2026-2030 rate term, as part of its mechanistic annual rate adjustment applications. These updates will be based upon OEB

[3] Ontario Energy Board, Rate Order, *Hydro One Networks Inc. Application for electricity distribution rates and other charges beginning January 1, 2025,* EB-2024-0032 (December 19, 2024)
[4] Ontario Energy Board, Decision and Order, EB-2024-0244 (January 21, 2025)
[5] Hydro One Networks Inc., *2023-2027 Custom Incentive Rate-setting Approved Settlement Agreement,* EB-2021-0110 (November 16, 2022), Page 6.

Approved adjustments to the Hydro One Transmission and UTRs using the RTSR model. Hydro Ottawa also proposes the 2026 RTSRs be updated at a later stage in this proceeding, to incorporate the guideline for Electric Vehicle Charging (EVC) Rate[6] and where updated OEB Approved UTR or Sub-Transmission rates are made available prior to the finalization of Hydro Ottawa's 2026 Decision and Order.

In addition, given that the adjustments to UTRs typically occur after the implementation of Hydro Ottawa's rates on January 1st of each year, Hydro Ottawa proposes to update each year's RTSRs using the most current UTRs. Hydro Ottawa proposes that the differences from the new rates be captured in Uniform System of Accounts 1584 - Retail Settlement Variance Account (RSVA) Network and 1586 - Connection for future disposition.

## 3. TRANSMISSION GROSS LOAD BILLING ADJUSTMENTS

Hydro Ottawa's RTSR Historical, Current, and Forecast Wholesale units billed (kW) and dollar amounts include the annual gross load billing transmission adjustments. The additional transmission expenses are incurred as a result of embedded generation in Hydro Ottawa's service territory connected to Hydro One transmission delivery points. Once annually, Hydro Ottawa submits the gross load billing determinants (kW) applicable[7] to UTR Line Connection and Transformation Connection and the UTR charges Hydro Ottawa receives are adjusted for the additional kW. In 2023, the annual adjustment for embedded generation was $1.35M (2.99% of the total Line Connection and Transformation Connection expense).

Table 1 includes the historical 2021-2023 gross load billing adjustments. For 2026-2030 Hydro Ottawa will continue including the gross load billing adjustment amounts in the calculations for proposed RTSR rates.

[6] Ontario Energy Board, Guideline Electricity Distribution Retail Transmission Service Rates and Low Voltage Charges (March 31, 2025).
[7] Renewable embedded generation >2MW, or non-renewable generation >1MW connected to Hydro One transmission delivery point(s).

**Table 1 - 2021-2023 Transmission Gross Load Billing Adjustments ($'000s)**

| | 2021 | 2022 | 2023 |
|---|---|---|---|
| Line Connection | $ 346 | $ 251 | $ 322 |
| Transformation Connection | $ 830 | $ 823 | $ 1,028 |
| **TOTAL** | **$ 1,176** | **$ 1,074** | **$ 1,349** |

Although gross load billing captures the cost distribution customers would have otherwise paid for transmission costs should a generator not be locally connected,[8] it is important to ensure customers are not charged twice for the same asset. For example, as distributors or customers invest in non-wire solutions to address system capacity constraints resulting in deferring or removing the need for additional station assets, gross load billing may need to evolve to ensure only true lost revenue is collected. Please see Section 9.2 of Schedule 2-5-4 - Asset Management Process for details on non-wires solutions to address system needs.

Further details on Hydro Ottawa's proposed non-wires solutions investments can be found in Section 2 of Schedule 2-5-8 - System Service Investments and Section 2.4.3 of Schedule 1-4-1 - Customer Engagement Ongoing for the Ottawa DER Large Solar PV Funding Incentive.

Hydro Ottawa will monitor the impact and development of gross load billing and advocate for change where necessary.

## 4. 2021-2025 LOW VOLTAGE EXPENSES

Hydro Ottawa receives LV charges, including the Facility Charge for connection to Common sub-transmission Lines (Common ST Lines), from Hydro One for a number of Shared Distribution Stations, Specific Lines and Shared Lines.

[8] Renewable embedded generation >2MW, or non-renewable generation >1MW connected to Hydro One transmission delivery point(s)

The historical LV expenses incurred by Hydro Ottawa and paid to Hydro Once during the 2021-2023 period, as well as Bridge Year expenses are shown in Table 2.

**Table 2 – LV Expenses 2021-2025**

| | Historical Years | | | Bridge Years | |
|---|---|---|---|---|---|
| | 2021 | 2022 | 2023 | 2024 | 2025 |
| LV Expenses | $ (36,375) | $ 393,994 | $ 369,015 | $ 424,768 | $ 439,364 |

**Variance Analysis:**

The 2021 actual to 2022 actual increase of $430K is due to credit volumetric rate riders ending December 31, 2021. Increases from 2022 actual to 2025 bridge are due to annual increases in Hydro One Sub Transmission rates.

## 5. 2026-2030 LOW VOLTAGE SERVICE RATES

Hydro Ottawa proposes to utilize the 'Low Voltage' tab in the OEB RTSR model to allocate the forecasted LV expense to customer classes for 2026-2030. The proposed LV rates have been incorporated into the 2026-2030 Bill Impacts. Please see Schedule 8-5-1 - Bill Impacts and Tariff of Rates and Charges for further details. Table 3 details 2026-2030 LV expense. For more information on the forecast LV expense methodology, please refer to Schedule 2-3-1 - Working Capital Requirement.

**Table 3 – Forecast LV Expenses 2026-2030**

| | Test Years | | | | |
|---|---|---|---|---|---|
| | 2026 | 2027 | 2028 | 2029 | 2030 |
| LV Expenses | $ 457,046 | $ 471,394 | $ 483,342 | $ 496,447 | $ 509,659 |

# Attachment 8-2-1(A) - OEB Workform - 2026 RTSR

## (Refer to the attachment in Excel format)

# SMART METERING CHARGE

On September 8, 2022, the OEB issued a Decision and Order setting the Smart Metering Charge (SMC) at $0.42 per month for Residential and General Service <50 kW customers, effective January 1, 2023.[1] As per that Decision and Order, the SMC is effective until December 31, 2027.

Hydro Ottawa has included the charge throughout the 2026-2030 period with the expectation that the SMC will continue. Hydro Ottawa proposes to update the SMC in accordance with applicable OEB Decisions and Orders during the 2026-2030 period. The SMC has been updated within the following Attachments:

- Attachment 8-5-1(A) - OEB Workform 2025 Current and 2026 Proposed Tariff of Rates and Charges;
- Attachment 8-5-1(B) - 2027-2030 Proposed Tariff of Rates and Charges; and
- Attachment 8-5-1(C) - 2026-2030 Bill Impacts Model

Hydro Ottawa confirms that it has followed the accounting guidance issued by the OEB on March 23, 2018 regarding the changes to the SMC.[2]

[1] Ontario Energy Board, *Decision and Order - Independent Electricity System Operator, In Its Capacity as the Smart Meter Entity*, EB-2022-0137 (September 8, 2022).
[2] Ontario Energy Board, *Updated Guidance on Smart Metering Entity Charge* (March 23, 2018).

# LOSS ADJUSTMENT FACTORS

## 1. INTRODUCTION

This Schedule provides details about line loss, represented by Loss Adjustment Factors. Line Loss accounts for the difference between the total electricity purchased at the wholesale level and the amount actually delivered to consumers due to technical and non-technical losses within the distributor's system. Hydro Ottawa's Loss Adjustment Factors are in accordance with section 2.8.8 of the *Chapter 2 Filing Requirements for Electricity Distribution Rate Applications - 2025 Edition for 2026 Rate Applications*, dated December 9, 2024.

The loss adjustment factor captures the estimated technical and non-technical losses on the grid. Technical losses, which are inherent in electricity transmission and distribution of electricity, occur due to the system's physical properties, such as resistance in conductors and transformer core losses. These are influenced by line length and conductor size, load levels and equipment efficiency. Non-technical losses are caused by external factors, such as unmetered loads, metering inaccuracies, and billing or data handling errors.

## 2. DISTRIBUTION LOSSES

Table 1 provides losses as a percentage of purchases for each of the five years in the 2019-2023 period. The purchase value in Table 1 is the higher value, which corresponds to the “with losses” values settled with the Independent Electricity System Operator (IESO) and Hydro One. The “with losses” includes transformer and line losses calculated at transmission grid-connected stations. Table 2 provides losses as a percentage of purchases based on the lower value (without losses) kWh. The “without losses” excludes the transformer and line losses at the grid-connected stations. The Table 2 losses are representative of the losses attributed to the electricity distribution system.

### Table 1 – Losses as a Percentage of Higher Value[1] Purchases for the Previous Five Years[2]

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| Electricity Purchases (MWh) | 7,466,403 | 7,267,291 | 7,321,389 | 7,430,308 | 7,470,628 |
| Electricity Sales (MWh) | 7,240,881 | 7,039,429 | 7,109,740 | 7,204,030 | 7,239,276 |
| **Losses (MWh)** | **225,521** | **227,862** | **211,649** | **226,277** | **231,352** |
| **Losses %** | **3.02%** | **3.14%** | **2.89%** | **3.05%** | **3.10%** |

### Table 2 – Losses as a Percentage of Lower Value[3] Purchases for the Previous Five Years[4]

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| Electricity Purchases (MWh) | 7,432,132 | 7,226,159 | 7,274,550 | 7,405,597 | 7,440,274 |
| Electricity Sales (MWh) | 7,240,881 | 7,039,429 | 7,109,740 | 7,204,030 | 7,239,276 |
| **Losses (MWh)** | **191,250** | **186,730** | **164,810** | **201,567** | **200,999** |
| **Losses %** | **2.57%** | **2.58%** | **2.27%** | **2.72%** | **2.70%** |

Hydro Ottawa's losses have not exceeded 5% in the past five years. There are no distributors embedded in Hydro Ottawa's service area. While the utility itself is not an embedded distributor, it does have several delivery points embedded in Hydro One Networks Inc.'s service territory.

[1] Sum of "With losses" value from IESO and Hydro One monthly settlement invoices, and embedded generation
[2] Totals may not match due to rounding.
[3] Sum of Purchased kWh "without losses" from IESO based on metered data on the low voltage side of the transformer at interface with transmission grid, Hydro One "without losses" kWh obtained from monthly settlement invoices and embedded generation
[4] Totals may not match due to rounding.

## 3. RECONCILIATION TO RRR FILING

The purchase and sales volumes (MWh/kWh) presented in this Schedule and the appended Excel Attachment 8-2-3(A) - OEB Appendix 2-R - Loss Factors vary from Section 2.1.5.3 of the OEB's Reporting and Record Keeping Requirements (RRR), Supply and Delivery filing, due to the following items:

- Purchase and sales volumes do not include wholesale metered consumption;
- Billing adjustment completed in subsequent years (after RRR filing) which relates to 2022 sales; and
- Purchase adjustment to amend 2021 IESO supply kWh erroneously included in 2022 supply total.

## 4. LOSS ADJUSTMENT FACTORS

Hydro Ottawa's current loss adjustment factors, which the OEB approved as part of the utility's 2021-2025 rebasing application, are shown in Table 3.[5]

**Table 3 – Current Loss Adjustment Factors**

| | Total Loss Factor |
|---|---|
| Total Loss Factor – Secondary Metered Customer < 5,000 kW | 1.0338 |
| Total Loss Factor – Secondary Metered Customer > 5,000 kW | 1.0152 |
| Total Loss Factor – Primary Metered Customer < 5,000 kW | 1.0234 |
| Total Loss Factor – Primary Metered Customer > 5,000 kW | 1.0051 |

Hydro Ottawa has completed Attachment 8-2-3(A) - OEB Appendix 2-R - Loss Factors, as required by the Filing Requirements.

[5] Ontario Energy Board, *Decision and Order,* EB-2019-0261 (November 19, 2020).

As a result of completing Attachment 8-2-3(A) - OEB Appendix 2-R - Loss Factors, Hydro Ottawa is requesting approval of revised loss factors, based on the five-year average ending in 2023, for Secondary and Primary Metered Customers. Table 4 summarizes the revised Loss Adjustment Factors.

**Table 4 – Proposed Loss Adjustment Factors**

| | Total Loss Factor |
|---|---|
| Total Loss Factor – Secondary Metered Customer < 5,000 kW | 1.0332 |
| Total Loss Factor – Secondary Metered Customer > 5,000 kW | 1.0151 |
| Total Loss Factor – Primary Metered Customer < 5,000 kW | 1.0229 |
| Total Loss Factor – Primary Metered Customer > 5,000 kW | 1.0049 |

Hydro Ottawa proposes using the updated loss factors for 2026-2030.

## 5. HYDRO OTTAWA SYSTEM LOSSES PLAN

As part of the 2021-2025 Settlement Agreement, Hydro Ottawa committed to preparing a plan to reduce distribution system losses as much as possible through cost-effective measures and filing the plan with the OEB.[6] The 2022-2025 System Losses Plan was filed with the OEB on December 21, 2022. A copy of the plan is attached to this schedule as Attachment 8-2-3(B) - Hydro Ottawa System Losses Plan. Hydro Ottawa has also included the study completed by Sentient Energy, which details the results of Kanata Municipal Transmission Substation deployment of Sentient Energy's ENGO®+GEMS® solution. It is appended to this schedule as Attachment 8-2-3(C) - Hydro Ottawa ENGO®+GEMS® Project Report - Redacted.

[6] Hydro Ottawa Limited, 2021-2025 Custom Incentive Rate-Setting Approved Settlement, EB-2019-0261 (September 18, 2020).

As described in the System Losses Plan, Hydro Ottawa proposed the following actions in 2022-2025 to mitigate system losses:

- **Power Factor Correction:** Based on the initial Sentient Energy study results, Hydro Ottawa will not pursue standalone capital investments with the ENGO®+GEMS® solution solely for line loss reduction. Instead, future capital replacement programs will consider incorporating embedded power factor correction controls.
- **Load Balancing:** Hydro Ottawa will implement system changes related to feeder balancing by the end of 2025.
- **Reconductoring:** Hydro Ottawa will continue to complete reconducting projects when assets need additional capacity, when maintenance needs arise, or when they reach their intended end-of-life cycle.
- **Voltage Conversion:** Voltage conversion for end-of-life assets was planned in Richmond South, Fisher, Beaverbrook, South Nepean, Navan and Dagmar to address capacity constraints and aging infrastructure.
- **Unmetered Load Service:** Hydro Ottawa began a review of all unmetered service loads, which consists of reviewing all unmetered connected loads and their respective loading profile.
- **Project Optimization:** Hydro Ottawa will include “Improved System Loses” as a criterion for project evaluation.

As of year-end 2023, Hydro Ottawa has made the following progress on the proposed actions:

- **Load Balancing:** Load balancing is continuously implemented at Hydro Ottawa. The following are examples of planning directives issued to complete load balancing in various neighbourhoods.
    - The Parkwood Hills F2 and F5 feeders were reconfigured to distribute the load between these feeders. The F5 feeder loads were redistributed between the phases to balance the F5 feeder.

- The Epworth F3 feeder was reconfigured to balance the loads between the white and blue phases.
- The Florence UF07 feeder was reconfigured to balance the loads between all phases.

- **Reconductoring:** Reconductoring activities are executed as a component of larger-scale projects, notably pole renewal programs. An illustrative example is the Fisher Pole Replacement Project, which involved the simultaneous renewal of poles and conductors along Fisher Avenue.
- **Voltage Conversion:** Voltage conversion programs are commonly undertaken as part of more comprehensive infrastructure renewal efforts, such as pole renewal projects and distribution station rebuilds. The ongoing Dagmar and Fisher Voltage Conversion project, which has begun, demonstrates this integrated approach involving the simultaneous replacement of poles. Additional 4kV areas planned for voltage conversion in the 2026-2030 period are Church, Henderson, Vaughan and Bronson regions.
- **Unmetered Load Service:** The review of historical data, internal processes, and site visits to confirm status of connected Unmetered Scattered Loads is complete. Hydro Ottawa continues working with external stakeholders to confirm legacy units and load profiles.
- **Project Optimization:** Hydro Ottawa's system loss reduction criteria has not been implemented within the project value model. Hydro Ottawa achieves efficiency by mandating CSA-compliant equipment and implementing balanced phase load distribution in all projects.

# Attachment 8-2-3(A) - OEB Appendix 2-R - Loss Factors

## (Refer to the attachment in Excel format)

# 2022 - 2025

# System Losses Plan

**Prepared by: Hydro Ottawa Limited**

**Date: December 2022**

# TABLE OF CONTENTS

# 1. INTRODUCTION

Hydro Ottawa Limited ("Hydro Ottawa") operates in the City of Ottawa and the Village of Casselman. Hydro Ottawa was formed in November 2000 following the amalgamation of five municipally owned electric utilities (Gloucester Hydro, Goulbourn Hydro, Kanata Hydro, Nepean Hydro and Ottawa Hydro). Hydro Ottawa acquired the assets of Casselman Hydro Inc. in April 2002. Each utility owned and operated its distribution systems with different operational and planning philosophies. The combined distribution systems resulted in a distribution system with diverse characteristics to serve urban and rural customers.

Hydro Ottawa operates and maintains assets for six (6) different voltage levels: 4.16kV, 8.32kV, 12.43kV, 13.2kV, 27.6kV, and 44kV.

With a service territory comprised of 662 $km^2$ of rural area and 454 $km^2$ of an urban area, Hydro Ottawa's total footprint of 1,116 $km^2$ makes it the fifth physically largest in the province.

Hydro One Network Inc. ("Hydro One") and Hydro Ottawa-owned transmission stations supply Hydro Ottawa service territory. Additional details on Hydro Ottawa's system configuration are found in Hydro Ottawa's most recent Distribution System Plan as part of Hydro Ottawa's 2021-2025 rate application[1].

Energy losses in a distribution system include transformation losses at the transmission-connected stations, feeder line losses, distribution transformation losses, and secondary line losses. All of these components contribute to the energy losses of a distribution system. As part of the 2021-2025 Approved Settlement Agreement[2], Hydro Ottawa committed to endeavouring to maintain a five-year average total system loss below the target of 3.02%[3] set by the Ontario Energy Board ("OEB") in EB-2005-0381 through cost-effective measures[4]. In addition, Hydro Ottawa committed to preparing a plan to reduce distribution system losses as much as possible through cost-effective measures and filing the plan with the OEB.

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[1] Hydro Ottawa Limited, 2021-2025 Custom Incentive Rate-Setting Distribution Rate Application, EB-2019-0261 (February 10, 2020, Updated May 29, 2020).
[2] Hydro Ottawa Limited, 2021-2025 Custom Incentive Rate-Setting Approved Settlement, EB-2019-0261 (September 18, 2020).
[3] 2019 annual loss percentage of 3.02% (five-year average was 3.09%)
[4] Ontario Energy Board, *Decision with Reasons*, EB-2005-0381 (April 12, 2006).

## 2. SYSTEM LOSSES

The use of the term “system losses” refers to the difference between the invoiced electricity delivered to Hydro Ottawa by the Independent Electricity System Operator and Hydro One and the invoiced electricity delivered to Hydro Ottawa customers. The system losses are comprised of two types: technical and non-technical losses.

Technical losses: Technical energy losses on a distribution system are primarily due to heat dissipation and include transformation losses at the transmission-connected stations, distribution feeder line losses, distribution transformation losses, and secondary line losses.

Non-technical losses: Non-technical energy losses include theft of power, billing errors, metering inaccuracies and unmetered service loads. These losses are difficult to quantify and are mitigated through good utility practices and procedures.

As shown in Table A from 2017-2021, Hydro Ottawa’s percentage of distribution losses has remained lower than the Peer Group Average and Ontario Average. The Hydro Ottawa system losses are consistently lower than the peer group average and lower than the Ontario average.

**Table A – Percentage of System Losses - Comparison of Ontario LDCs[5]**

| | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Hydro Ottawa | 2.97% | 3.22% | 3.02% | 3.14% | 2.87% |
| Peer Group Average[6] | 3.37% | 3.43% | 3.45% | 3.49% | 3.37% |
| Ontario Average | 3.82% | 3.80% | 3.95% | 4.03% | 3.88% |

[5] Hydro Ottawa has used the information provided in the OEB’s Yearbook of Electricity Distributors for 2017-2021 to compare the percentage of distribution system energy losses.

[6] Peer group consists of the following Ontario electricity distributors; Alectra Utilities, Burlington Hydro Inc., Enwin Utilities Ltd., Hydro One Networks Inc., Kitchener-Wilmot Hydro Inc., London Hydro Inc., Oakville Hydro Distribution Inc., Synergy North Corporation (Thunder Bay Hydro Electricity Distribution Inc.), Toronto Hydro-Electric System Limited, Veridian Connections (Alectra as of 2019), and Waterloo North Hydro Inc.

## 3. REDUCING SYSTEM LOSSES

Hydro Ottawa worked with CIMA+ to review technical losses, specifically distribution line feeder losses on 10 selected feeders representing Hydro Ottawa feeders. The selection of 10 feeders offered a cross-sectional view of the Hydro Ottawa distribution system, where recommendations provided could be actionable across all feeders.

The study completed by CIMA+ resulted in four (4) recommendations provided in section 7 of their report. These recommendations were:

1. Any power factor correction efforts should include a more detailed analysis to determine the optimum size of shunt capacitors and a detailed review of the loads and load locations to determine the best location for the installations.
2. Load balancing to a 10% target should be an ongoing effort to minimize feeder losses. These efforts can be planned and implemented in stages, with a monitoring period to gauge the effects before moving more loads.
3. Unless a feeder has a large number of small conductors, the impacts of any reconductoring[7] can be expected to be minimal and would not warrant this measure.
4. Voltage conversion[8] for the sole purpose of reducing losses is likely to be more expensive. However, voltage conversion for any feeders nearing end-of-life replacement is recommended.

[7] Reconductoring: To replace the conductor or cable on a distribution system to allow greater electric-current-carrying capability.
[8] Voltage conversion: Usually, to increase distribution system voltage to allow greater electric-current-carrying capability by replacing distribution transformers and/or conductors.

## 4. HYDRO OTTAWA'S ACTION PLAN

Based on the CIMA+ study and recommendations, Hydro Ottawa proposes the following incremental and continued actions to mitigate system losses.

1. Power Factor Correction

In 2021, Hydro Ottawa completed a study at the Kanata Municipal Transmission Station (MTS) by deploying Sentient Energy's GEMS®+ENGO® solution. The primary objective was to measure the benefits of voltage support and capacity reduction, energy savings and technical loss reductions. Line losses were one of the technical losses measured due to implementing the technology.

The power factor correction implementation resulted in an annual line loss reduction of 20 MWh from June 2018 to May 2019, and 17.6 MWh from June 2019 to May 2020. At Kanata MTS, residential customers consume 17%, and commercial and industrial consumers consume 83% of the station loading. Using the June 2018 to May 2019 reported reduction of line losses of 20,000 kWh, residential, commercial and industrial consumers would see a 0.01% decrease in their monthly consumption.

Based on the study completed at the Kanata MTS, it is not proposed to pursue standalone capital investments of Sentient Energy's GEMS®+ENGO® solution on the merits of line loss reductions only. Hydro Ottawa's future capital replacement programs will continue to look at equipment and opportunities to incorporate embedded power factor correction controls.

2. Load Balancing

After CIMA+'s recommendation regarding feeder imbalancing, Hydro Ottawa completed a study to review the system-wide feeder imbalance and put a phase-wise plan in place to undertake load-balancing efforts. Results published from a 2005 load unbalance paper from the 15th Power Systems Computation Conference concluded that *"High levels of load unbalance produced greater losses while the same demand is maintained*

*at each unbalance scenario. This means that network reconfiguration considering load balancing is highly recommended to diminish overall system losses."*[9]

Based on CIMA+'s recommendation and the technical reference paper published, a criterion was established prioritizing highly loaded feeders with a >10 % imbalance. Of approximately 800 feeders in Hydro Ottawa's system, 299 feeders met the requirements. Details are in Table B below.

**Table B – Action plan for Load Balancing**

| % Feeder Loading | Number of feeders > 10% imbalance |
|---|---|
| >=60% | 56 |
| 50%-60% | 46 |
| 40%-50% | 58 |
| 30%-40% | 56 |
| 20%-30% | 40 |
| 10%-20% | 43 |
| Total | 299 |

Hydro Ottawa will determine the optimal feeder configuration to minimize imbalances on the first 56 feeders which are >60% loaded as well as phase imbalanced to >10%. Hydro Ottawa will complete an optimal feeder configuration analysis by Q2 2023 and will complete the system changes related to feeder balancing by the end of 2025. The load balancing will cost Hydro Ottawa approximately $95,000 to complete on the first phase of 56 feeders.

Based on the analysis for feeder balancing, Hydro Ottawa estimates to save 7,700,000[10] kWh in yearly losses once all balancing is completed.

[9] Ochoa Ochoa, L. F., Ciric, R. M., Padilha-Feltrin, A., & Harrison, G. P. (2005). Evaluation of distribution system losses due to load unbalance. In 15th Power Systems Computation Conference PSCC 2005 (pp. 1-4).

[10] Assumptions included load distribution per phase based on peak load distribution per phase, a single conductor resistance value, and constant system configurations.

3. Reconductoring

As recommended by CIMA+, there are more effective loss mitigation strategies than reconductoring on its own. As assets reach their end-of-life expectancy, Hydro Ottawa has completed reconductoring during projects such as the Limebank and Leitrim projects and the Fallowfield and Cambrian projects. Additionally, Hydro Ottawa has initiated an audit of conductor sizes information stored, and field checks will be completed to ensure up-to-date information. This would help make informed decisions on reconductoring when needed.

Hydro Ottawa will continue to complete reconducting projects when assets need additional capacity, when maintenance needs arise, or when they reach their intended end-of-life cycle. This is in line with CIMA+'s recommendation for reconductoring.

4. Voltage Conversion

CIMA+ indicated that voltage conversion for reducing losses alone would unlikely be economical; however, voltage conversion for end-of-life assets is recommended and would benefit system losses.

Voltage conversion projects allow Hydro Ottawa to serve more customers safely and reliably while accommodating growth. It provides better power quality and minimizes losses on Hydro Ottawa's distribution system. Voltage conversion projects can also be completed with reconductoring projects to ensure the conductor size can support the increased voltage.

Details of Hydro Ottawa's voltage conversion budget program can be found in Attachment 2-4-3(E): Material Investments of Hydro Ottawa's 2021-2025 Rate Application[11]. This action is not incremental to the 2021-2025 Distribution System Plan but is highlighted as it is also a recommendation from the CIMA+ study.

[11] Hydro Ottawa Limited, 2021-2025 Custom Incentive Rate-Setting Distribution Rate Application, EB-2019-0261 (February 10, 2020, Updated May 29, 2020).

Projects, where voltage conversions are planned to address capacity constraints and aging infrastructure, are listed in Table C below.

Data for line loss reduction calculations for various projects were unavailable at the time the report was completed.

**Table C – Voltage Conversion Projects**

| Project | Voltage Conversion | Status | Estimate Yearly Line Loss Reduction (kWh) |
|---|---|---|---|
| Richmond South | 8kV to 28kV | Completed | Not Available |
| Fisher | 4kV to 13kV | In-progress | 8,000,000 |
| Beaverbrook | 12kV to 28kV | In-progress | 140,000 |
| South Nepean | 8kV to 28kV | Planned | Not Available |
| Navan Road | 8kV to 28kV | Planned | Not Available |
| Dagmar | 4kV to 13kV | Planned | 11,000,000 |

5. Unmetered Load Service

In addition to the CIMA+ recommendations, Hydro Ottawa has begun a review of all unmetered service loads. Unmetered service loads impact non-technical losses. The review began in Q3 of 2022 and is expected to be completed by 2024. It consists of reviewing all unmetered connected loads and their respective loading profile.

6. Project Optimization

Hydro Ottawa's investment decision-making process utilizes asset investment planning and management software tools to evaluate and optimize projects to create a plan that balances asset conditions, lifecycle cost, labour resources, risks and benefits. Hydro Ottawa uses value measures to define risks and benefits or opportunities. Potential risks include deficiencies to health and safety, system capacity, environment stewardship, compliance and increasing financial costs. Potential benefits include improving system reliability and program efficiencies, enabling distributed generation and reducing financial costs.

The financial costs include the reduction of distribution system losses. Part of the project evaluation will include the project's impact on reducing system losses. The scoring methodology used in the prioritization process will account for the impact of a project on system losses when applicable.

## 5. SYSTEM LOSS ENERGY SAVINGS

The average losses in Hydro Ottawa's original loss study was 3.17%[12] over the five-year period of 2001-2005: Hydro Ottawa reported annual losses of 3.14%[13] in 2005[14]. As outlined in Table D & E, Hydro Ottawa's five year average loss percentage for 2017 to 2021 has consistently been below the 2005 loss factor percentage as presented in the original system losses reduction plan. In addition, since 2019, the five year average is trending positively towards the 2019 annual loss factor of 3.02%[15]. This demonstrates the projects Hydro Ottawa implemented in the past have efficiently reduced energy losses. In general, projects aim not only to reduce system loss but also to reduce overall energy demands on the system. When replacing end-of-life assets, Hydro Ottawa will continue to make future capital investments into equipment that reduces system losses. When these investments are energized, they should improve Hydro Ottawa's system losses for years to come.

[12] Hydro Ottawa Limited, 2021-2025 Custom Incentive Rate-Setting Distribution Rate Application, EB-2019-0261 Undertaking Responses Attachment JT 3.15(A), Table 2.1

[13] 2005's % is an annual loss percentage.

[14] Ontario Energy Board, *Decision with Reasons*, EB-2005-0381 (April 12, 2006).

[15] Hydro Ottawa Limited, 2021-2025 Custom Incentive Rate-Setting Approved Settlement plan, EB-2019-0261 (September 18, 2020).

## Table D – 2005 and 2017-2021 Electricity Purchases and Sales

| | 2005 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|
| Electricity Purchases (kWh) | 7,911,789,396 | 7,410,783,961 | 7,612,655,949 | 7,466,402,854 | 7,267,291,175 | 7,320,051,888 |
| Electricity Sales (kWh) | 7,663,197,036 | 7,190,875,162 | 7,367,818,383 | 7,240,881,408 | 7,039,448,672 | 7,109,738,445 |
| Losses (kWh) | 248,592,360 | 219,908,799 | 244,837,567 | 225,521,446 | 227,842,503 | 210,313,443 |
| 5 year average loss %[16] | 3.14% | 2.91% | 3.03% | 3.09% | 3.07% | 3.04% |

## Table E – 2005 and 2017-2021 Electricity Purchases and Sales Including Wholesale Customers

| | 2005[17] | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|
| Electricity Purchases (kWh) | 7,911,789,396 | 7,445,895,024 | 7,646,355,171 | 7,500,328,010 | 7,300,770,509 | 7,353,013,964 |
| Electricity Sales (kWh) | 7,663,197,036 | 7,224,848,131 | 7,400,425,274 | 7,273,713,842 | 7,071,852,991 | 7,141,630,694 |
| Losses (kWh) | 248,592,360 | 221,046,894 | 245,929,897 | 226,614,169 | 228,917,518 | 211,383,270 |
| 5 year average loss %[18] | 3.14% | 2.91% | 3.03% | 3.09% | 3.07% | 3.04% |

[16] 2005's % is an annual loss %.

[17] Hydro Ottawa did not have Wholesale Metered customer(s) at this time.

[18] 2005's % is an annual loss %.

## 6. CONCLUSION

Hydro Ottawa is committed to reducing technical and non-technical losses from its distribution system. The study completed by CIMA+ supported current efforts by Hydro Ottawa and identified load-balancing opportunities.

Hydro Ottawa will continue with its current efforts and implement a 10% target for load balancing in stages, with monitoring periods to gauge the effects before moving and balancing additional loads. In addition, Hydro Ottawa continues to work towards leveraging existing software to assess the impact of loss mitigation as a result of load-balancing efforts.

Hydro Ottawa will include “Improved System Losses” as a criterion for project evaluation. The added measure will add importance to a project providing benefits by reducing system losses.

Based on the recommendations from CIMA+, Hydro Ottawa plans to implement load balancing and continue planned work of reconducting and voltage conversion projects. Hydro Ottawa also plans to complete a review of unmetered load services by 2024.


# Hydro Ottawa
# ENGO®+GEMS® Project Report

## Report on Evaluation, Measurement & Verification Analysis and Economic Use Case for Kanata MTS

**Version 2.3**

9/10/2021
Sentient Energy
Authors: Umang Deora, Damien M Tholomier
Reviewers: Wassim Akhdar, Hong Chun, Kevin Ainsworth

## RECORD OF REVISION

| Issue | Date | Authors | Comments |
|---|---|---|---|
| Rev1.0 | October 10, 2020 | Umang Deora | Version creation with EM&V performed with field-based estimates |
| Rev2.1 | November 9, 2020 | Umang Deora, Damien Tholomier | EM&V computed using June 2018 – May 2019 to June 2019 – May 2020 data and associated Economic Use Cases (Capacity Reduction, Energy Savings, Technical Loss Reduction) |
| Rev2.2 | December 1, 2020 | Umang Deora, Damien Tholomier | Integration of comments from Hydro Ottawa into final report |
| Rev2.3 | September 22, 2021 | Damien Tholomier | Addition of an abbreviation / definition section<br>Integration of the Winter testing period<br>Integration of the final economic analysis<br>Update of all numbers using measured CVR factor for Power and Energy<br>Update of the section 6.3<br>Sentient Energy's formatting of the document |

## APPROVAL

| Name | Function |
|---|---|
| Damien M. Tholomier | EVP Product Management & Project Delivery |

## Table of Contents

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# 1. Abbreviations and definitions

All capitalized terms not defined herein will have the meanings set forth in the document.

a) **AMI: Advanced metering infrastructure** is an integrated system of smart meters, communications networks, and data management systems that enables two-way communication between utilities and customers.

b) **CSA**: the **Canadian Standards Association** is a standards organization which develops standards in 57 areas.

c) **CVR: Conservation voltage reduction** enables electric distribution utilities to achieve a significant reduction in energy and peak demand at little or no cost, and without impacting customers through load shedding or equipment investments. Advantages of CVR include peak shaving, energy conservation, potential lowering of greenhouse gases and mitigation of distributed generation (DG) voltage impacts.

d) **LCOC: Levelized Cost of Capacity** refers to the annual fixed revenue requirements in nominal dollars for each resource that are summed and levelized over the assumed economic life and are presented in terms of dollars per kW of nameplate capacity per month/year.

e) **LCOE: Levelized cost of electricity** refers to the estimates of the revenue required to build and operate a generator over a specified cost recovery period. The LCOE is also referred to as the levelized cost of electricity or the levelized energy cost, is a measurement used to assess and compare alternative methods of energy production. The LCOE of an energy-generating asset can be thought of as the average total cost of building and operating the asset per unit of total electricity generated over an assumed lifetime.

f) **LTC or OLTC: on-load tap changers** regulate the turns ratio and thus the voltage ratio of an electrical transformer. Unlike its no-load counterpart, on-load tap changers do this without interrupting the load current.

g) **VVC: Volt-VAr Control is the capability** to control the voltage level and reactive power (VArs) level at different points of the distribution grid by using a combination of LTCs, LVRs and Capacitor Bank controllers. Without a proper coordination, control actions may affect voltages, VArs flow, power factor and finally raise energy loss, load demand, etc.

h) **VVO: Volt-VAr Optimization** is the capability to optimize the vars & voltage in the system in order to achieve a certain objective by controlling capacitor banks and voltage regulators. VVO usually is accomplished by a ADMS system and requires communication to field devices (for measurement reading and issuing controls).

# 2. Executive Summary

The purpose of this document is to present and assess results from the Kanata Municipal Transmission Substation (MTS) deployment of Sentient Energy's GEMS®+ENGO® solution. High level benefits measured by the project include Voltage Support/Visibility and Peak Demand / Capacity Reduction as primary objectives, and Energy Savings and Technical Loss Reduction as secondary benefits.

Hydro Ottawa's Kanata MTS has five (**5)** distribution circuits and forty-three (**43)** pole-mount ENGO units deployed at the low voltage outliers to ensure the tight regulation of voltage at a local and feeder wide level and prevent a dip below the minimum **CSA-CAN3-C235-83** standard (Normal and Extreme Voltage Operating Limits) during periods of normal or peak loading conditions.

The Sentient Energy's GEMS+ENGO solution allows Hydro Ottawa to reap multiple benefits of peak demand / capacity reduction, voltage stability, grid visibility and dynamic VAr management, all with deterministic control within the hands of the distribution operators.

Voltage Optimization (VO) is defined as a combination of VVO and CVR. VVO regulates distribution voltages by coordinating medium voltage (MV) assets such as LTC and switched capacitor banks (SCB) to reduce distribution losses and improve power factors. As provinces continue to advance ratepayer-funded EE initiatives and establish increasingly aggressive energy conservation goals, it is vitally important to consider VVO/CVR programs as a cost-effective tool. Conventional VVO/CVR, traditionally managed from centralized software platforms, initiates a systematic reduction of consumer voltages to reduce energy consumption or demand with performance in the range of 0.8% to 2% efficiency.

Using its patented advanced technology, Sentient Energy has developed a Grid Edge VVO/CVR technology, which delivers greatly improved VVO/CVR performance, in the range of 4 to 6% energy savings and peak demand reduction (e.g., CVR factor equal to 1), as demonstrated by the voltage control range of ~5% created by Sentient Energy's technology on multiple pilot projects in the USA and Canada.

CVR is traditionally used as a "Supply-Side" energy conservation and peak demand reduction from the grid side, as opposed to "demand-side management (DSM)". CVR can be used to achieve regulatory or legislative EE objectives without requiring the engagement of consumers (no change of consumer behavioral), the financial contribution of EE participants or the distribution utility costs to administer the EE program. From a utility perspective, it reduces the amount of power utilities need to generate or purchase from a generation and transmission utility (G&T) and it lowers operating costs, among many other benefits such as building of new generation power plant and transmission & distribution assets e.g., reconducting feeders, adding voltage regulators and capacitors, and balancing feeders) and reducing technical losses.

CVR is beneficial to all consumers, even low-income participants who might not be able to invest in EE programs and is well adapted to all residential and commercial customers, and partially adapted to larger C&I customers. The supply-side benefits of VVO/CVR are additive and cumulative to any existing or new DSM benefits.

Prior to implementing CVR, the lowest recorded voltage (at the AMI location) without the ENGO devices deployed was below the CSA limits (i.e., service entrance between 110V and 125V during normal conditions) and did not permit any reduction in voltage at the substation without CSA violations. Comparing the voltages on a similar loading day with one transformer upgrade (X07487) and the ENGO devices turned ON showed a healthy improvement of **12.3%** (**14.8V)** resolving all CSA violations and creating an additional voltage margin for planned voltage reductions.

The Kanata MTS being a heavily commercial and industrial substation (C&I customers represent 83% of the billed kWh in August 2019), the CVR factor for power was measured to be **0.52** during summertime and **0.76** during wintertime. **Section 6.3** of this report elaborates on how the customer class was determined as well as the CVR factor for Power and Energy. CVR tests were conducted through the peak load month of July/September 2020 and November/February 2020 with a **2.5%** and **5%** reduction in voltage at the LTC. Stepping down the voltage during the summer peak load hours provided a load reduction of **1.31 MW** or **~2.60%** of the substation load **(50.53 MW**) by reducing the voltage by **5%** at the LTC. Stepping down the voltage during the winter peak load hours provide a load reduction of **1.52 MW** or **~3.95%** of the substation load **(36.80 MW**) by reducing the voltage by **5%** at the LTC

Simulations were run on the CYME model along with an AMI data-based analysis to determine the voltage outliers and select suitable locations for ENGO deployment. A combination of the two methodologies helped reconcile the differences between the model and the field and decide on an optimal set of transformers for implementation.

The ENGO devices were primarily responsible for facilitating a risk-free reduction in voltage as well as identifying the worst voltage outliers (visibility in field) that did require service transformer upgrade/tap change to maximize the conservation voltage reduction at the Kanata MTS.

This report presents the EM&V test results as well as the economics of the project. VVO/CVR is a significant opportunity to increase ambitious Energy Savings and Demand Reduction objectives at a competitive cost. A summary of the results captured during testing and the field based annual estimates are provided below.

# 3. Varentec Solution Overview

One of the promising methods to enhance system's efficiency by increasing Demand/Capacity Reduction and Energy Savings is through the deployment of utility owned assets called Dynamic VAr Controllers (DVCs). Each device is connected to the secondary side of a pole- or pad-mounted service transformer and tightly regulates the voltage at local and feeder wide level. For the Kanata MTS project, only pole units have been deployed. Sentient Energy is a pioneer in the development and deployment of these DVCs.

Sentient Energy's solution comprises hardware components called Edge of Network Grid Optimization (ENGO®) and a cloud-based software component called Grid-Edge Management Solution (GEMS®). ENGOs are fast-acting power-electronics devices that are installed on the secondary side of a distribution transformer, to autonomously sense and regulate voltage with a ± 0.5% within control range by injecting sub-cycle VArs between **0 to 10 kVArs**.

DVCs are well designed to mitigate in real-time Distributed Generation (DG) voltage impacts such as residential PVs. This results in the flattening of the primary and secondary feeder voltage. GEMS acts as a supervisory control and provides a data analytics and visualization engine. A recommended solution by Sentient Energy provides visibility to low voltage locations/nodes; enables real-time VVO system at the grid edge to achieve a fast and dynamic response to load; and enables CVR for either Energy Savings and/or Demand Reduction.

CVR enables electric distribution utilities to achieve a significant reduction in energy and peak demand, and without impacting customers through load shedding or major equipment investments. With the deployment of ENGO units at the low voltage outliers, this will ensure that the voltage will not temporarily dip below the minimum CSA standard level during heavy load conditions when the maximum drops occur and during out-of-normal conditions when voltage sags — caused by short circuits that occur on the grid.

GEMS+ENGO facilitates CVR by using power electronics devices installed on feeders, close to consumers, to flatten and equalize voltages. Utilities can then reduce the voltage on the feeder lines that run from substations to homes and businesses. This capability enables distribution utilities to operate their distribution grids at the low end of the acceptable supply voltage level without exposing consumers to undervoltage conditions.

CVR could be used as a **Non-Wires Alternatives** solution to offset distribution investment by deferring or replacing the need for specific equipment upgrades such as T&D lines or power transformers by reducing load / demand at a substation or circuit level (CAPEX Deferral).

The Sentient Energy solution benefits society and the environment because less energy is used to meet the same load, which helps reduce $CO_2$ and other harmful emissions. Consumers also benefit because they receive lower energy bills without any change in the quality of their services.

# 4. Field Testing Results

## 4.1. Executive Summary

In the project, **43** ENGO devices were installed in the Kanata MTS with a peak loading of:

- **66,129 kW** in **July 2018**
- **52,807 kW** in **July 2019**
- **50,530 kW** in **July 2020**

and an average loading of:

- **35,710 kW** measured over the period of **June 2018 – May 2019**
- **31,690 kW** measured over the period of **June 2019 – May 2020**

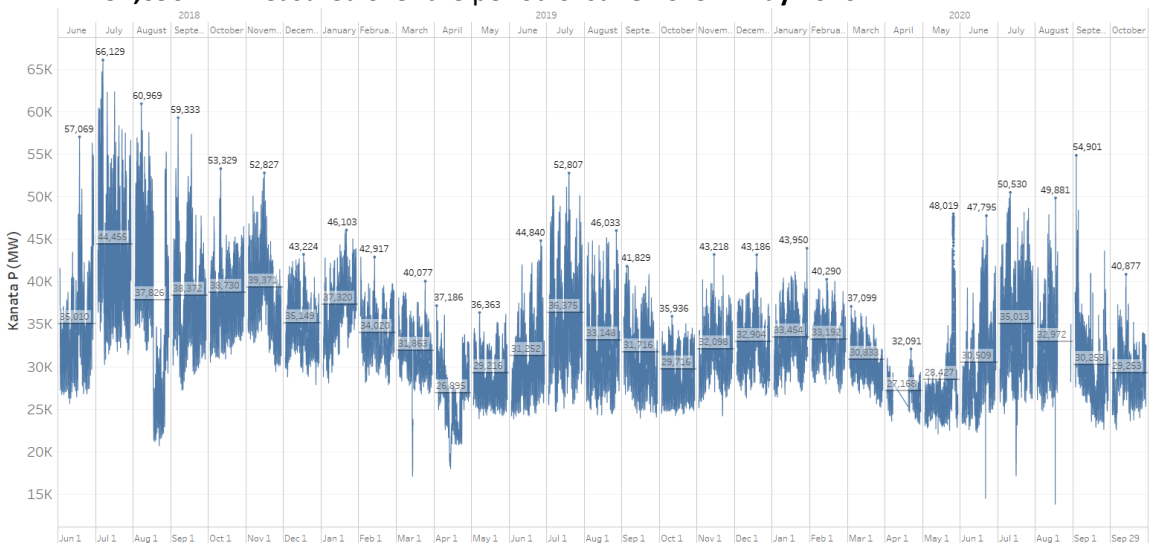



Figure 1: Substation Load from June 2018 through Sep 2020

**Note 1:** The first test period (peak demand reduction) was conducted over the period of **June 2020** through **September 2020** and the second test period (energy savings) over the period of **November 2020** through **February 2021**.

The results using field-based estimates computed over the period of **June 2018 to May 2019** data are shown in the Table 1.

**Table 1: Field-based Annual Estimates Computed using the %VM versus MW Model developed in Section 8.2.3 – Time Period over the period of June 2018 to May 2019**

| Month | | Jun-18 | Jul-18 | Aug-18 | Sep-18 | Oct-18 | Nov-18 | Dec-18 | Jan-19 | Feb-19 | Mar-19 | Apr-19 | May-19 | Total / Maximum / Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Measured Substation Loading | Sub Peak kW | 57,069 | 66,129 | 60,969 | 59,333 | 53,329 | 52,827 | 43,224 | 46,103 | 42,917 | 40,077 | 37,186 | 36,363 | 66,129 kW (Max.) |
| | Sub Avg kW | 35,010 | 44,455 | 37,826 | 38,372 | 38,730 | 39371 | 35,149 | 37,320 | 34,020 | 32,155 | 26,895 | 29,216 | 35,733 kW (Avg.) |
| | MWh Energy | 25,207 | 33,075 | 28,143 | 27,628 | 28,815 | 28,347 | 26,151 | 27,766 | 22,861 | 23,923 | 19,364 | 21,737 | 313,017 MWh (Total) |
| Without ENGO + No System Upgrades | Min Voltage | 0.930 | 0.919 | 0.925 | 0.927 | 0.935 | 0.936 | 0.948 | 0.944 | 0.948 | 0.952 | 0.956 | 0.957 | 0.940 p.u. (Avg.) |
| | Voltage Margin | -0.31% | -1.46% | -0.80% | -0.59% | 0.17% | 0.23% | 1.45% | 1.09% | 1.49% | 1.85% | 2.22% | 2.33% | 0.64% (Avg.) |
| With ENGO + System Upgrades | Min Voltage | 0.986 | 0.974 | 0.981 | 0.983 | 0.991 | 0.992 | 1.005 | 1.001 | 1.006 | 1.009 | 1.013 | 1.015 | 0.996 p.u. (Avg.) |
| | Voltage Margin | 5.30% | 4.06% | 4.77% | 4.99% | 5.81% | 5.87% | 7.18% | 6.79% | 7.23% | 7.61% | 8.01% | 8.12% | 6.31% (Avg.) |
| | Incremental Voltage Margin | 5.60% | 5.52% | 5.57% | 5.58% | 5.64% | 5.64% | 5.73% | 5.70% | 5.73% | 5.76% | 5.78% | 5.79% | 5.67% (Avg.) |
| | MWh Saved | 668 | 671 | 671 | 869 | 1055 | 1048 | 1352 | 1357 | 1190 | 1147 | 977 | 1112 | 12,117.6 MWh Saved (Total) |
| | kW Shaved | 1,573 | 1,396 | 1,511 | 1,954 | 2,045 | 2,047 | 2,359 | 2,379 | 2,358 | 2,013 | 1,966 | 1,949 | Up to 2,379 kW Shaved (Max) |
| | tonnes CO2e/MWh saved | 107 | 107 | 107 | 139 | 169 | 168 | 216 | 217 | 190 | 184 | 156 | 178 | 1,939 Tonnes CO2 Avoided (Total) |
| | tonnes CO2e/MW saved | 1,565 | 1,389 | 1,503 | 1,944 | 2,035 | 2,037 | 2,347 | 2,367 | 2,346 | 2,003 | 1,956 | 1,939 | 2,367 Tonnes CO2 Avoided (Max) |

The results using field-based estimates computed over the period of **June 2019 to May 2020** data are shown in the Table 2: Field-based Annual Estimates Computed using the %VM versus MW Model developed in Section 8.2.3 – Time Period over the period of June 2019 to May 2020

**Table 2: Field-based Annual Estimates Computed using the %VM versus MW Model developed in Section 8.2.3 – Time Period over the period of June 2019 to May 2020**

| Month | | Jun-19 | Jul-19 | Aug-19 | Sep-19 | Oct-19 | Nov-19 | Dec-19 | Jan-20 | Feb-20 | Mar-20 | Apr-20 | May-20 | Total / Maximum / Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Measured Substation Loading | Sub Peak kW | 44,840 | 52,807 | 46,033 | 41,829 | 35,936 | 43,218 | 43,186 | 43,950 | 40,290 | 37,099 | 32,091 | 48,019 | 52,807 kW (Max) |
| | Sub Avg kW | 31,252 | 36,375 | 33,148 | 31,716 | 29,716 | 32098 | 32,904 | 33,454 | 33,192 | 30,833 | 27,168 | 28,427 | 31,690 kW (Avg.) |
| | MWh Energy | 22,501 | 27,063 | 24,662 | 22,836 | 22,109 | 23,111 | 24,481 | 24,890 | 23,102 | 22,940 | 19,561 | 21,150 | 278,404 MWh (Total) |
| Without ENGO + No System Upgrades | Min Voltage | 0.946 | 0.936 | 0.944 | 0.950 | 0.957 | 0.948 | 0.948 | 0.947 | 0.952 | 0.956 | 0.962 | 0.942 | 0.949 p.u. (Avg.) |
| | Voltage Margin | 1.25% | 0.24% | 1.10% | 1.63% | 2.38% | 1.46% | 1.46% | 1.36% | 1.83% | 2.23% | 2.87% | 0.84% | 1.55% (Avg.) |
| With ENGO + System Upgrades | Min Voltage | 1.003 | 0.992 | 1.001 | 1.007 | 1.015 | 1.005 | 1.005 | 1.004 | 1.009 | 1.014 | 1.020 | 0.999 | 1.006 p.u. (Avg.) |
| | Voltage Margin | 6.96% | 5.88% | 6.80% | 7.37% | 8.18% | 7.18% | 7.19% | 7.08% | 7.58% | 8.02% | 8.70% | 6.53% | 7.29% (Avg.) |
| | Incremental Voltage Margin | 5.71% | 5.64% | 5.70% | 5.74% | 5.79% | 5.73% | 5.73% | 5.72% | 5.76% | 5.78% | 5.83% | 5.69% | 5.74% (Avg.) |
| | MWh Saved | 783.0 | 795.7 | 838.5 | 1060.3 | 1139.4 | 1045.4 | 1267.3 | 1268.8 | 1260.8 | 1159.1 | 1072.1 | 870.1 | 12,560.6 MWh Saved (Total) |
| | kW Shaved | 1623 | 1615 | 1628 | 2035 | 1940 | 2048 | 2360 | 2365 | 2321 | 1964 | 1843 | 2070 | Up to 2,365 kW Shaved (Max) |
| | tonnes CO2e/MWh saved | 125 | 127 | 134 | 170 | 182 | 167 | 203 | 203 | 202 | 185 | 172 | 139 | 2,010 Tonnes CO2 Avoided (Total) |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **tonnes CO2e/MW saved** | 1,615 | 1607 | 1620 | 2024 | 1930 | 2038 | 2348 | 2353 | 2309 | 1954 | 1833 | 2059 | **2,353 Tonnes CO2 Avoided (Max)** |

**Note 2:** The above voltage margin has been calculated from 112V or 0.933 p.u. considering a 2V voltage drop on the secondary line (or 110V at the meter)

**Note 3**: We did not use Aug 2020 data and subsequent months (Sep and Oct 2020) as the Kanata MTS Wholesale meter connection at the Kanata MTS had malfunctioned and stopped sending U/I/P/Q reads for the last 10 days of the month.

**Note 4:** The estimated energy savings and peak demand reduction are based on the measurement and computation of the CVR factor for Power and Energy

As per the testing conducted and results obtained, the detailed EM&V analysis provides the following key findings for both periods (**June 2018 – May 2019** and **June 2019 – May 2020**).

## 4.2. CSA Standard – Voltage Guidelines

Hydro Ottawa's Power Quality Standard (ECG0008- Distribution System Voltage and Power Quality https://static.hydroottawa.com/documents/specifications/ECG0008.pdf) is shown in Table 3: Steady State Operating Voltage Ranges Under Normal Conditions (Adapted from CSA CAN-3-C235-83 and Table 4:

**Table 3: Steady State Operating Voltage Ranges Under Normal Conditions (Adapted from CSA CAN-3-C235-83)**

| Nominal Voltage (RMS V) | Allowable Deviation from Nominal (%) | Normal Minimum Voltage (RMS V) | Normal Maximum Voltage (RMS V) | Reference |
|---|---|---|---|---|
| 120V / 240V | +4.17% ; -8.33% | 110V / 220V | 125V / 250V | At Service Entrance per CSA CAN3-C235-83 Table 3.0 |
| 120V / 208Y | +4.17% ; -6.67% | 112V / 194Y | 125V / 216Y | At Service Entrance per CSA CAN3-C235-83 Table 3.0 |
| 347V / 600Y | +3.75% ; -8.33% | 318V / 550Y | 360V / 625Y | At Service Entrance per CSA CAN3-C235-83 Table 3.0 |
| 2400V / 4160Y | +6.00% ; -6.00% | 2256V / 3910Y | 2544V / 4410Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 4800V / 8320Y* | +6.00% ; -6.00% | 4512V / 7821Y | 5088V / 8819Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 7200V / 12470Y | +6.00% ; -6.00% | 6768V / 11722Y | 7632V / 13218Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 7600V / 13200Y* | +6.00% ; -6.00% | 7144V / 12408Y | 8056V / 13992Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 15930V / 27600Y* | +6.00% ; -6.00% | 14974V / 25944Y | 16886V / 29256Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 44000V* | +6.00% ; -6.00% | 41360V | 46640V | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 46000V | +6.00% ; -6.00% | 43240V | 48760V | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |

Table 4: Steady State Operating Voltage Ranges Under Extreme Conditions (Adapted from CSA CAN-3-C235-83)

| Nominal Voltage (RMS V) | Allowable Deviation from Nominal (%) | Extreme Min. Voltage (RMS V) | Extreme Max. Voltage (RMS V) | Reference |
|---|---|---|---|---|
| 120V / 240V | +5.83% ; -11.67% | 106V / 212V | 127V / 254V | At Service Entrance per CSA CAN3-C235-83 Table 3.0 |
| 120V / 208Y | +5.83% ; -8.65% | 110V / 190Y | 127V / 220Y | At Service Entrance per CSA CAN3-C235-83 Table 3.0 |
| 347V / 600Y | +5.76% ; -11.82% | 306V / 530Y | 367V / 635Y | At Service Entrance per CSA CAN3-C235-83 Table 3.0 |
| 2400V / 4160Y | +6.00% ; -6.00% | 2256V / 3910Y | 2544V / 4410Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 4800V / 8320Y* | +6.00% ; -6.00% | 4512V / 7821Y | 5088V / 8819Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 7200V / 12470Y | +6.00% ; -6.00% | 6768V / 11722Y | 7632V / 13218Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 7600V / 13200Y* | +6.00% ; -6.00% | 7144V / 12408Y | 8056V / 13992Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 15930V / 27600Y* | +6.00% ; -6.00% | 14974V / 25944Y | 16886V / 29256Y | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 44000V* | +6.00% ; -6.00% | 41360V | 46640V | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |
| 46000V | +6.00% ; -6.00% | 43240V | 48760V | At Point of Sale per CSA CAN3-C235-83 Clause 6.1 |

## 4.3. Voltage Visibility/Support and CSA Compliance

As per Sentient Energy's recommendation based on AMI-data analysis and in coordination with HOL, a few transformer upgrades were performed as well as tap changes that led to a MV voltage improvement. Further, the ENGOs deployed in the system provided an incremental LV voltage improvement in addition to the real-time voltage visibility provided by ENGOs (the ENGO device is a **0.5%** voltage accuracy sensor). Based on ENGO-DAY ON/OFF testing, the combined MV and LV solution demonstrated ability to maximize voltage reduction and achieve significant demand reduction and energy savings.

**Results**:

- In **2019**, the minimum AMI voltage observed on **July 4th** was **101.8V**. Based on this measurement, it is clear that there is no existing voltage margin for performing a safe peak demand reduction (no customer voltage below CSA threshold of 110V during normal operating conditions or 106V during extreme operating conditions) and therefore system upgrades and ENGO deployment are required

## 4.4. ENGO ON/OFF Test

Based on ENGO-DAY ON/OFF testing during nominal operation, the GEMS+ENGO solution demonstrated ability to provide improvement in voltage margin.

**Results:**

- ENGOs provided in May 2020 an incremental improvement in voltage margin by **3.10V** (**2.58%**) prior to MV System Upgrade/Change
- This paired with the system upgrades as showed in Table 5: MV System Upgrades/Changes (transformer upgrades and tap changes) allowed us to comfortably proceed with CVR reduction of **5%** for the peak demand reduction testing

- ENGOs Improve lightly the substation Power Factor PF from **0.9478** to **0.9503**, which reduces line losses by **0.53%**

Table 5: MV System Upgrades/Changes

| Xfmer | Phase | ENGO Unit | Min. ENGO V (15min Avg) Before System Upgrades and ENGO OFF May 26th, 2020 / 43.93MW | MV Upgrade | Min. ENGO V (15min Avg) After System Upgrades and ENGO ON October 12th, 2020 / 40.88MW |
|---|---|---|---|---|---|
| X07484 | B | 2112692 | 107.9V | Xfmer Replaced (August 26th, 2020) | 120.3V |
| X50916 | A | 2106377 | 108.7V | Xfmer Replaced (August 26th, 2020) | 120.8V |
| X07508 | B | 2122829 | 108.7V | Xfmer Replaced (August 26th, 2020) | 123.7V |
| X07487 | B | 2100193 | 104.6V before Xfmer Upgrade<br>108.9V after Xfmer Upgrade | Xfmer Replaced (May 7th, 2020) and then Taps increased by 5% (July 30th, 2020) | 123.4V |
| X07491 | B | 2125813 | 108.8V | Taps increased by 5% (July 30th, 2020) | 123.8V |

## 4.5. Voltage Support

Based on ENGO-DAY ON/OFF and CVR-DAY ON/OFF testing, the combined MV and LV solution demonstrated ability to maximize voltage reduction and achieve significant demand reduction and energy savings.

**Results:**

- In 2020, after performing system upgrade and deployment of ENGO units, the minimum voltage recorded on July 2nd is **116.6V**. If we compare this result to July 4th, 2019 (**101.4V**), we observed a voltage improvement of nearly **14.8V** (**12.34%**). This allows the voltage to be reduced at the LTC without causing any CSA violations
- Estimated average voltage reduction of ~**6.31%** with an average incremental of **~5.67%** over the period of June 2018 to May 2019 (or ~**90%** contribution coming from combined MV System Upgrade and GEMS-ENGO solution). The incremental of the GEMS+ENGO is ~**2.80%** (or ~**44%** contribution coming from GEMS-ENGO solution)
- Estimated average voltage reduction of ~**7.29%** with an average incremental of ~**5.74%** over the period June 2019 to May 2020 (or ~**79%** contribution coming from GEMS+ENGO solution). The incremental of the GEMS+ENGO is ~**2.25%** (or ~**31%** contribution coming from GEMS-ENGO solution)

## 4.6. System Error Computation

As there is bound to be differences in voltage margin obtained from CYME analysis and that obtained from the field data, it was decided to add the concept of a system error in the contract. The system error essentially aligns the results from CYME with the field results and allows a fair comparison between the two results.

Using the methodology outlined in the contract, the average system error was found to be **2.39%** and the average percentage voltage margin was **3.53%**.

So, the adjusted voltage margin for comparison purposes was found to be **5.92%**, which shows that the ENGOs exceed performance. Essentially, ENGOs deliver a minimum voltage improvement of what was promised during the analysis phase now validated from the field results.

## 4.7. Capacity/Peak Demand Reduction Testing

Capacity/Peak Demand reduction tests have been conducted in three consecutive months (July, August, September 2020) with 54 LTC events or 108 LTC transitions (step down and step up/return to nominal). Tests were initially conducted at 2.5% CVR followed by 5% CVR after system upgrades (transformer tap and rating changes). Additional Capacity/Peak Demand reduction tests have been conducted from November 2020 through February 2021 with 36 LTC events or 72 LTC transitions.

**Results:**

- A **5% CVR reduction** was performed, and the minimum voltage recorded on September 24$^{th}$ was **114.3V** which is again above the CSA lower limit.
- A **5% CVR** was proved to be safe and feasible unlocking a potential of **1.31 MW** of reduction during peak load month of July 2020 (**50.53 MW**) with no CSA violations ($CVR_{factor}$ for Power = **0.52** in summertime)
- Based on the analysis of "voltage drop on secondary lines" and AMI data assessment – an additional margin of **2.3V (>1.92%)** is available unlocking a potential CVR reduction up to **6%** (or **1.58 MW**) while keeping CSA compliance at customer location (110V at customer location and 112V at transformer location considering a 2V voltage drop on the secondary run)
- Based on historical **July** Peak Month and estimated voltage margin, a potential of **1.40 MW** (July 2018 Peak @ 66.1MW) **– 1.63 MW** (July 2019 Peak @ 52.8MW) of reduction is feasible as showed in

- Table 6: Voltage Margin during July Peak Month.

Table 6: Voltage Margin during July Peak Month

| Year | System Upgrades | Month | Voltage Margin (Without ENGO) | Lowest Voltage (Without ENGO) | Peak Shaving (Without ENGO) | Voltage Margin (With ENGO) | Lowest Voltage (With ENGO) | Peak Shaving |
|---|---|---|---|---|---|---|---|---|
| 2018-2019 | No | July 2018 (66.13 MW) | -1.46% | 110.25 | NOT POSSIBLE | 0.62% | 112.74 | 0.21 MW |
| 2018-2019 | Yes | July 2018 (66.13 MW) | 2.29% | 114.75 | 0.79 MW | 4.06% | 116.87 | 1.40 MW |
| 2019-2020 | No | July 2019 (52.81 MW) | 0.24% | 112.29 | 0.07 MW | 2.51% | 115.01 | 0.69 MW |
| 2019-2020 | Yes | July 2019 (52.81 MW) | 3.96% | 116.75 | 1.09 MW | 5.88% | 119.06 | 1.61 MW |
| 2020-2021 | No | July 2020 (50.53 MW) | 0.53% | 112.64 | 0.14 MW | 2.83% | 115.40 | 0.74 MW |
| 2020-2021 | Yes | July 2020 (50.53 MW) | 4.25% | 117.1 | 1.12 MW | 6.19% | 119.43 | 1.63 MW |

- Annual demand reduction using June 2018 to May 2019 data ranges between **~1.40 MW** (July 2018 Peak) to **~2.38 MW** (Jan 2019 Peak) shaved
  - ✓ ~**2.11%** (Summer Peak: **July 2018 / 66.13 MW**) or ~**5.16%** (Winter Peak: **January 2019 / 46.10 MW**) Demand Reduction with an incremental of **~2.87%** or **~4.33%** (**~5.52%** or **~5.70%** Voltage Incremental x 0.52 (summer) or 0.76 (winter) $CVR_{f\ Power}$) (or >**~100%** or **~84%** contribution coming from GEMS+ENGO solution)
- Similar peak shaving performance has been estimated using June 2019 to May 2020 data
  - ✓ Annual demand reduction between **~1.61 MW** (July 2019 Peak) to **~2.37 MW** (January 2020 Peak) shaved
  - ✓ ~**3.06%** (Summer Peak: **July 2019 / 52.81 MW**) or ~**5.38%** (Winter Peak: **January 2020 / 43.95 MW**) Demand Reduction with an incremental of **~2.93%** or **~4.35%** (**~5.64%** or **~5.72%** Voltage Incremental x 0.52 (summer) or 0.76 (winter) $CVR_{f\ Power}$) (or **~96%** to **~81%** contribution coming from GEMS+ENGO solution)

## 4.8. Energy Savings

Energy Savings tests have been conducted from November 2020 through February 2021 with 144 CVR events (LTC operation, daily CVR ON/OFF @ 5%).

Energy Savings = Consumer Consumption Reduction + Technical Loss Reduction (Line + Transformer Losses)

**Results**:

- Annual avoided energy due to Visibility and MV System Upgrade/ENGOs of **~12,117.6 MWh** saved or **3.87%** Energy Savings with an incremental of **~3.49%** estimated over the period of **June 2018 to May 2019** (or **~90%** contribution coming from MV System Upgrades/ENGOs solution)
- Annual avoided energy due to Visibility and MV System Upgrade/ENGOs of **~12,560.5 MWh** saved or **~4.51%** Energy Savings with an incremental of **~3.55%** estimated over the period of **June 2019 to May 2020** (or **~79%** contribution coming from MV System Upgrades/ENGOs solution)

**Note 5**: For the calculation of Energy Savings, we assume a CVR factor for Energy ($CVR_{f\ Energy}$) equal to 0.62.

## 4.9. CVR Factor Test

Based on CVR-DAY ON/OFF testing, CVR factor for Power was measured and computed during the first test period (peak demand reduction) **June 2020** through **September 2020.** During the second test period (energy savings) over the period of **November 2020** through **February 2021,** CVR factor for Power and Energy were measured and computed.

**Results**:

- CVR Factor for Power and Energy:

| **Peak Demand Reduction Test (Summer 2020)** | **July – Sept 2020** |
|---|---|
| LTC Reduction in Voltage | 2.5% - 5% |
| Number of CVR Events | 54 |
| Error Band (95% confidence) | 0.06 |
| **CVR Factor for Power** | **0.52 ± 0.03** |
| **CVR Factor for Energy** | **No Test** |

| Energy Savings Test (Winter 2020) | Nov 2020 – Feb 2021 |
|---|---|
| LTC Reduction in Voltage | 4,1% |
| Number of CVR Events | 36 |
| Error Band (95% confidence) | 0.026 |
| **CVR Factor for Power** | **0.76 ± 0.013** |
| LTC Reduction in Voltage | 4,56% |
| Number of CVR Events | 144 |
| Error Band (95% confidence) | 0.46 |
| **CVR Factor for Energy** | **0.72 ± 0.23** |

- Considering the period of **June 2018 to May 2019**, MV System Upgrade and ENGO deployment allow the system to perform an annual average voltage reduction of **~6.24%** (Energy Savings) and **~4.06%** during **July 2018** peak month
- Considering the period of **June 2019 to May 2020**, MV System Upgrade and ENGO deployment allow the system to perform an annual average voltage reduction of **~7.28%** (Energy Savings) and **~5.88%** during **July 2019** peak month

Based on the billing data of August 2019 (see **Section 6.3** ) shared by Hydro Ottawa, CVR factors of each season were estimated to analyze the effect of voltage reduction by season. The data measured/estimated at Kanata substation can be classified by season and customer class as follows:

**Table 7: Seasonal CVR factors for Energy and Power**

| | Summer | Falls | Winter | Spring | Average |
|---|---|---|---|---|---|
| CVR factor for Power | 0.52* | 0.66 | 0.76* | 0.66 | 0.65 |
| CVR factor for Energy | 0.50 | 0.63 | 0.72* | 0.63 | 0.62 |

*Measured and computed CVR

Table 8: CVR factors for Energy and Power per Customer Class

| | CVR factor for Power (July 2019) | CVR factor for Power (average) | CVR factor for Energy (average) |
|---|---|---|---|
| Residential | 0.80 | 0.85 | 0.81 |
| Small & Medium < 50 kW | 0.82 | 0.92 | 0.89 |
| Small & Medium > 100 kW | 0.44 | 0.56 | 0.55 |
| Average CVR factor | 0.52* | 065 | 0.62 |

When analyzing data by season, CVR factors (Energy and Power) of Winter were found to be higher than those of Summer.

## 4.10. Technical Loss Reduction

**Results**:

Considering **3.27%** technical losses (Line Loss **1.12%**, Transformer Load Loss **1.11%** and Transformer Non-Load Loss **1.04%**) or **~10,234.1** MWh total losses out of **313,017.1 MWh** computed over the period of **June 2018 to May 2019** and **~9,102.4 MWh** total losses out of **278,403.7 MWh** computed over the period of **June 2019 to May 2020**:

- Annual reduction of overall technical losses:
  - ✓ **~372.2 MWh** (**-3.64%** of overall technical loss reduction or **3.07%** of the overall Energy Savings) estimated over the period of **June 2018 to May 2019**
  - ✓ **~413.4 MWh** (**-4.54%** of overall technical loss reduction or **3.87%** of the overall Energy Savings) estimated over the period of **Sep 2018** to **Aug 2019**
- Annual reduction of line losses due to PF improvement thanks to ENGO units (copper loss reduction):
  - ✓ Technical Loss Reduction of **~20.0 MWh (-0.20%** of overall technical loss reduction) estimated over the period of **June 2018 to May 2019**

  Or

  - ✓ Technical Loss Reduction of **~17.6 MWh** (**-0.17%** of overall technical loss reduction) estimated over the period of **June 2019 to May 2020**
- Annual reduction of technical losses due to CVR 24/7/365 (copper and core loss reduction)
  - ✓ Technical Loss Reduction of **~352.2 MWh** saved **(-3.44%** of overall technical loss) over the period of **June 2018 to May 2019**

    or

  - ✓ Technical Loss Reduction of **~395.7 MWh** saved (**-4.35%** of overall technical loss) estimated over the period of **June 2019 to May 2020**

## 4.11. Consumer Benefits:

**Results**:

- Annual Consumption Reduction due to Visibility and MV System Upgrade/ENGOs of **~11,745.6 MWh** (**96.93%** of overall Energy Savings) estimated over the period of **June 2018 to May 2019**
- Annual Consumption Reduction due to Visibility and MV System Upgrade/ENGOs of **~12,147.29 MWh** (**96.71**% of overall Energy Savings) estimated over the period of **June 2019 to May 2020**

## 4.12. Environmental Benefits:

**Results**:

- Annual CO2 reduction due to visibility and MV System Upgrade/ENGOs of **~1,938.8** Tonnes (**~12,117.6 MWh**) or **~2,367.1** Tonnes (average **1,962kW**) estimated over the period of **June 2018 to May 2019**
- Annual CO2 reduction due to visibility and MV System Upgrade/ENGOs of **~2,009.7** Tonnes (**12,560.5 MWh**) or **~2,353.0** Tonnes (average **1,984kW**) estimated over the period of **June 2019 to May 2020**

**Note 6:** "There are two components to the calculation of GHG reductions due to reductions in electricity usage resulting from CVR. These are computed based on the metrics for tonnes CO2e/MWh saved (0.160) and tonnes CO2e/MW saved (995), calculated by Ontario's Independent Electricity System Operator (IESO) for 2015 as reported in the Conservation Framework Mid-Term Review – Climate Change - Discussion Draft Discussion Slides prepared by Navigant (document CF-2017020-Climate-Change-Summary), Slide 27"

## 4.13. Project Results Summary Data:

**Note 7:** All costs and benefits showed in the report are in CAD.

Table 9: Field Test Results using June 2018 to May 2019 data

| Engineering Calcs | | |
|---|---|---|
| Annual Technical Loss Reduction | 372.2 | MWh |
| Avoided Wholesale Energy Purchases | 12,117.7 | MWh |
| Avoided Retail Electricity Sales | 11,745.5 | MWh |
| Customer peak capacity reduction | 2.379 | MW |
| Average System Peak reduction | 1.397 | MW |
| Annual Substation Energy Consumption Billed | 302,783.1 | MWh |
| Asset Life Extension Benefit | 2,345.6 | $ |
| Power Quality Benefit | 800.0 | $ |
| Annual CO2 reduction | 1,938.83 | tonnes |
| Annual NOx reduction | 0.36 | tonnes |
| Annual SOx reduction | 0.61 | tonnes |
| NPV Feeder Revenue Requirement | 38,400,695,896 | $ |

Table 10: Field Test Results using June 2019 to May 2020 data

| Engineering Calcs | | |
|---|---|---|
| Annual Technical Loss Reduction | 413.4 | MWh |
| Avoided Wholesale Energy Purchases | 12,560.7 | MWh |
| Avoided Retail Electricity Sales | 12,147.3 | MWh |
| Customer peak capacity reduction | 2.366 | MW |
| Average System Peak reduction | 1.614 | MW |
| Annual Substation Energy Consumption Billed | 269,301.3 | MWh |
| Asset Life Extension Benefit | 2,345.6 | $ |
| Power Quality Benefit | 800.0 | $ |
| Annual CO2 reduction | 2,009.71 | tonnes |
| Annual NOx reduction | 0.38 | tonnes |
| Annual SOx reduction | 0.63 | tonnes |
| NPV Feeder Revenue Requirement | 34,154,348,389 | $ |

# 5. Economic Use Case

## 5.1. Economic Evaluation Approach

Following financial information were considered for the Economic Use Case:

- Energy cost inflation rate of **2.0%** per year
- After-tax discount rate of **6.02%** per year (WACC)
- Utility return on equity of **8.98%** per year
- Effective Tax Rate of **26.50%**
- 2021 average retail rate before HST with Ontario electricity rebate is around **$12.74** cts/kWh considering the customer distribution at the Kanata substation
- 2021 marginal purchase energy rate (total cost of power before HST with Ontario electricity rebate) is around **$10.82** cts/kWh considering the customer distribution at the Kanata substation

## 5.2. Project Costs

An overall cost of **$497,802** (asset deployment and 15-year O&M costs) was considered for the medium voltage (replacement of 4 service transformers and tap changes) and the low voltage (GEMS+ENGO solution) Volt VAr control assets. No O&M expenses were considered for the ENGO devices as it does not require any preventive maintenance (no moving parts). The annual GEMS hosted subscription and GEMS apps/ENGO cellular comm are considered over 15 years ($194,532).

Table 11: Deployment and O&M Costs at Kanata MTS

| Cost Calculations | | |
|---|---|---|
| GEMS Software | $ | 194,532 |
| ENGO Hardware | $ | 161,410 |
| GEMS + ENGO Professional Service Costs | $ | 43,426 |
| ENGO Install + Prof Service Costs (HOL) | $ | 78,747 |
| MV Hardware + Install Costs (HOL) | $ | 19,687 |

An overall Hydro Ottawa project costs of **$78,747** for the ENGO deployment as well as **$19,687** for the MV System Upgrades has been considered (**$98,433**). An overall GEMS+ENGO cost of $399,368 is considered.

**Note 9**: We assume a GEMS Hosted Solution (above costs of $194,532 are for a 15-year operation) for the EUC calculation. However, ***a GEMS on-premise solution might be more cost effective when Hydro Ottawa decides to go full-scale***. It will reduce the overall cost of the solution meaning it will reduce the LCOE and LCOC numbers presented in the following sections.

## 5.3. Energy Savings and Capacity Reduction Economics Using June 2018-May 2019

Considering all costs of the project (ENGOs and MV System Upgrades) and all benefits (Net Present Value NPV avoided energy of **$12,843k**, NPV technical (transformer and line) loss reduction of **$394k** and NPV O&M of **$32k** over **15** years), the Ratepayer Impact Measure (RIM) Test BCR is **0.86** (discounted) or **0.87** (undiscounted).

The deployed MV System Upgrade/ENGOs solution delivers a Levelized Cost of Energy (LCOE) Saved of **$3.65**/MWh or **$0.365** cts/kWh (to be compared with the 2021 marginal purchase energy rate of **$10.82** cts/kWh).

The Total Resource & Utility Cost (TRC/UCT) Tests BCR is **30.92** (discounted) and the IRR Internal Rate of Return is **434%** (to be compared to **6.02%** WACC or **8.98%** ROE).

**Table 12: Energy Cost Effectiveness Tests of Kanata MTS Project (considering all costs)**

| Project Summary | |
|---|---|
| 12,117.6 | Annual MWh Saved |
| 1.396 | Annual MW Saved (considering July 2018 only) |
| $3.65 | LCOE (Levelized Cost of Energy) $/MWh |
| $30.21 | LCOC (levelized Cost of Capacity) $/kW-Yr |
| -3.87% | Change in Usage |
| -3.33% | Minimum change in Electrical Bills |

| Lifetime Costs and Benefits | *Discounted* | | | | *Undiscounted* | |
|---|---|---|---|---|---|---|
| Cost Tests | Net Benefit | BC Ratio | IRR | Payback Yrs | Net Benefit | BC Ratio |
| RIM (RATEPAYER IMPACT MEASURE) | $(2,119,425) | 0.86 | N/A | N/A | $(3,125,598) | 0.87 |
| TRC/UCT (TOTAL RESOURCE & UTILITY COST TEST) | $12,839,446 | 30.92 | 434 % | 1 | $20,132,180 | 41.44 |
| SCT (SOCIETAL COST TEST) | $13,287,217 | 31.97 | 449 % | 1 | $20,828,377 | 42.84 |

**Note 10:** The societal benefits are just shown for information and only considered in the SCT (Societal Cost Test) BCR Calculation. The federal system prices pollution at a rate of **$20** per tonne of CO2 equivalent emissions in **2019** and considering that this amount will gradually rise to **$50** per tonne by 2022, the discounted BCR will increase from **31.97** (TRC/UCT) to **33.32** (SCT) including NOx and SOx reduction.

The Table 13: RIM, TRC/UCT and SCT Test (considering all costs)shows the detail costs and benefits of the RIM, TRC/UCT and SCT tests (discounted and undiscounted over 15-years):

**Table 13: RIM, TRC/UCT and SCT Test (considering all costs)**

**RIM Test**

| | Year | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | NPV | Undiscounted |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WACC | | | | | | | | | | | | | | | | | 6.02% | |
| Costs | GEMS Software | $ - | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $125,792 | $ 194,532 |
| | ENGO Hardware | $ 161,410 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $161,410 | $ 161,410 |
| | ENGO Install + Prof Service Costs (HOL) | $ 78,747 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $78,747 | $ 78,747 |
| | GEMS + ENGO Professional Service Cost | $ 43,426 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $43,426 | $ 43,426 |
| | MV Hardware + Install Costs (HOL) | $ 19,687 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $19,687 | $ 19,687 |
| | Bill Savings (if sales decrease) | $ - | $1,496,995 | $1,504,480 | $1,512,003 | $1,519,563 | $1,527,160 | $1,534,796 | $1,542,470 | $1,550,183 | $1,557,934 | $1,565,723 | $1,573,552 | $1,581,420 | $1,589,327 | $1,597,273 | $1,605,260 | $14,958,872 | ########### |
| Benefits | Avoided Energy Retail | $ - | $1,285,209 | $1,291,635 | $1,298,094 | $1,304,584 | $1,311,107 | $1,317,662 | $1,324,251 | $1,330,872 | $1,337,526 | $1,344,214 | $1,350,935 | $1,357,690 | $1,364,478 | $1,371,301 | $1,378,157 | $12,842,580 | ########### |
| | Line & Xfmer Loss Reduction | $ - | $ 39,471 | $ 39,669 | $ 39,867 | $ 40,066 | $ 40,267 | $ 40,468 | $ 40,670 | $ 40,874 | $ 41,078 | $ 41,283 | $ 41,490 | $ 41,697 | $ 41,906 | $ 42,115 | $ 42,326 | $394,421 | $ 613,248 |
| | Avoided Capacity | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $0 | $ - |
| | O&M (VLR, ALE, PQ) | $ - | $ 3,146 | $ 3,162 | $ 3,178 | $ 3,195 | $ 3,212 | $ 3,229 | $ 3,247 | $ 3,265 | $ 3,283 | $ 3,302 | $ 3,321 | $ 3,340 | $ 3,360 | $ 3,380 | $ 3,401 | $31,507 | $ 49,018 |
| | CO2 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $0 | $ - |
| | Bill Savings (if sales increase) | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $0 | $ - |
| | Net Cash Flow | $ (303,270) | $ (182,138) | $ (182,983) | $ (183,833) | $ (184,687) | $ (185,544) | $ (186,406) | $ (187,271) | $ (188,141) | $ (189,015) | $ (189,893) | $ (190,775) | $ (191,661) | $ (192,551) | $ (193,446) | $ (194,344) | $(2,119,425) | $(3,125,958) |
| | Payback | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | Yrs to Payback |
| | | | | | | | | | | | | | | | | | | N/A | IRR |

**UCT/TRC Tests**

| | Year | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | NPV | d |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WACC | | | | | | | | | | | | | | | | | 6.02% | |
| Costs | GEMS Software | $ - | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $125,792 | $ 194,532 |
| | ENGO Hardware | $ 161,410 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $161,410 | $ 161,410 |
| | ENGO Install + Prof Service Costs (HOL) | $ 78,747 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $78,747 | $ 78,747 |
| | GEMS + ENGO Professional Service Cost | $ 43,426 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $43,426 | $ 43,426 |
| | MV Hardware + Install Costs (HOL) | $ 19,687 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $19,687 | $ 19,687 |
| Benefits | Avoided Energy Retail | $ - | $1,285,209 | $1,291,635 | $1,298,094 | $1,304,584 | $1,311,107 | $1,317,662 | $1,324,251 | $1,330,872 | $1,337,526 | $1,344,214 | $1,350,935 | $1,357,690 | $1,364,478 | $1,371,301 | $1,378,157 | $12,842,580 | ########### |
| | Line & Xfmer Loss Reduction | $ - | $ 39,471 | $ 39,669 | $ 39,867 | $ 40,066 | $ 40,267 | $ 40,468 | $ 40,670 | $ 40,874 | $ 41,078 | $ 41,283 | $ 41,490 | $ 41,697 | $ 41,906 | $ 42,115 | $ 42,326 | $394,421 | $ 613,248 |
| | Avoided Capacity | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $0 | $ - |
| | O&M (VLR, ALE, PQ) | $ - | $ 3,146 | $ 3,162 | $ 3,178 | $ 3,195 | $ 3,212 | $ 3,229 | $ 3,247 | $ 3,265 | $ 3,283 | $ 3,302 | $ 3,321 | $ 3,340 | $ 3,360 | $ 3,380 | $ 3,401 | $31,507 | $ 49,018 |
| | CO2 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $0 | $ - |
| | Net Cash Flow | $ (303,270) | $1,314,857 | $1,321,497 | $1,328,170 | $1,334,876 | $1,341,616 | $1,348,390 | $1,355,199 | $1,362,041 | $1,368,919 | $1,375,830 | $1,382,777 | $1,389,759 | $1,396,775 | $1,403,828 | $1,410,915 | ########### | ########### |
| | Payback | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Yrs to Payback |
| | | | | | | | | | | | | | | | | | | 434% | IRR |

**SCT Test**

| | Year | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | NPV | d |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WACC | | | | | | | | | | | | | | | | | 6.02% | |
| Costs | GEMS Software | $ - | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $ 12,969 | $125,792 | $ 194,532 |
| | ENGO Hardware | $ 161,410 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $161,410 | $ 161,410 |
| | ENGO Install | $ 78,747 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $78,747 | $ 78,747 |
| | ENGO Hardware | $ 43,426 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $43,426 | $ 43,426 |
| | Services | $ 19,687 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $19,687 | $ 19,687 |
| Benefits | Avoided Energy Retail | $ - | $1,285,209 | $1,291,635 | $1,298,094 | $1,304,584 | $1,311,107 | $1,317,662 | $1,324,251 | $1,330,872 | $1,337,526 | $1,344,214 | $1,350,935 | $1,357,690 | $1,364,478 | $1,371,301 | $1,378,157 | $12,842,580 | ########### |
| | Line & Xfmer Loss Reduction | $ - | $ 39,471 | $ 39,669 | $ 39,867 | $ 40,066 | $ 40,267 | $ 40,468 | $ 40,670 | $ 40,874 | $ 41,078 | $ 41,283 | $ 41,490 | $ 41,697 | $ 41,906 | $ 42,115 | $ 42,326 | $394,421 | $ 613,248 |
| | Avoided Capacity | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $0 | $ - |
| | O&M (VLR, ALE, PQ) | $ - | $ 3,146 | $ 3,162 | $ 3,178 | $ 3,195 | $ 3,212 | $ 3,229 | $ 3,247 | $ 3,265 | $ 3,283 | $ 3,302 | $ 3,321 | $ 3,340 | $ 3,360 | $ 3,380 | $ 3,401 | $31,507 | $ 49,018 |
| | CO2 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $0 | $ - |
| | Societal CO2 | $ - | $ 96,942 | $ 97,426 | $ 97,913 | $ 98,403 | $ 98,895 | $ 99,389 | $ 99,886 | $ 100,386 | $ 100,888 | $ 101,392 | $ 101,899 | $ 102,409 | $ 102,921 | $ 103,435 | $ 103,952 | $968,698 | $ 1,506,137 |
| | Societal NOx | $ - | $ 3,093 | $ 3,109 | $ 3,124 | $ 3,140 | $ 3,156 | $ 3,171 | $ 3,187 | $ 3,203 | $ 3,219 | $ 3,235 | $ 3,251 | $ 3,268 | $ 3,284 | $ 3,300 | $ 3,317 | $30,910 | $ 48,059 |
| | Societal SOx | $ - | $ 2,940 | $ 2,955 | $ 2,970 | $ 2,985 | $ 3,000 | $ 3,015 | $ 3,030 | $ 3,045 | $ 3,060 | $ 3,075 | $ 3,091 | $ 3,106 | $ 3,122 | $ 3,137 | $ 3,153 | $29,382 | $ 45,683 |
| | Net Cash Flow | $ (303,270) | $1,417,833 | $1,424,987 | $1,432,177 | $1,439,404 | $1,446,666 | $1,453,966 | $1,461,302 | $1,468,675 | $1,476,086 | $1,483,533 | $1,491,018 | $1,498,541 | $1,506,102 | $1,513,701 | $1,521,338 | ########### | ########### |
| | Payback | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Yrs to Payback |
| | | | | | | | | | | | | | | | | | | 468% | IRR |

As expected, the LCOE is in line in comparison with a recent study made in June 2018 by **Navigant Consulting** "**Volt/VAr Optimization and Conservation Voltage Reduction: Market Potential Assessment & Economic Metrics for the province of Ontario**".

As reported by **Navigant**, the LCOE of energy saved via Secondary Volt-VAr optimization (VVO) technologies such as Sentient Energy's offering is around **$1.13 cts/kWh vs. $4.71 cts/kWh** for Primary VVO only deployments. The addition of Secondary VVO reduces the overall LCOE to **$3.41** cts/kWh (to be compared with **$0.365** cts/kWh at Kanata MTS as mentioned previously).

In 2017, Navigant Consulting performed an analysis of the potential for VVO technologies to contribute to Energy Efficiency goals in Ontario ("**Considerations for Deploying In-Front-of-the-Meter Conservation Technologies in Ontario**"). The study includes an in-depth analysis of the BCR by class of feeder across Ontario. It concluded that approximately **30%** of the feeders in the province are good candidates for VVO as showed in Table 14: Ranking for Prototypical Feeders by Cost-Benefit Ration - VVO.

Table 14: Ranking for Prototypical Feeders by Cost-Benefit Ration - VVO

| Rank | Ranked Feeders by Cost-Benefit Ratio | Feeders per Cluster | Benefit-Cost Ratio | Cluster Peak Reduction (MW) | Cluster Electricity Reduction (GWh) | Cluster Line Loss Reduction (GWh) |
|---|---|---|---|---|---|---|
| 1 | 12.47 kV - Heavy Suburban | 305 | 1.45 | 15 | 106 | 6 |
| 2 | 27.6 kV - Moderate Suburban | 508 | 1.35 | 34 | 246 | 5 |
| 3 | 27.6 kV - Moderate Urban | 508 | 1.34 | 33 | 244 | 6 |
| 4 | 12.47 kV - Moderate Urban | 1,016 | 1.29 | 44 | 325 | 8 |
| 5 | 12.47 kV - Moderate Suburban | 711 | 1.17 | 28 | 207 | 4 |
| 6 | 12.47 kV - Light Suburban | 508 | 0.80 | 14 | 104 | 1 |
| 7 | 4.16 kV - Heavy Urban | 102 | 0.72 | 1 | 10 | 1 |
| 8 | 4.16 kV - Heavy Suburban | 102 | 0.65 | 1 | 9 | 0 |
| 9 | 44.4 kV - Light Rural | 508 | 0.59 | 39 | 292 | 3 |
| 10 | 4.16 kV - Moderate Urban | 1,524 | 0.58 | 17 | 122 | 3 |
| 11 | 27.6 kV - Light Rural | 508 | 0.53 | 13 | 97 | 1 |
| 12 | 4.16 kV - Moderate Suburban | 1,524 | 0.52 | 15 | 111 | 2 |
| 13 | 4.16 kV - Light Suburban | 1,321 | 0.48 | 12 | 90 | 1 |
| 14 | 12.47 kV - Light Rural | 508 | 0.38 | 7 | 49 | 1 |
| 15 | 4.16 kV - Light Rural | 508 | 0.17 | 2 | 12 | 0 |

*Source: Navigant analysis*

The lowest performing feeders are all the 4.16 kV feeders and some of the lightly loaded 12.47 kV feeders as shown above in Table 14: Ranking for Prototypical Feeders by Cost-Benefit Ration - VVO. These feeders have a negative NPV and are not cost-effective largely because the line loss savings achieved through phase balancing are relatively small (in proportion to the feeder load) and do not justify the costs required. Recent deployments in Ontario have shown that by deploying ENGO devices at targeted location (low voltage outliers) and optimizing the MV assets, it was demonstrated that 4.16kV – light rural feeder could be turned to become eligible for VVO deployment.

Considering the Kanata MTS (27.6kV Heavy Suburban), a TRC BCR of **1.45** would have been expected as reported by Navigant study (to be compared with **30.92 (!)** achieved at the Kanata MTS).

Overall, the LCOE and IRR of the Kanata MTS project are in line with LDC's financial (Utility Return on Equity of **8.98%** vs. **434%** IRR and 2021 marginal purchase energy rate of **$10.82** cts/kWh vs. LCOE of **$0.365** cts/kWh saved) as well as the LCOE reported in 2017 Navigant's study (e.g., **$5.20** cts/kWh saved).

As shown in

Table 15: LCoE / LCoC by Feeder for VVO, the LUEC for Energy (Levelized Unit Electricity Cost) or LCOE for IFMC deployment across 15-feeders (from 4.16kV to 27.6kV, from light rural to heavy urban) ranges from **$5.20** cts/kWh and **$19.8** cts/kWh saved. An LCOE of **$5.20** cts/kWh saved is reported for a 12.47kV – Heavy Suburban feeder (to be compared to **$3.65** cts/kWh saved achieved at the Kanata MTS).

As shown in

Table 15: LCoE / LCoC by Feeder for VVO, the LUEC for Demand or LCOC ranges from **$422** and **$3,352/kW-Yr** shaved. An LCOC of **$710/kW-Yr** is reported for a 12.47kW – Heavy Suburban

feeder (to be compared to **$30.21/kW-Yr** shaved achieved at the Kanata MTS or **$120.85/kW**-Summer Time).

**Table 15: LCoE / LCoC by Feeder for VVO**

| Prototypical Feeder | LUEC ($/kWh) | LUEC ($/kW) |
|---|---|---|
| 4.16kV - Heavy Urban | $0.105 | $777 |
| 4.16 kV - Moderate Urban | $0.131 | $984 |
| 4.16 kV - Heavy Suburban | $0.117 | $866 |
| 4.16 kV - Moderate Suburban | $0.144 | $1,087 |
| 4.16 kV - Light Suburban | $0.157 | $1,188 |
| 4.16 kV - Light Rural | $0.443 | $3,352 |
| 12.47 kV - Moderate Urban | $0.059 | $441 |
| 12.47 kV - Heavy Suburban | $0.052 | $388 |
| 12.47 kV - Moderate Suburban | $0.065 | $487 |
| 12.47 kV - Light Suburban | $0.094 | $710 |
| 12.47 kV - Light Rural | $0.198 | $1,502 |
| 27.6 kV - Moderate Urban | $0.056 | $424 |
| 27.6 kV - Moderate Suburban | $0.056 | $422 |
| 27.6 kV - Light Rural | $0.143 | $1,084 |
| 44.4 kV - Light Rural | $0.128 | $970 |

*Source: Navigant analysis*

Considering the Rate Payer Impact (RIM) test, a BCR of **0.87** (discounted) is shown below:

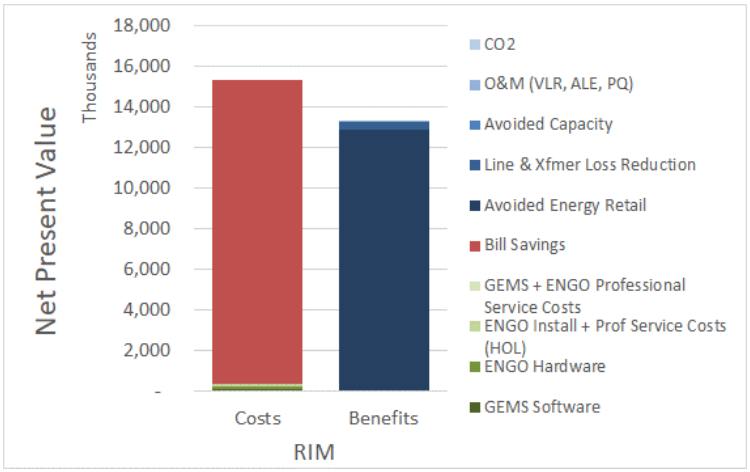



**Figure 2: RIM Test Results**

Based on the project measured results and financial provided by Hydro Ottawa, a reduction in energy usage of **3.87%** at Kanata MTS corresponds in a change in consumer electrical bill of **3.33%**

Considering the Total Resource Cost/Utility Cost Test TRC/UCT test, a BCR of **30.92** (discounted) is shown, which implies a decrease of the total energy expenditures (BCR>1).

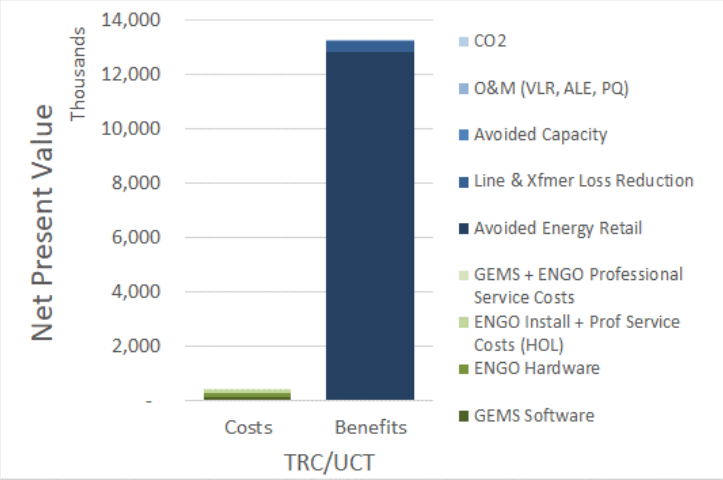



Figure 3: TRC/UCT Test Results

## 5.4. Energy Savings and Capacity Reduction Economics Using June 2019-May 2020

The Economics are summarized in Table 16: Economics Summary Using June 2019-May 2020.

Table 16: Economics Summary Using June 2019-May 2020

| Project Summary | |
|---|---|
| 12,561 | Annual MWh Saved |
| 1.615 | Annual MW Saved (considering July 2019 only) |
| $3.52 | LCOE (Levelized Cost of Energy) $/MWh |
| $26.16 | LCOC (levelized Cost of Capacity) $/kW-Yr |
| -4.51% | Change in Usage |
| -3.89% | Minimum Change in Electrical Bills |

| **Lifetime Costs and Benefits** | *Discounted* | | | | *Undiscounted* | |
|---|---|---|---|---|---|---|
| **Cost Tests** | **Net Benefit** | **BC Ratio** | **IRR** | **Payback Yrs** | **Net Benefit** | **BC Ratio** |
| RIM (RATEPAYER IMPACT MEASURE) | $(2,117,950) | 0.87 | N/A | N/A | $(3,123,664) | 0.88 |
| TRC/UCT (TOTAL RESOURCE & UTILITY COST TEST) | $13,352,586 | 32.12 | 451 % | 1 | $20,930,011 | 43.04 |
| SCT (SOCIETAL COST TEST) | $14,419,190 | 34.61 | 486 % | 1 | $22,588,374 | 46.38 |

Using the billing data of August 2019 shared by Hydro Ottawa (see section 6.3) and June 2019-May 2020 SCADA-data, Sentient Energy estimated the electrical bill reduction based on customer class:

- **Residential Customers:**
  - Prior to CVR implementation, the monthly consumption is **786** kWh per customer or **9,430** kWh annually
  - CVR implementation has a negligeable impacts on LDC revenue (Fixed Monthly Service Charge + kWh-based LV Charges) that corresponds to $(170.56) over 12-months for **5,926** customers
  - For an average **7.29%** voltage reduction (**0.81** CVR factor for Energy), residential customers will see a reduction of their electrical bill by **4.56% ($71.69** annually before HST & Rebate or **$65.82** annually with HST & Rebate) while their energy usage will reduce by **5.90%**

| Residential | Rates Effective January 1, 2021 | | | | | |
|---|---|---|---|---|---|---|
| | Consumption @ 55880027 kWh | | | Consumption @ 52580377 kWh (5% Voltage Reduction) | | |
| Charge Description | kWh | Rates | Customer Charge | kWh | Rates | Customer Charge |
| Smart Metering Entity Charge | | $0.57 | $40,533.84 | | $0.57 | $40,533.84 |
| Monthly Service Charge | | $29.32 | $2,085,003.84 | | $29.32 | $2,085,003.84 |
| Distribution Volumetric Rate | 55,880,027 | $0.0000 | $0.00 | 52,580,377 | $0.0000 | $0.00 |
| Low Voltage Charges | 57,768,772 | $0.00005 | $2,888.44 | 54,357,594 | $0.00005 | $2,717.88 |
| Adjusted Consumption | 1,888,745 | | | 1,777,217 | | |
| *Off-Peak* | 1,208,797 | $0.085 | $102,747.72 | 1,137,419 | $0.085 | $96,680.59 |
| *Mid-Peak* | 339,974 | $0.119 | $40,456.92 | 319,899 | $0.119 | $38,067.98 |
| *On-Peak* | 339,974 | $0.176 | $59,835.44 | 319,899 | $0.176 | $56,302.23 |
| Network Charge | 57,768,772 | $0.0081 | $467,927.05 | 54,357,594 | $0.0081 | $440,296.51 |
| Connection Charge | 57,768,772 | $0.0050 | $288,843.86 | 54,357,594 | $0.0050 | $271,787.97 |
| Electricity Charge | 55,880,027 | | | 52,580,377 | | |
| *Off-Peak* | 35,763,217 | $0.085 | $3,039,873.47 | 33,651,441 | $0.085 | $2,860,372.50 |
| *Mid-Peak* | 10,058,405 | $0.119 | $1,196,950.18 | 9,464,468 | $0.119 | $1,126,271.67 |
| *On-Peak* | 10,058,405 | $0.176 | $1,770,279.25 | 9,464,468 | $0.176 | $1,665,746.34 |
| Wholesale Market Service Rate | 57,768,772 | $0.0030 | $173,306.32 | 54,357,594 | $0.0030 | $163,072.78 |
| Capacity Based Recovery | 57,768,772 | $0.0004 | $23,107.51 | 54,357,594 | $0.0004 | $21,743.04 |
| Rural Rate Protection Charge | 57,768,772 | $0.0005 | $28,884.39 | 54,357,594 | $0.0005 | $27,178.80 |
| Standard Supply Service Charge | | $0.25 | $3.00 | | $0.25 | $3.00 |
| Total Loss Factor | | 1.0338 | | | 1.0338 | |
| Total before HST & Rebate | | | **$9,320,641.22** | | | **$8,895,778.97** |
| Ontario Electricity Rebate | | 21.2% | $1,975,975.94 | | 21.2% | $1,885,905.14 |
| Total before HST with Rebate | | | **$7,344,665.28** | | | **$7,009,873.82** |
| HST 13% | | 13% | $1,211,683.36 | | 13% | $1,156,451.27 |
| Total with HST/Rebate | | | **$8,556,348.64** | | | **$8,166,325.09** |

- **Small Commercial Customers (<50kW):**
  - Prior to CVR implementation, the monthly consumption is **3,494** kWh per customer or **41,933** kWh annually
  - With the CVR implementation, LDC revenue will see a decrease by **5.31%** of its revenue if no rate adjustment is made (Fixed Monthly Service Charge + kWh-based Distribution Volumetric Rate) = $(20,128.31) over 12-months for **289** customers
  - For an average **7.29%** voltage reduction (**0.89** CVR factor for Energy), small commercial customers will see a reduction of their electrical bill by **6.25% ($417.99** annually before HST & Rebate or **$383.71** annually with HST & Rebate) while their energy usage will reduce by **6.49%**

**Rates Effective January 1, 2021**

| **Small and Medium General Service < 50 kW** | **Consumption @ 12118560.069646 kWh**<br>**Demand (on peak): 6 kW or 6.7 kVA** | | | **Consumption @ 11332298 kWh (5% Voltage Reduction)**<br>**Demand (on peak): 6 kW or 6.7 kVA** | | |
|---|---|---|---|---|---|---|
| | **Voltage < 5 kV** | | | **Voltage < 5 kV** | | |
| Charge Description | **kWh** | Rates | Customer Charge | **kWh** | Rates | Customer Charge |
| Smart Metering Entity Charge | | $0.57 | $1,976.76 | | $0.57 | $1,976.76 |
| Monthly Service Charge | | $19.7600 | $68,527.68 | | $19.7600 | $68,527.68 |
| Distribution Volumetric Rate | 12,118,560 | $0.02560 | $310,235.14 | 11,332,298 | $0.02560 | $290,106.83 |
| Low Voltage Charges | 12,528,167 | $0.00005 | $626.41 | 11,715,330 | $0.00005 | $585.77 |
| *Adjusted Consumption* | 409,607 | | | 383,032 | | |
| *Off-Peak* | 262,149 | $0.085 | $22,282.64 | 245,140 | $0.085 | $20,836.92 |
| *Mid-Peak* | 73,729 | $0.119 | $8,773.79 | 68,946 | $0.119 | $8,204.54 |
| On-Peak | 73,729 | $0.1760 | $12,976.36 | 68,946 | $0.1760 | $12,134.44 |
| Network Charge | 12,528,167 | $0.0076 | $95,214.07 | 11,715,330 | $0.0076 | $89,036.51 |
| Connection Charge | 12,528,167 | $0.00480 | $60,135.20 | 11,715,330 | $0.00480 | $56,233.58 |
| *Electricity Charge* | 12,118,560 | | | 11,332,298 | | |
| *Off-Peak* | 7,755,878 | $0.085 | $659,249.67 | 7,252,671 | $0.085 | $616,477.01 |
| *Mid-Peak* | 2,181,341 | $0.119 | $259,579.56 | 2,039,814 | $0.119 | $242,737.82 |
| On-Peak | 2,181,341 | $0.1760 | $383,915.98 | 2,039,814 | $0.1760 | $359,007.20 |
| Wholesale Market Service Rate | 12,528,167 | $0.0030 | $37,584.50 | 11,715,330 | $0.0030 | $35,145.99 |
| Capacity Based Recovery | 12,528,167 | $0.0004 | $5,011.27 | 11,715,330 | $0.0004 | $4,686.13 |
| Rural Rate Protection Charge | 12,528,167 | $0.00 | $6,264.08 | 11,715,330 | $0.00 | $5,857.66 |
| Standard Supply Service Charge | | 0.2500 | $3.00 | | 0.2500 | $3.00 |
| Total Loss Factor | | 1.0338 | | | 1.0338 | |
| Total before HST & Rebate | | | **$1,932,356.11** | | | **$1,811,557.86** |
| Ontario Electricity Rebate* | | 21% | $409,659.50 | | 21% | $384,050.27 |
| Total before HST with Rebate | | | **$1,522,696.61** | | | **$1,427,507.59** |
| HST 13% | | 13% | $251,206.29 | | 13% | $235,502.52 |
| Total with HST | | | **$1,773,902.91** | | | **$1,663,010.11** |

- **Small & Large C&I Customers (General Services >50kW to 1,599kW):**
  - Prior to CVR implementation, the monthly consumption is **184,343** kWh per customer or **2,212,118** kWh annually
  - With the CVR implementation, LDC revenue will see a decrease by **7.29%** of its revenue if no rate adjustment is made (Fixed Monthly Service Charge + kWh-based Distribution Volumetric Rate) = $(93,712.48) over 12-months for **91** customers
  - For an average **7.29%** voltage reduction (**0.55** CVR factor for Energy), small & large C&I customers will see a reduction of their electrical bill by **4.07% ($14,377.05** annually before HST & Rebate or **$13,198.14** annually with HST & Rebate) while their energy usage will reduce by **4.01%**

**Rates Effective January 1, 2021**

| Small and Medium General Service 50 to 1,499 kW | Consumption @ kWh<br>Demand (on peak): 100 kW or 111 kVA<br>Voltage < 5 kV | | | Consumption @ 0 kWh (5% Voltage Reduction)<br>Demand (on peak): 100 kW or 111 kVA<br>Voltage < 5 kV | | |
|---|---|---|---|---|---|---|
| **Charge Description** | **Usage** | **Rates** | **Customer Charge** | **Usage** | **Rates** | **Customer Charge** |
| Monthly Service Charge | | $200.00 | $218,400.00 | | $200.00 | $218,400.00 |
| Distribution Volumetric Rate | 30,982 | $5.2905 | $1,966,941.98 | 29,506 | $5.2905 | $1,873,229.56 |
| Low Voltage Charges | 30,982 | $0.0196 | $7,301.91 | 29,506 | $0.01964 | $6,954.02 |
| Network Charge | 30,982 | $3.1059 | $1,154,734.92 | 29,506 | $3.1059 | $1,099,719.06 |
| Connection Charge | 30,982 | $1.9644 | $730,339.44 | 29,506 | $1.9644 | $695,543.36 |
| Electricity Charge | 208,106,781 | $0.01825 | $3,797,948.75 | 199,762,764 | $0.01825 | $3,645,670.44 |
| Global Adjustment | 208,106,781 | $0.11261 | $23,434,904.57 | 199,762,764 | $0.11261 | $22,495,284.81 |
| Wholesale Market Service Rate | 208,106,781 | $0.0030 | $624,320.34 | 199,762,764 | $0.0030 | $599,288.29 |
| Capacity Based Recovery | 208,106,781 | $0.0004 | $83,242.71 | 199,762,764 | $0.0004 | $79,905.11 |
| Rural Rate Protection Charge | 208,106,781 | $0.0005 | $104,053.39 | 199,762,764 | $0.0005 | $99,881.38 |
| Standard Supply Service Charge | | $0.25 | $3.00 | | $0.25 | $3.00 |
| Total Loss Factor | | 1.0338 | | | 1.0338 | |
| Total before HST & Rebate | | 0.0000 | **$32,122,191.02** | | | **$30,813,879.02** |
| Ontario Electricity Rebate* | | 21.2% | $6,809,904.50 | | 21.2% | $6,532,542.35 |
| Total before HST with Rebate | | | **$25,312,286.52** | | | **$24,281,336.67** |
| HST 13% | | 13% | $4,175,884.83 | | 13% | $4,005,804.27 |
| Total with HST | | | **$29,488,171.36** | | | **$28,287,140.94** |

## 5.5. Economics Conclusion

Benefits of CVR accrue primarily to the utility and customers. The CVR benefit with the largest and clearest payback, and hence of most interest to Hydro Ottawa, was Capacity Reduction and Energy Savings and loss reduction are other benefits.

CVR enables Hydro Ottawa to either achieve a significant reduction:

- in energy (**3.87%** in **June 2018-May 2019 or 4.51%** in **June 2019 – May 2020**)
  - The Kanata MTS project demonstrated a potential annual consumer bill reduction (CVR 7/24/365) in the range of **$71.69** to **$14,377** (before HST & Ontario electricity rebate) per consumer class without requiring any change in consumer behavior nor participant costs in comparison with traditional demand-side management program

- VVO/CVR is beneficial to all consumers (low, mid, or high-income) and is considered as In-Front-of-the-Meter Conservation technology or also named supply-side management
- Levelized Cost of Energy Saved is in the range of **$0.365** and **$0.352** cts per kWh saved
- Considering the marginal purchase energy rate (total cost of power before HST with Ontario electricity rebate) of **$10.82** cts/kWh, the project demonstrated that energy savings is cheaper than making and transmitting energy
- 2021 marginal purchase energy rate (total cost of power before HST with Ontario electricity rebate) is around **$10.82**

and/or

- in capacity (**~1.40 MW** - July 2018 Peak - to **~2.38 MW** - January 2019 Peak- shaved from **June 2018** through **May 2019**) **or** (**~1.61 MW** - July 2019 Peak- to **~2.37 MW** - January 2020 Peak - shaved from **June 2019** through **May 2020**)
  - The Kanata MTS project demonstrated a potential Voltage Reduction by 5%-6% without impacting customers through load shedding or major equipment investments
  - The proposed MV upgrades/ENGO deployment as a Non-Wires Alternatives solution can offset distribution investment by deferring or replacing the need for specific equipment upgrades such as T&D lines or power transformers by reducing load / demand at a substation or circuit level (CAPEX Deferral).
  - CVR is a cheap solution to reduce demand or increase substation/line capacity with a Levelized of Capacity Cost (LCOC) shaved in the range of **$26.15** and **$30.21** per kW-Yr

The deployed technology at Kanata MTS enables greater savings without compromising power quality and grid reliability and demonstrates cost-effectiveness thresholds higher than initially reported by Navigant considering only medium voltage or primary VVC equipment (i.e., Line Voltage Regulator, Switched Cap Banks etc.). The addition of Low Voltage or secondary VVC equipment such as ENGO devices reduces the overall LCOE and LCOC and increases the BCR and the number of eligible VVO feeders versus primary VVC only.

As mentioned earlier, the quantified benefit of reduced greenhouse gas (GHG) emissions was not considered in RIM or TRC/UCT BCR calculation. Any monetized benefits related to the reduction of GHG would be added to the annual consumer bill reduction.

# 6. Kanata MTS Overview

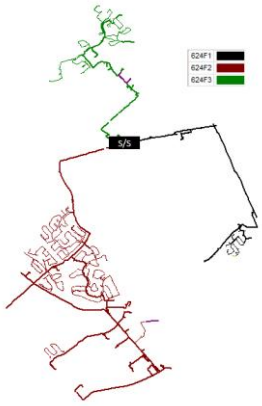
## 6.1. One Line Diagram and Circuit Information

The Kanata MTS is in Kanata, Ontario, Canada. The Kanata MTS has two transformer banks T1 and T2 feeding a total of five (5) feeders. Figure 4 shows the one-line diagram for the feeders connected to transformer T1 and transformer T2 obtained from the CYME model.

The circuit operates at 27.6 kV (L-L) and it is controlled by a single LTC or AVR (Automatic Voltage Regulator). The two transformer T1 and T2 are connected using a tie-switch under normal operation. However, under emergency peak conditions when the total real power flow through both the transformer banks exceeds 60.5 MW, the tie-switch is opened, and the two banks are manually controlled while the LTC is offline.

**Model Specs of Kanata Substation Transformer T1:**

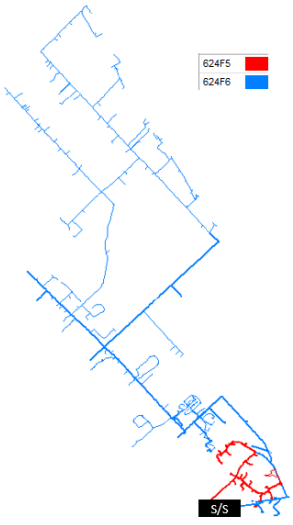
- Nominal: 27.6 kV (L-L), 15.9 kV (L-N)
- LTC SP: CB = 122V, BW = 4V
- 3 Feeders: 624F1, 624F2, 624F3
- Total 28 MW, 11.9 MVAr, PF = 91%
  - F1: 12.89 MW, 5.48 MVAr
  - F2: 13.8 MW, 5.87 MVAr
  - F3: 1.34 MW, 0.57 MVAr
- 0 Line Cap banks and 0 LVRs
- Maximum length from substations ≈ 8.96 km
- 389 service transformers




T1 Bank

**Model Specs of Kanata Substation Transformer T2:**

- Nominal: 27.6 kV (L-L), 15.9 kV (L-N)
- Two Step Down Transformers: 27.6 kV (L-L) / 12.43 kV (L-L)
- LTC SP: CB = 122V, BW = 4V
- 2 Feeders: 624F5, 624F6
- Total 20.3 MW, 8.75 MVAr, PF = 91.8%
  - F5: 12.6 MW, 5.46 MVAr
  - F6: 7.78 MW, 3.29 MVAr
- 0 Line Cap banks and 0 LVRs
- Maximum length from substations ≈ 22.3 km
- 486 service transformers

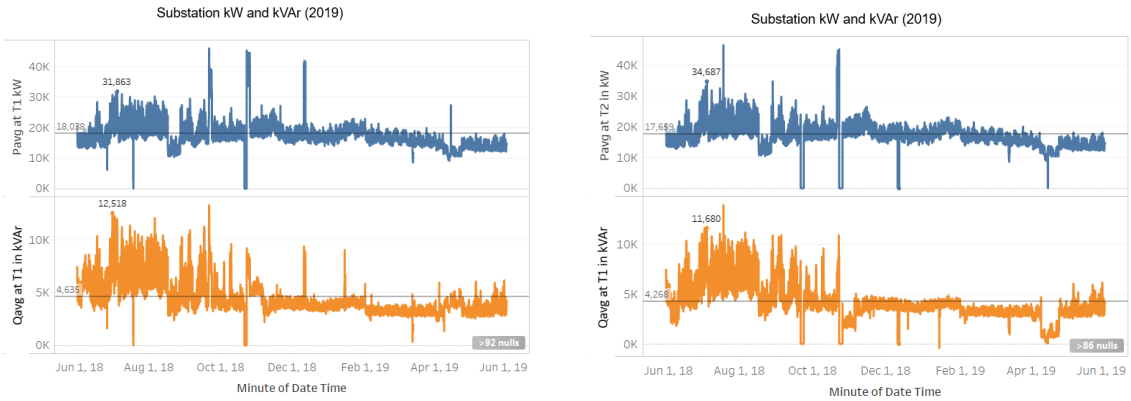



T2 Bank

**Figure 4: Kanata MTS Circuit One-line Diagram for all Feeders Connected to Transformer Banks T1 and T2**

## 6.2. Historical Kanata MTS Power Flow

Figure 5 shows the Kanata MTS load (real power P and reactive power Q) at the two transformer banks T1 and T2 between June 2018 and May 2019. The summer peak of 31.9 MW on T1 and 34.7 on T2 happens around July. In comparison, the CYME model for the two transformers has peaks of 28MW and 20.3MW, respectively.



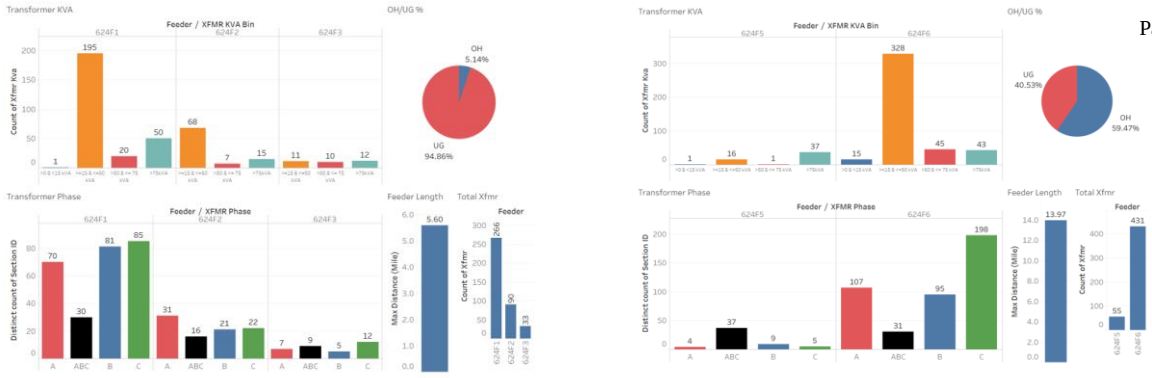

T1 Bank T2 Bank

Figure 5: Kanata MTS MW and MVAr Flow in 2018-2019

## 6.3. Load Type / Mix and Customer Class

Figure 6 depicts the metrics for service transformers on banks T1 and T2 on the Kanata MTS. The first plot shows the distribution of service transformers by kVA ratings across the different feeders. The second plot shows the percentage of overhead and underground sections.

The third plot shows the distribution of service transformers by phase (A, B, C, ABC) and the final plot shows the feeder length and the number of service transformers per feeder. It is seen that for T1 most sections are underground (~95%) while for T2 the majority is overhead (~60%). Further, a load report is run in CYME to obtain the type (residential, commercial, industrial etc.) and the combined connected kVA ratings of the service transformers is used to calculate the ratio of commercial and industrial load to residential load. Kanata MTS is found to have a high ratio of C&I customers as compared to Residential customers (Ratio C&I: Residential 2.22 for T1 and 2.48 for T2).




T1 Bank T2 Bank

Figure 6: Kanata's Service Transformer Metrics

Hydro Ottawa shared with Sentient Energy the billing data of August 2019 to give a rough snapshot of the consumption/demand in the Kanata MTS area. The account match represents **87%** of residential customers, **88%** of small commercial customers (<50kW) and **90% of** small & large customers (General Service >50 to 1,599kW).

- Number of customers serviced in Kanata:
  - ✓ Residential - **5,330**
  - ✓ Small Commercial <50kW - **263**
  - ✓ Commercial - **85**
- Total kWh consumed per rate class based on the accounts match (see above):
  - ✓ Residential - **3,904,088** kWh (**17**%)
  - ✓ Small Commercial <50kW - **915,915** kWh (**4**%)
  - ✓ Commercial - **17,819,987** kWh (**79**%)
- Total kW when applicable per rate class
  - ✓ Commercial Demand - **31,183 kW** (Represents **43** Commercial Customers)

Based on the above data, **22,639,990** kWh have been billed to those customers. Considering a technical loss of **3.27%**, **23,405,222** kWh have been purchased by Hydro Ottawa (to be compared with **24,662,112** kWh reported by the SCADA system).

Therefore, Sentient Energy scaled the billing data of August 2019 per customer class to match 1-year of SCADA data (from June 2019 to May 2020 = **278,404** MWh) and 100% of the customer consumption/demand:

- Residential Customers
  - ✓ **5,926** customers (vs. 5,330)
  - ✓ **4,340,287** kWh in Aug 2019 (vs. 3,904,088 kWh)
  - ✓ Average monthly load of **786** kWh over 12-months (**732** kWh considering Aug 2019)
  - ✓ Average monthly electrical bill of $**120.32** over 12-months with Ontario Electricity Rebate and HST ($**114.01** considering Aug 2019)

**Table 17: Monthly Electrical Bill of Residential Customers**

| | Consumption @ 4340287 kWh | | |
|---|---|---|---|
| **Charge Description** | **kWh** | **Rates** | **Customer Charge** |
| Smart Metering Entity Charge | | $0.57 | $3,377.82 |
| Monthly Service Charge | | $29.32 | $173,750.32 |
| Distribution Volumetric Rate | 4,340,287 | $0.0000 | $0.00 |
| Low Voltage Charges | 4,486,989 | $0.00005 | $224.35 |
| Adjusted Consumption | 146,702 | | |
| *Off-Peak* | 93,889 | $0.085 | $7,980.57 |
| *Mid-Peak* | 26,406 | $0.119 | $3,142.35 |
| *On-Peak* | 26,406 | $0.176 | $4,647.51 |
| Network Charge | 4,486,989 | $0.0081 | $36,344.61 |
| Connection Charge | 4,486,989 | $0.0050 | $22,434.94 |
| Electricity Charge | 4,340,287 | | |
| *Off-Peak* | 2,777,784 | $0.085 | $236,111.60 |
| *Mid-Peak* | 781,252 | $0.119 | $92,968.94 |
| *On-Peak* | 781,252 | $0.176 | $137,500.29 |
| Wholesale Market Service Rate | 4,486,989 | $0.0030 | $13,460.97 |
| Capacity Based Recovery | 4,486,989 | $0.0004 | $1,794.80 |
| Rural Rate Protection Charge | 4,486,989 | $0.0005 | $2,243.49 |
| Standard Supply Service Charge | | $0.25 | $0.25 |
| Total Loss Factor | | 1.0338 | |
| Total before HST & Rebate | | | **$735,982.81** |
| Ontario Electricity Rebate | | 21.2% | $156,028.36 |
| Total before HST with Rebate | | | **$579,954.45** |
| HST 13% | | 13% | $95,677.77 |
| Total with HST | | | **$675,632.22** |

Table 18: Annual Electrical Bill of Residential Customers

| | Consumption @ 55880027 kWh | | |
|---|---|---|---|
| **Charge Description** | **kWh** | **Rates** | **Customer Charge** |
| Smart Metering Entity Charge | | $0.57 | $40,533.84 |
| Monthly Service Charge | | $29.32 | $2,085,003.84 |
| Distribution Volumetric Rate | 55,880,027 | $0.0000 | $0.00 |
| Low Voltage Charges | 57,768,772 | $0.00005 | $2,888.44 |
| Adjusted Consumption | 1,888,745 | | |
| *Off-Peak* | 1,208,797 | $0.085 | $102,747.72 |
| *Mid-Peak* | 339,974 | $0.119 | $40,456.92 |
| *On-Peak* | 339,974 | $0.176 | $59,835.44 |
| Network Charge | 57,768,772 | $0.0081 | $467,927.05 |
| Connection Charge | 57,768,772 | $0.0050 | $288,843.86 |
| Electricity Charge | 55,880,027 | | |
| *Off-Peak* | 35,763,217 | $0.085 | $3,039,873.47 |
| *Mid-Peak* | 10,058,405 | $0.119 | $1,196,950.18 |
| *On-Peak* | 10,058,405 | $0.176 | $1,770,279.25 |
| Wholesale Market Service Rate | 57,768,772 | $0.0030 | $173,306.32 |
| Capacity Based Recovery | 57,768,772 | $0.0004 | $23,107.51 |
| Rural Rate Protection Charge | 57,768,772 | $0.0005 | $28,884.39 |
| Standard Supply Service Charge | | $0.25 | $3.00 |
| Total Loss Factor | | 1.0338 | |
| Total before HST & Rebate | | | **$9,320,641.22** |
| Ontario Electricity Rebate | | 21.2% | $1,975,975.94 |
| Total before HST with Rebate | | | **$7,344,665.28** |
| HST 13% | | 13% | $1,211,683.36 |
| Total with HST/Rebate | | | **$8,556,348.64** |

- ✓ Annual Purchased Energy: **57,768,772** kWh
- ✓ Annual Billed Energy: **55,880,027** kWh
- ✓ Peak Load: **9,380** kW (July 2019)
- ✓ CVR factor for Energy: **0.81 (average) + 0.74 (July 2019)**
- ✓ CVR factor for Power: **0.85 (average) + 0.80 (July 2019)**

- Small and Medium General Service < 50 kW
  - ✓ **289** customers (vs. 263)
  - ✓ **1,005,395** kWh in Aug 2019 (vs. 915,915 kWh)
  - ✓ Average monthly load of **3,165** kWh over 12-months (**3,479** kWh considering Aug 2019)
  - ✓ Average monthly electrical bill of $**499.65** over 12-months with Ontario Electricity Rebate and HST ($**509.32** considering Aug 2019)

**Table 19: Monthly Electrical Bill of Small Commercial Customers (<50kW)**

| **Small and Medium General Service < 50 kW** | **Consumption @ 1005395.1701427 kWh**<br>**Demand (on peak): 6 kW or 6.7 kVA** | | |
|---|---|---|---|
| | **Voltage < 5 kV** | | |
| Charge Description | **kWh** | Rates | Customer Charge |
| Smart Metering Entity Charge | | $0.57 | $164.73 |
| Monthly Service Charge | | $19.7600 | $5,710.64 |
| Distribution Volumetric Rate | 1,005,395 | $0.02560 | $25,738.12 |
| Low Voltage Charges | 1,039,378 | $0.00005 | $51.97 |
| *Adjusted Consumption* | 33,982 | | |
| *Off-Peak* | 21,749 | $0.085 | $1,848.64 |
| *Mid-Peak* | 6,117 | $0.119 | $727.90 |
| On-Peak | 6,117 | $0.1760 | $1,076.56 |
| Network Charge | 1,039,378 | $0.0076 | $7,899.27 |
| Connection Charge | 1,039,378 | $0.00480 | $4,989.01 |
| *Electricity Charge* | 1,005,395 | | |
| *Off-Peak* | 643,453 | $0.085 | $54,693.50 |
| *Mid-Peak* | 180,971 | $0.119 | $21,535.56 |
| On-Peak | 180,971 | $0.1760 | $31,850.92 |
| Wholesale Market Service Rate | 1,039,378 | $0.0030 | $3,118.13 |
| Capacity Based Recovery | 1,039,378 | $0.0004 | $415.75 |
| Rural Rate Protection Charge | 1,039,378 | $0.00 | $519.69 |
| Standard Supply Service Charge | | 0.2500 | $0.25 |
| Total Loss Factor | | 1.0338 | |
| Total before HST & Rebate | | | **$160,340.64** |
| Ontario Electricity Rebate* | | 21% | $33,992.22 |
| Total before HST with Rebate | | | **$126,348.43** |
| HST 13% | | $0.1300 | $20,844.28 |
| Total with HST | | | **$147,192.71** |

**Table 20: Annual Electrical Bill of Small Commercial Customers (<50kW)**

| **Small and Medium General Service < 50 kW** | **Consumption @ 12118560.069646 kWh**<br>**Demand (on peak): 6 kW or 6.7 kVA** | | |
|---|---|---|---|
| | **Voltage < 5 kV** | | |
| Charge Description | **kWh** | Rates | Customer Charge |
| Smart Metering Entity Charge | | $0.57 | $1,976.76 |
| Monthly Service Charge | | $19.7600 | $68,527.68 |
| Distribution Volumetric Rate | 12,118,560 | $0.02560 | $310,235.14 |
| Low Voltage Charges | 12,528,167 | $0.00005 | $626.41 |
| *Adjusted Consumption* | 409,607 | | |
| *Off-Peak* | 262,149 | $0.085 | $22,282.64 |
| *Mid-Peak* | 73,729 | $0.119 | $8,773.79 |
| On-Peak | 73,729 | $0.1760 | $12,976.36 |
| Network Charge | 12,528,167 | $0.0076 | $95,214.07 |
| Connection Charge | 12,528,167 | $0.00480 | $60,135.20 |
| *Electricity Charge* | 12,118,560 | | |
| *Off-Peak* | 7,755,878 | $0.085 | $659,249.67 |
| *Mid-Peak* | 2,181,341 | $0.119 | $259,579.56 |
| On-Peak | 2,181,341 | $0.1760 | $383,915.98 |
| Wholesale Market Service Rate | 12,528,167 | $0.0030 | $37,584.50 |
| Capacity Based Recovery | 12,528,167 | $0.0004 | $5,011.27 |
| Rural Rate Protection Charge | 12,528,167 | $0.00 | $6,264.08 |
| Standard Supply Service Charge | | 0.2500 | $3.00 |
| Total Loss Factor | | 1.0338 | |
| Total before HST & Rebate | | | **$1,932,356.11** |
| Ontario Electricity Rebate* | | 21% | $409,659.50 |
| Total before HST with Rebate | | | **$1,522,696.61** |
| HST 13% | | 13% | $251,206.29 |
| Total with HST | | | **$1,773,902.91** |

- ✓ Annual Purchased Energy: **12,528,167** kWh
- ✓ Annual Billed Energy: **12,118,560** kWh
- ✓ Peak Load: **2,154** kW (July 2019)
- ✓ CVR factor for Energy: **0.89 (average) + 0.76 (July 2019)**
- ✓ CVR factor for Power: **0.92 (average) + 0.82 (July 2019)**

- Small and Medium General Service > 100 kW
  - ✓ **91** customers (vs. 85)
  - ✓ **19,819,583** kWh in Aug 2019 (vs. 17,819,987 kWh)
  - ✓ Average monthly load of **3,191,695** kWh over 12-months (**210,677** kWh considering Aug 2019)
  - ✓ Average monthly electrical bill of $**29,022.20** over 12-months with Ontario Electricity Rebate and HST ($**30,895.31** considering Aug 2019)

**Table 21: Monthly Electrical Bill of Small & Large Commercial Customers (>50kW to 1,599kW)**

| Small and Medium General Service 50 to 1,499 kW | Consumption @ 19171583.6471221 kWh | | |
|---|---|---|---|
| | Demand (on peak): 100 kW or 111 kVA | | |
| | Voltage < 5 kV | | |
| **Charge Description** | **Usage** | **Rates** | **Customer Charge** |
| Monthly Service Charge | | $200.00 | $18,200.00 |
| Distribution Volumetric Rate | 35,983 | $5.2905 | $190,368.06 |
| Low Voltage Charges | 35,983 | $0.01964 | $706.71 |
| Network Charge | 35,983 | $3.1059 | $111,759.60 |
| Connection Charge | 35,983 | $1.9644 | $70,685.01 |
| Electricity Charge | 19,819,583 | $0.01825 | $361,707.39 |
| Global Adjustment | 19,819,583 | $0.11261 | $2,231,883.26 |
| Wholesale Market Service Rate | 19,819,583 | $0.0030 | $59,458.75 |
| Capacity Based Recovery | 19,819,583 | $0.0004 | $7,927.83 |
| Rural Rate Protection Charge | 19,819,583 | $0.0005 | $9,909.79 |
| Standard Supply Service Charge | | $0.25 | $0.25 |
| Total Loss Factor | | 1.0338 | |
| Total before HST & Rebate | | | **$3,062,606.65** |
| Ontario Electricity Rebate* | | 21.2% | $649,272.61 |
| Total before HST with Rebate | | | **$2,413,334.04** |
| HST 13% | | 13% | $398,138.86 |
| Total with HST | | | **$2,811,472.91** |

**Table 22: Annual Electrical Bill of Small & Large Commercial Customers (>50kW to 1,599kW)**

| Small and Medium General Service 50 to 1,499 kW | Consumption @ 201302747.823564 kWh | | |
|---|---|---|---|
| | Demand (on peak): 100 kW or 111 kVA | | |
| | Voltage < 5 kV | | |
| **Charge Description** | **Usage** | **Rates** | **Customer Charge** |
| Monthly Service Charge | | $200.00 | $218,400.00 |
| Distribution Volumetric Rate | 41,278 | $5.2905 | $2,620,580.77 |
| Low Voltage Charges | 41,278 | $0.01964 | $9,728.42 |
| Network Charge | 41,278 | $3.1059 | $1,538,467.41 |
| Connection Charge | 41,278 | $1.9644 | $973,040.14 |
| Electricity Charge | 208,106,781 | $0.01825 | $3,797,948.75 |
| Global Adjustment | 208,106,781 | $0.11261 | $23,434,904.57 |
| Wholesale Market Service Rate | 208,106,781 | $0.0030 | $624,320.34 |
| Capacity Based Recovery | 208,106,781 | $0.0004 | $83,242.71 |
| Rural Rate Protection Charge | 208,106,781 | $0.0005 | $104,053.39 |
| Standard Supply Service Charge | | $0.25 | $3.00 |
| Total Loss Factor | | 1.0338 | |
| Total before HST & Rebate | | | **$33,404,689.51** |
| Ontario Electricity Rebate* | | 21.2% | $7,081,794.18 |
| Total before HST with Rebate | | | **$26,322,895.33** |
| HST 13% | | 13% | $4,342,609.64 |
| Total with HST | | | **$30,665,504.97** |

- ✓ Annual Purchased Energy: **208,106,781** kWh
- ✓ Annual Billed Energy: **208,106,781** kWh
- ✓ Peak Load: **41,278** kW (July 2019)
- ✓ Average Peak Load: **30,982** kW

- ✓ CVR factor for Energy: **0.55 (average) + 0.43 (July 2019)**
- ✓ CVR factor for Power: **0.56 (Summer) + 0.44 (July 2019)**

## 6.4. GEMS+ENGO Deployment

An initial analysis was performed by Sentient Energy based on the CYME models provided for both T1 and T2. The results of this analysis for T1 showed that a deployment of 3 Pole-ENGO units for visibility was sufficient. While, for T2 there was a need to deploy 40 Pole-ENGO units to achieve maximum incremental voltage improvement.

A plot Figure 7 shows the voltage profile at the secondary side of the service transformer comparing voltages without and with ENGO deployment on Kanata T2 under peak load. The voltage improvement achieved with 40 Pole-ENGO devices at the optimal locations is 5.4V (4.5%). The final list of ENGO deployment is shown in Appendix. Also, the deployment map of ENGO devices on the CYME model is shown in Figure 8.

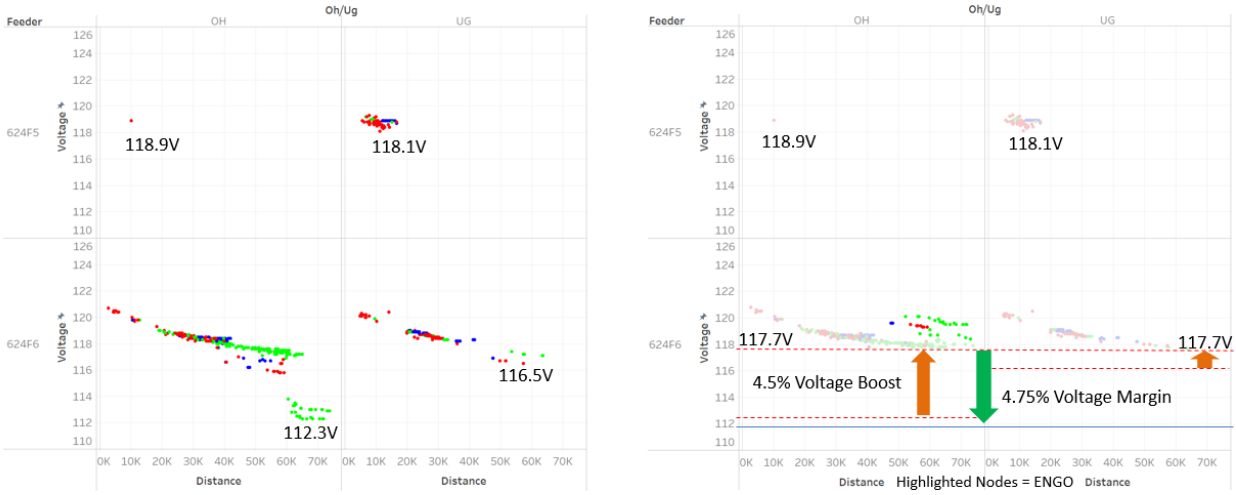



**Figure 7: Initial analysis performed prior to contract signature to find the estimated number of ENGO devices and their locations in Kanata MTS**

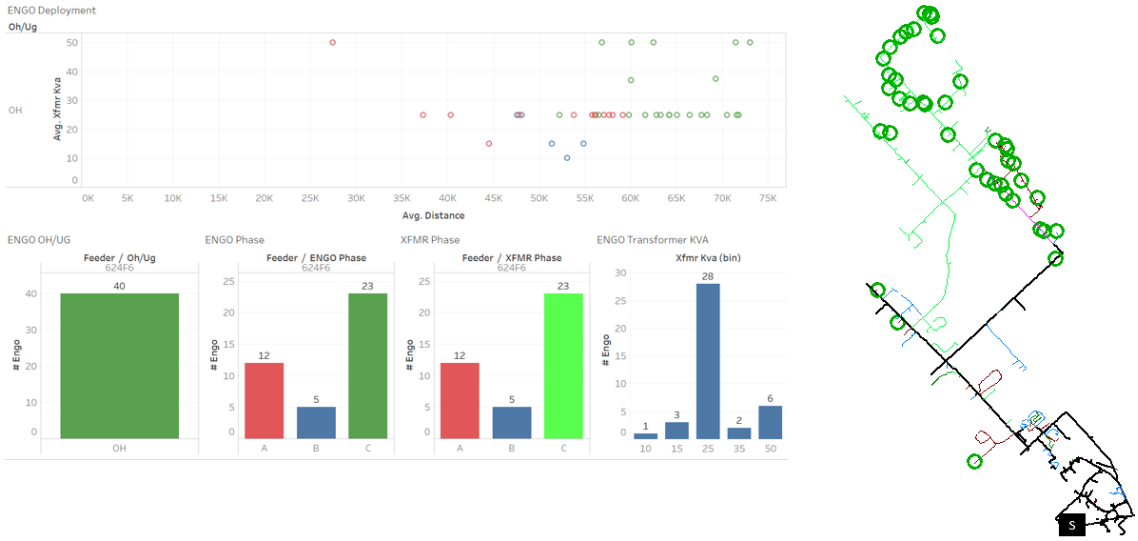



**Figure 8: The final ENGO locations on a one-line diagram of feeders connected to bank T2 as per the initial analysis performed**

However, due to practical constraints several pole locations identified in the initial study were not feasible for deployment. Therefore, a re-analysis was performed where Sentient Energy provided a priority list of alternative ENGO locations with the assumption that the overall voltage improvement would reduce. For this analysis, Sentient Energy relied on AMI data that was shared post the first analysis. A priority list of units based on the AMI analysis is shown in the Appendix. Hydro Ottawa chose the alternative locations from this list based on feasible pole locations. Sentient Energy also recommended some transformer upgrades that would help boost the system performance.

The final voltage profile with the alternative locations is shown in Figure 9. The voltage improvement without and with ENGO deployment as per CYME model analysis is also provided. As expected, the voltage improvement reduces due to the locations chosen as alternatives and the fact that not all are at the optimal locations. However, a healthy 3.1V (2.6%) improvement is still achieved with the 40 Pole-ENGO devices. The ENGO deployment locations on the CYME model is shown in Figure 10.

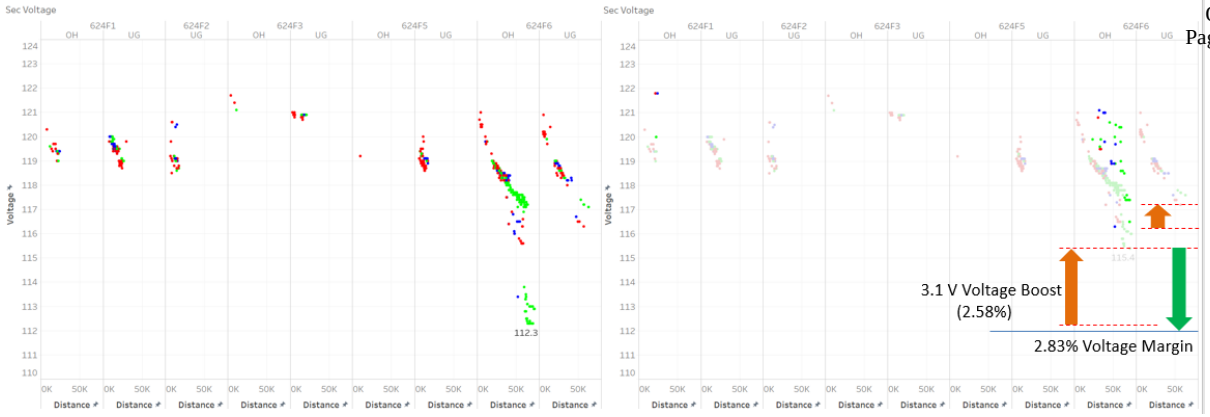



**Figure 9: Analysis performed after Hydro Ottawa completed the pole survey. As several locations from the initial analysis were infeasible for deployment, a list of alternative locations was generated using AMI data. The voltage improvement estimates were found using CYME for the final locations.**

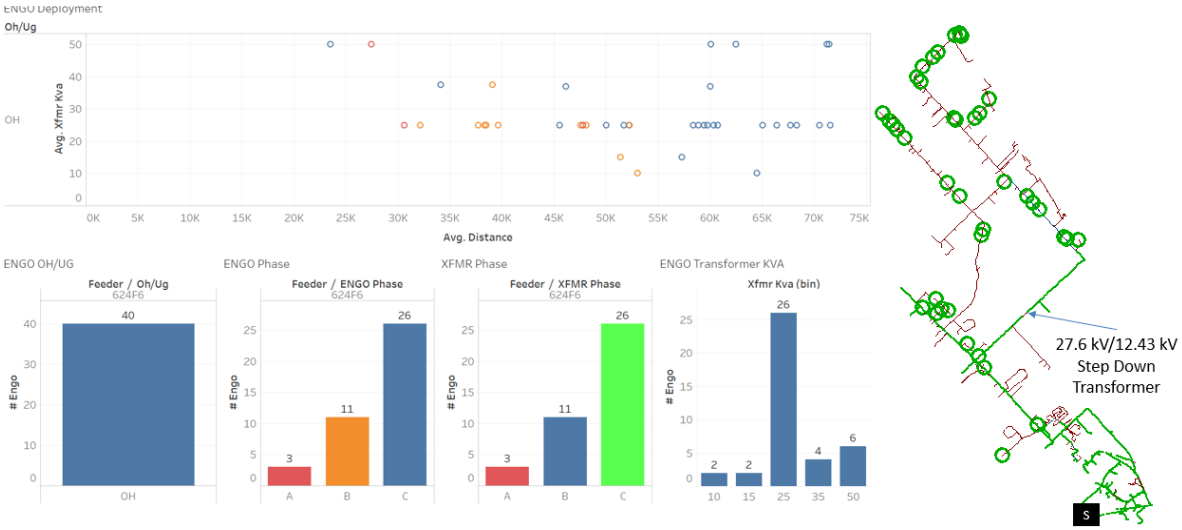



**Figure 10: The final ENGO locations on a one-line diagram of feeders connected to bank T2 as per the final analysis performed**

The installation of 43 ENGO units was completed on 4th May 2020 and the GEMS software was also commissioned and operational since 10th February 2020.

Table 23 below summarizes ENGO unit deployment by phase:

**Table 23: Summary of Kanata ENGO Unit Deployment**

| | Kanata T1 | | | Kanata T2 | | Total by Phase |
|---|---|---|---|---|---|---|
| **Feeder** | **624F1** | **624F2** | **624F3** | **624F5** | **624F6** | |
| **Phase A** | 1 | 0 | 0 | 0 | 3 | **4** |
| **Phase B** | 1 | 0 | 0 | 0 | 11 | **12** |
| **Phase C** | 1 | 0 | 0 | 0 | 26 | **27** |
| **Feeder Total** | 3 | 0 | 0 | 0 | 40 | **43** |

# 7. ENGO EM&V Test Plan

The test plan and the project timeline are shown in Table 24. It is followed by brief definitions of each type of testing.

Table 24: Testing Schedule

| Project Segment | Objectives | Duration | Date Range |
|---|---|---|---|
| Kanata MTS Testing | | | |
| • ENGO Install & Monitoring | Baseline Monitoring | 6 Weeks | April/May 2020 |
| • ENGO On/Off Testing | Core Metrics | 2 Weeks | May/June 2020 |
| • CVR Capacity Reduction Testing | Capacity Reduction (2.5%) | 6 Weeks | July/Aug 2020 |
| • CVR Capacity Reduction Testing | Capacity Reduction (5%) | 2 Weeks | Sept 2020 |
| • Energy Savings Testing | Energy Saving | 6 Weeks | Nov/Dec 2020 |

## 7.1. Test Procedure 1 – ENGO DAY ON/OFF Test:

In this test procedure, all ENGO devices are turned ON and OFF on alternate days. During the DAY ON/OFF test, the FHR Set-Point is fixed. The Day ON/OFF testing demonstrates the benefits to improve voltage margin and grid edge voltage support provided by ENGO units. In general, 20 days daily toggling of ENGO unit VAR injection helps us measure:

- **Voltage Control Margin**: Percentage voltage control available without and with ENGO
- **Voltage Improvement**: Percentage voltage boost that is provided by ENGO devices at the weakest location on the system

## 7.2. Test Procedure 2 – Peak Demand Reduction Testing

In this test, the LTC setpoint is switched between nominal setpoint and CVR setpoint during the peak load hours on alternate days. The ENGO setpoint is adjusted to match the LTC setpoint. This test measures:

- **Maximum Voltage Reduction**: maximum voltage reduction with ENGO without causing any CSA violations
- **CVR Factor for Power**: Based on the voltage transitions measured whenever the LTC setpoint is toggled from nominal to CVR setpoint, the CVR factor for power can be measured.
- **Demand Reduction**: Using the measured CVR factor and the voltage reduction measured in the field, the demand reduction can be computed for the test duration.
- **Technical Loss Reduction**: As a result of reducing the voltage across the entire feeder, the transformers are energized with lower voltage which tends to reduce the core losses on the transformer. This reduction in core losses can be estimated during this test. Further, there is a general power factor improvement that leads to lower line and transformer copper losses.

## 7.3. Test Procedure 3 – Energy Savings Testing

In this test, the LTC setpoint is switched between nominal setpoint and CVR setpoint (24-hour intervals) on alternate days. The ENGO setpoint is adjusted to match the LTC setpoint. This test measures:

- **Maximum Voltage Reduction**: maximum voltage reduction with ENGO without causing any CSA violations
- **CVR Factor for Energy**: Based on the voltage transitions measured whenever the LTC setpoint is toggled from nominal to CVR setpoint, the CVR factor for energy can be measured.
- **Reduction in Energy Consumption**: Using the measured CVR factor and the voltage reduction measured in the field, the energy savings can be computed for the test duration.
- **Technical Loss Reduction**: As a result of reducing the voltage across the entire feeder, the transformers are energized with lower voltage which tends to reduce the core losses on the transformer. Further, there is a general power factor improvement that leads to lower line and transformer copper losses.
- **Environmental Benefits**: Annual CO2 emission reduction can be estimated using the energy saved metrics.
- The Energy Savings Test will continue over the months of November and December 2020 and the $CVR_{f\ Energy}$ will be calculated. This report contains the MWh Energy Saving and Environmental Benefit metrics using the CVR factor for power which was calculated as part of the capacity reduction test.

# 8. EM&V Test Metrics

## 8.1. Impact of System Upgrades and ENGO Voltage Improvement

Hydro Ottawa upgraded the rating of an overloaded transformer (X07487) recommended by Sentient Energy. This led to a significant voltage improvement in the system. Further, ENGOs provided a voltage improvement on top of the improvement obtained from the system upgrade. The proof of this improvement is shown in Figure 11: GEMS plot shows voltage improvement as a result of the transformer upgrade and ENGO devices deployed in the field from an initial low voltage of 104.6V to a final minimum voltage of 114.9V. It can be seen that prior to May 6th, 2020, the minimum voltage recorded by ENGOs is 104.6V. Around May 7th the limiting transformer was replaced with an upgraded bank and the ENGO units were in the auto-toggle ON/OFF schedule, therefore on May 9th, 2020, the minimum voltage recorded a jump up to 114.9V. Therefore, the overall effect of Sentient Energy recommended system upgrades and ENGO devices in the system allowed an effective voltage increase from 104.6V to 114.6V (8.3%) – demonstrating no CSA violations.

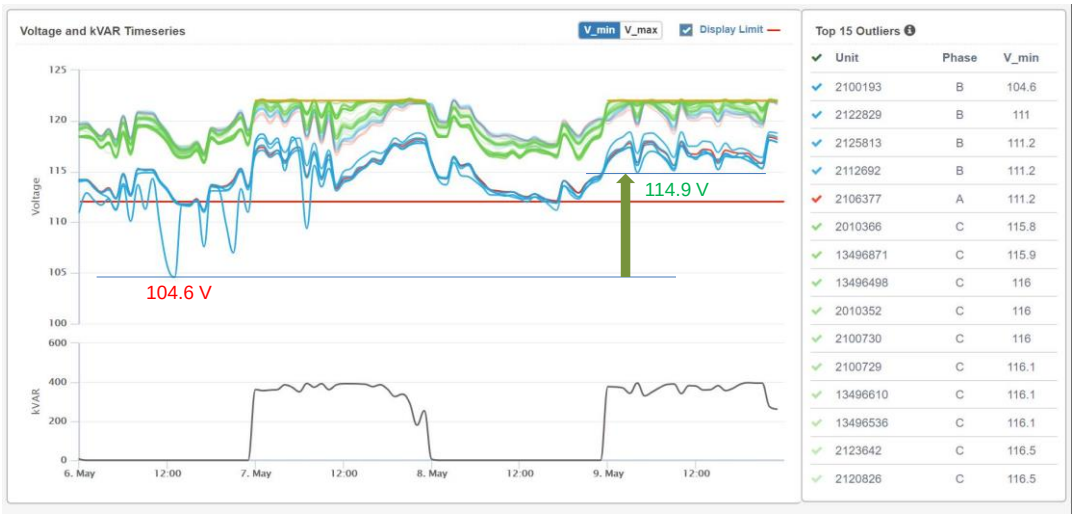



**Figure 11: GEMS plot shows voltage improvement as a result of the transformer upgrade and ENGO devices deployed in the field from an initial low voltage of 104.6V to a final minimum voltage of 114.9V**

Based off the success of system upgrades combined with ENGO voltage support, a study was conducted to identify outliers that would enable performing a 5% reduction at the LTC. Five transformers are selected for tap setting changes (X07491, X07487) and connected kVA rating upgrades (X07484, X50916, X07508). These enhancements were incorporated over the months of July and August boosting the available voltage margin for load reduction and energy savings. The minimum voltage recorded jumps up to 118V+ providing a 6V-7V margin for CVR (CSA voltage threshold of 111V-112V at the distribution transformer).

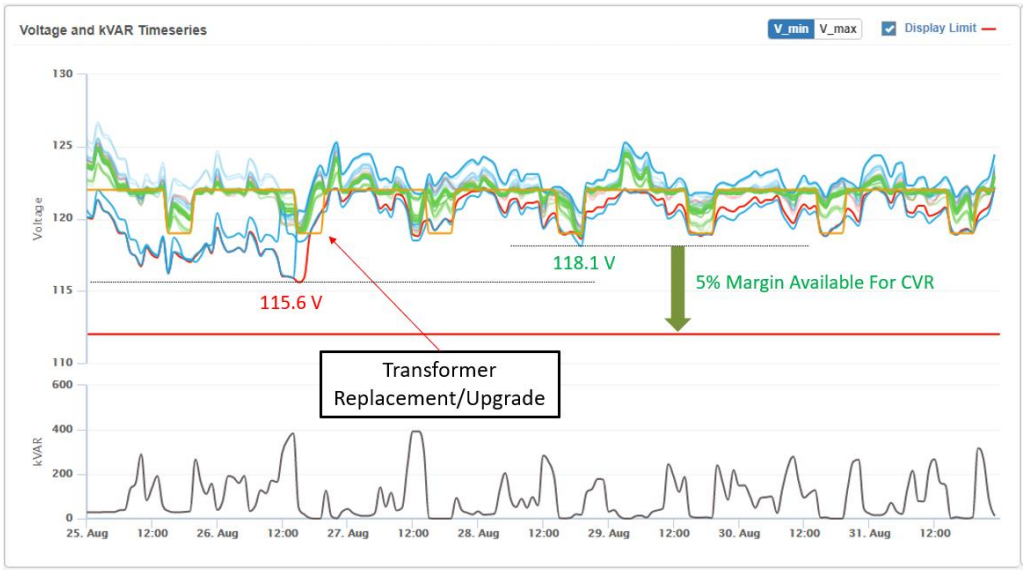
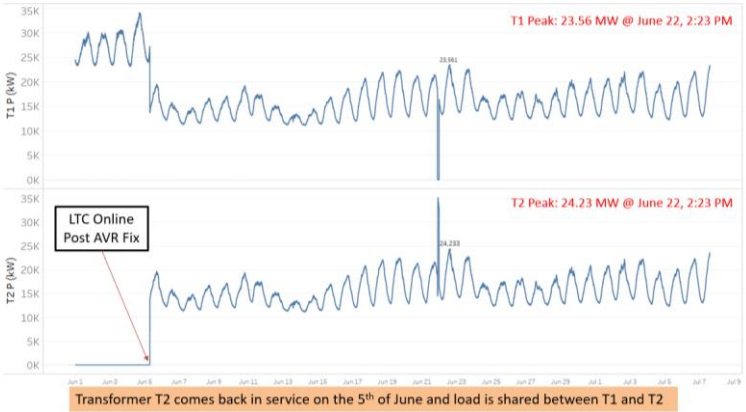



**Figure 12: GEMS plot shows voltage improvement as a result of the transformer upgrade and ENGO devices deployed in the field boosting voltage to a final minimum of 118.1V**

## 8.2. ENGO ON/OFF Testing Result

### 8.2.1. Substation Loading and Voltage Profile

The loading at Kanata MTS for both the transformer banks T1 and T2 is shown in Figure 13. It can be seen that the AVR was fixed around June 5th, 2020 and bank T2 was brought online and the load was shared between T1 and T2. Further, if we look at Figure 14 which shows the voltage per phase at the substation, it is seen that prior to June 5th in the absence of regulation the swing in substation voltage was large (~117V to ~126V) and the average substation voltage was around 122V. After the AVR fix, the voltage is much more controlled and swings within the bandwidth of the AVR. Also, the average voltage is around 124V after the AVR fix.




Transformer T2 comes back in service on the 5th of June and load is shared between T1 and T2

**Figure 13: Substation MW loading on both banks T1 and T2 shows that the AVR was fixed around June 5th consequently the power is shared between the two banks**

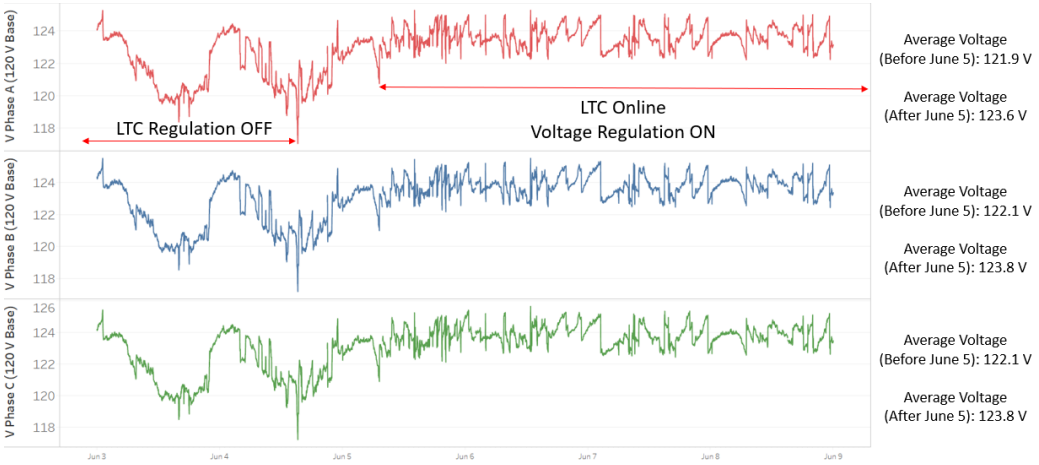



**Figure 14: Data per phase voltage indicates that after the AVR fix the voltage are well regulated with an average voltage of ~124V**

### 8.2.2. Voltage Improvement Due to ENGO Units

The ENGO ON/OFF test was conducted for 20 days (from 6/8/2020 to 7/3/2020) the ENGO units were deployed. Subsequently, voltage measurement and analysis of installed ENGO nodes was completed. The minimum voltage recorded when ENGO devices are OFF is 110.6V at a peak load of 22.8 MW (T2), while the minimum voltage recorded when ENGO devices are ON is 113.7V at 24.2MW (T2). The overall voltage improvement is ***3.1V during peak load of 24.2MW***. *Please note that this is a minimum voltage improvement as if the loading on ENGO OFF days was the same as ENGO ON days (which was not the case as the peak load during ENGO OFF days was 22.8MW while during ENGO ON days was 24.2MW), then the voltage on ENGO OFF days would have been even lower giving us a higher voltage improvement value.*

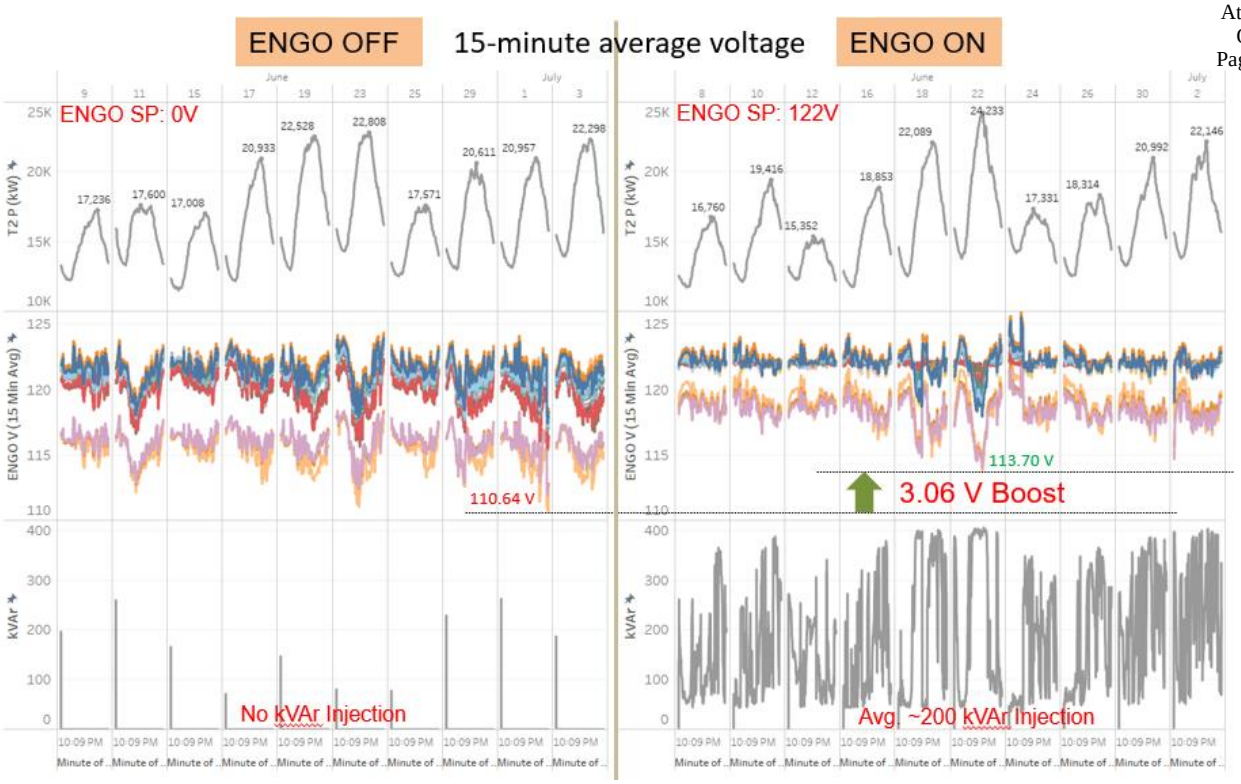



Figure 15: ENGO voltage time series data during ON/OFF testing along with circuit loading condition

Deployed ENGOs help improve the power factor at the substation from 0.9478 to 0.9503 and help reduce the line losses by 0.53%.

Another way of representing the time series plot comparison between ENGO OFF and ENGO ON days is through a voltage versus distance profile where the voltage is the minimum voltage observed over the entire duration. This voltage profile is shown in Figure 16. If we take a 2V drop (conservative value) along the secondary line from the service transformer to the service entrance, then during ENGO OFF days under peak load, the CSA limit is violated. However, with ENGOs ON, no CSA violations are seen and in fact a voltage margin for voltage reduction is observed. ***This shows that voltage reduction on Kanata MTS is not possible without ENGO***.

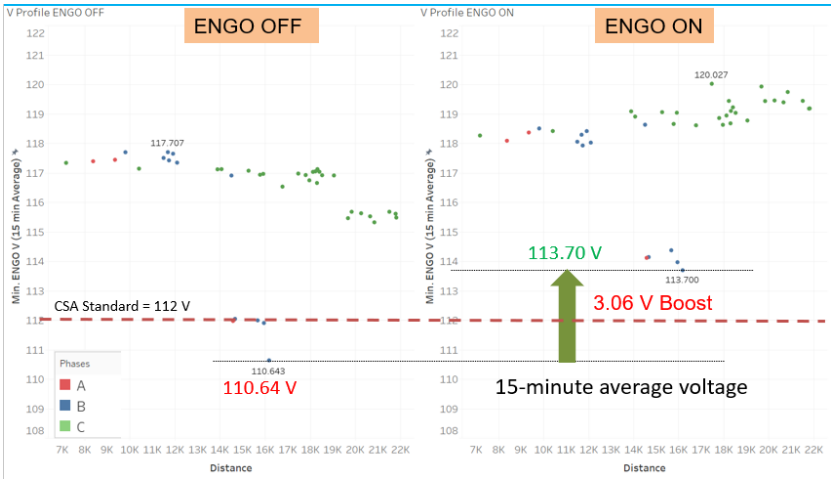



Figure 16: ENGO voltage profile as a function of distance during ON/OFF testing

The values computed for voltage improvement from ENGO is nearly the same as that obtained from the final CYME analysis. But please note that as per initial CYME analysis, the lowest recorded voltage at peak of 20.4 MW (T2) was supposed to be 115.7V while that obtained from the field at a peak of 24.2MW is 113.7V. Hence, there is a gap or error between the analysis performed in CYME and that obtained from field that needs to be accounted for and has been performed in the section on *System Error Calculation.*

### 8.2.3. Voltage Margin Curve

In order to estimate voltage margin, demand reduction and system error calculation at Kanata, a curve between %Voltage Margin and substation MW was created using field measurements collected during the ON/OFF testing. This curve was created for ENGO ON days to compare with the CYME based curve. Please note that to compute the voltage margin, a difference of minimum voltage and 112V was computed and converted to a percentage value.

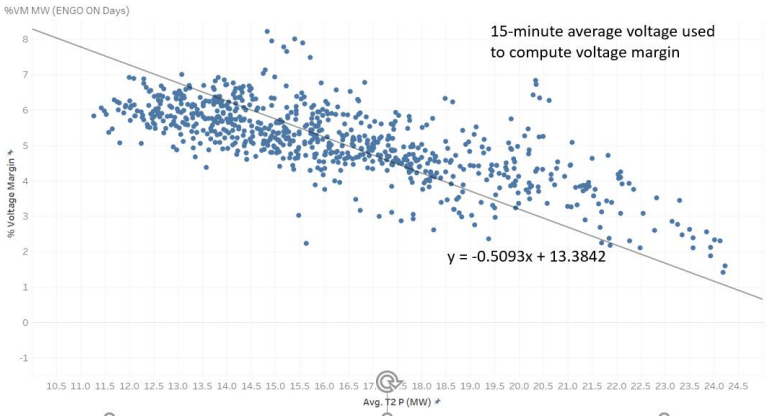



Figure 17: A Curve between Voltage Margin and Substation MW with ENGO ON

# 9. System Error Calculation as per Contract

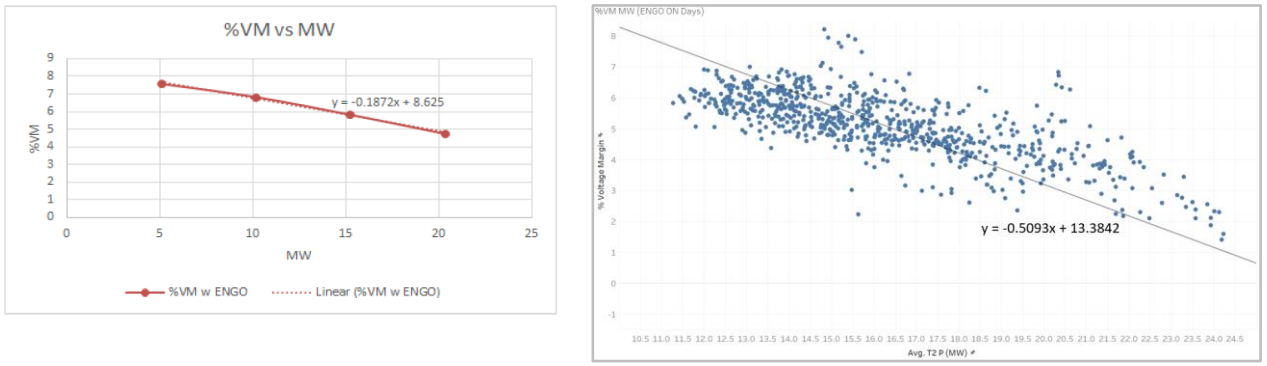
Generally, engineering analysis performed using software such as CYME may have errors and the results obtained may differ from what is observed in reality in the field. These errors arise as the model may not accurately represent the field data.

A performance-based incentive/penalty structure has been proposed as part of the contract which is based on the voltage reductions achieved at the ENGO locations at Kanata T2. Due to the existing healthy voltage margin, no penalty/incentive structure for Kanata T1 was proposed.

System error calculation for Kanata T2 feeders (F5, F6) was proposed as part of the contract to ensure that when we compare results between CYME and field data, both are aligned together and we are able to account for the incremental value provided by the ENGO units alone.

In this section, we provide the methodology used for computing system error as per the contract. Data considered for computing the system error for the T2 circuits, is over the period of June during which ENGO ON/OFF testing took place.

The first step to finding the system error is to compare the regression model between %Voltage Margin and MW loading obtained from CYME with the same regression model obtained from the field results. These two plots are shown in Figure 18. These plots are obtained for the ENGO ON periods as ultimately, we want to analyze the impact of ENGO units alone without the system error impact.




CYME Field Data

**Figure 18: A comparison between regression model obtained from CYME and field data. Regression model is between %Voltage margin and MW loading (Kanata T2)**

The corresponding linear regression model obtained from CYME is

$$\%VM = -0.1872MW + 8.625$$

While the linear regression model obtained from field data captured over the period of June is

$$\%VM = -0.5093MW + 13.3842$$

The difference between these two linear regression models provide us with the system error as a function of MW loading. Doing this gives us the following equation for system error

$$\%SystemError = 0.3221MW - 4.7592$$

As an example of how to use this system error, consider the peak day in June that was recorded on June 22nd (ENGO ON day) with a peak of 22.4MW, the system error can be calculated for this one day as follows

$$\%SystemError = 0.3221(22.4MW) - 4.7592 = 3.05\%$$

The above calculation tells us that for June 22nd there was a system error between the CYME model-based analysis and the field data-based measurements of 3.05% and this system error needs to be considered before we can compare results from the CYME model with field results.

As per the contract, we need to consider the top 10 peak MW values recorded over the ON/OFF test duration. Considering the top 10 peak MW values, we get the results shown in Figure 19.

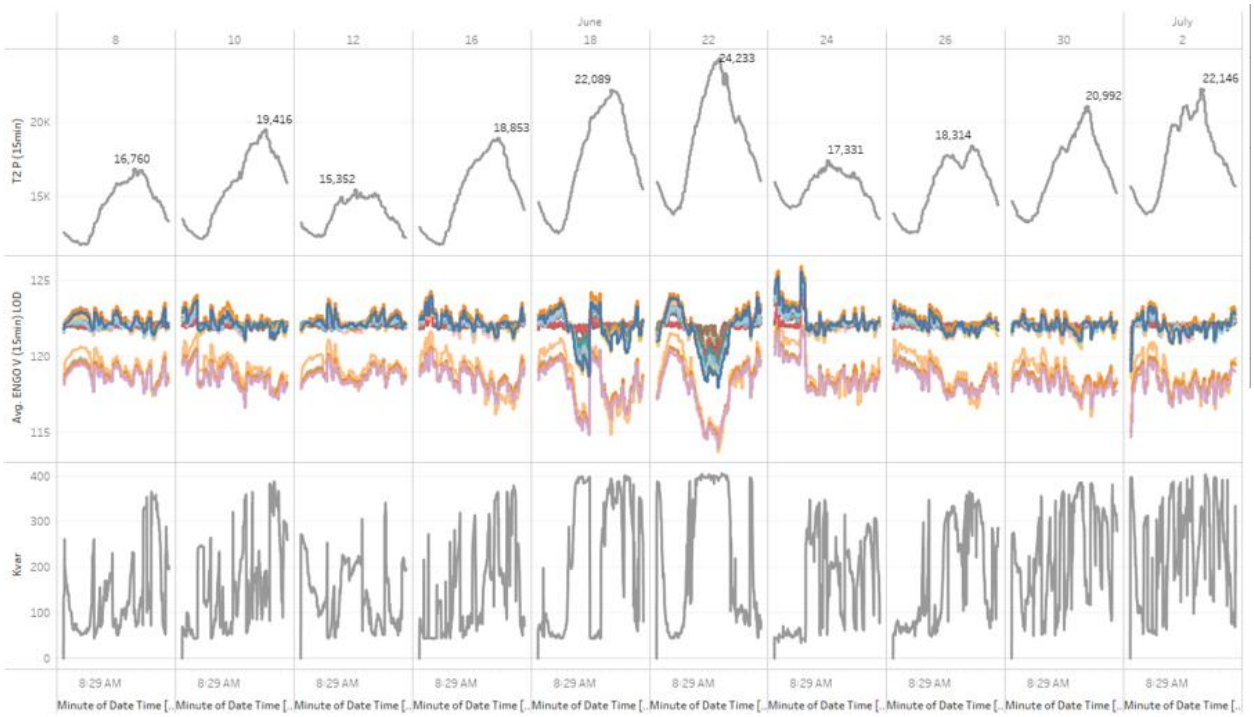



Figure 19: Ten instances of peak in June with ENGO ON captured to compute system error metrics

The Figure 19: Ten instances of peak in June with ENGO ON captured to compute system error metrics shows MW loading at the transformer bank T2 on top, the ENGO voltages in the middle

and the kVArs injected by the ENGO to support the voltage at the bottom. Using this plot, we created a table that shows the peak MW and the lowest voltage measured by the ENGO at that point in time which allowed us to then compute the corresponding system error for each sample. A total of 10 samples are collected and at the end an average of the system error and the minimum voltage measured by ENGO is computed.

**Table 25: Ten instants of peak MW captured during June with ENGO ON used to compute system error metrics**

| Peak MW Time Stamp | Peak MW Load (T2 Only) | System Error % | Min Voltage Recorded |
|---|---|---|---|
| 6/22/2020 14:30 | 24.233 | 3.05 | 113.92 |
| 6/22/2020 15:45 | 23.296 | 2.74 | 116.14 |
| 6/22/2020 16:00 | 23.126 | 2.69 | 116.22 |
| 7/2/2020 16:00 | 22.261 | 2.41 | 116.70 |
| 6/18/2020 17:00 | 22.117 | 2.36 | 116.69 |
| 6/18/2020 17:45 | 22.047 | 2.34 | 116.88 |
| 6/18/2020 18:00 | 21.904 | 2.30 | 116.06 |
| 6/18/2020 18:30 | 21.534 | 2.18 | 116.29 |
| 6/18/2020 19:00 | 21.237 | 2.08 | 117.14 |
| 6/18/2020 19:30 | 20.401 | 1.81 | 116.43 |
| **Average** | | **2.39%** | **116.24V** |

To compute the final metrics that can then be used for comparison with the Penalty structure table provided in the contract and shown below in Table 26, we do the following:

- *Using the average minimum voltage recorded on ENGO ON Days, the %VM computed = 3.53% (116.24V – 112V)*
- *Adjusting for sys_error = 3.53% + 2.39% =* ***5.92%***
- *Voltage reduction for penalty/bonus table =* ***5.92%****. This corresponds to highest bonus based on performance exceeding 110%.*

These calculations simply prove that after accounting for system error, the ENGO units perform as promised during the CYME analysis phase.

Please note that this 5.92% voltage margin is not the actual voltage margin by which the LTC can be reduced under peak. It is a metric that is used to compare results with the penalty/bonus table for convenience.

No penalty/incentive structure was proposed for Kanata Transformer T1 since we have a healthy margin available for voltage reduction and 3 pole mount ENGO devices were placed for visibility only.

**Table 26: Penalty/Bonus computation reference table obtained from the contract document. Based on the calculation for system error we provide the highest performance and get the maximum bonus**

| Min 15-min Voltage Measured by ENGO | Voltage Reduction due to ENGO (min 112V, VM% 120V base) | Weighted Achieved Performance | Total $ Due |
|---|---|---|---|
| Less than 114.4V | Less than 2% | Performance less than 50% | $138,835 - $17,544 = $121,291 |
| 114.9V - 117.1V | 2.38% - 4.28% | =50% up to 90% | $138,835 - $11,696 = $127,139 |
| 117.1V - 117.4V | 4.28% - 4.51% | =90% up to 95% | $138,835 - $5,848 = $132,987 |
| 117.4V - 118V | 4.51% - 4.99% | =95% up to 105% | $138,835 + 11,640 = $150,475 |
| 118V - 118.3V | 4.99% - 5.23% | =105% up to 110% | $138,835 + $17,460 = $156,295 |
| Greater than 118.3V | 5.23% | Performance greater than 110% | $138,835 + $23,280 = $162,115 |

# 10. Peak Demand Reduction Testing Results

In order to estimate the load reduction capacity, it is imperative to compute the CVR factor for Power. The System Entropy Method (SEM) developed by Sentient Energy uses natural variation in the substation voltage due to the LTC change and a method of aggregation that reduces the error in calculation of the CVR factor.

- SEM works as follows:
  - We compute the voltage transitions and capture the corresponding changes in power
  - In order to estimate the error present in our computation due to natural variation in power, we create a distribution of the natural variation in Power
  - Using this natural variation in Power we estimate the distribution of error in CVRf-power
  - Using an aggregation of events captured, we reduce the variance of the error distribution around the CVRf-power
  - The mean of valid events captured through all the single transitions provide the final estimate of CVRf-power and the standard deviation of the natural variation helps us compute the error band around this CVRf-power

$$Single\ Event\ CVR_{f-Power} = \frac{\left(\frac{P[i]-P[i-1]}{P[i-1]}\right)}{\left(\frac{V[i]-V[i-1]}{V[i-1]}\right)}$$

$$Estimated\ CVR_{f-power} = \frac{1}{N}\sum_{Valid} Single\ Event\ CVR_{f-Power}$$

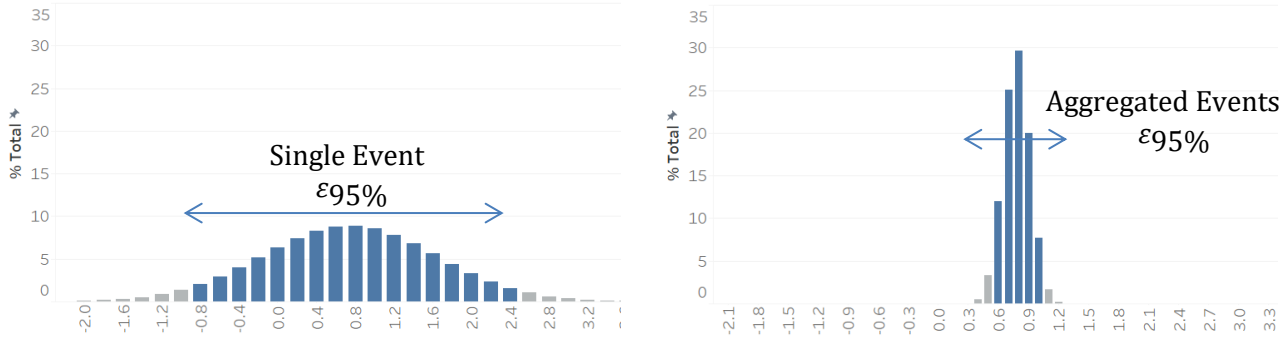



Figure 20: CVR Factor Computation for Power

Peak demand reduction tests are run over three months July (2.5% CVR), August (2.5% CVR) and September (5% CVR) and 27 events (54 transitions) are recorded to calculate an average **CVRfp of 0.52+/- 0.03** (95% confidence). Being a majority C&I customer feeder, the CVRfp is expected to be in the 0.3-0.6 range. **No CSA violations are observed (GEMS) or reported (AMI/Customer Call) during the tests.**

Applying this metric to calculate the total peak shaving on September 23rd (5% CVR Day), a 900kW reduction in load is observed.

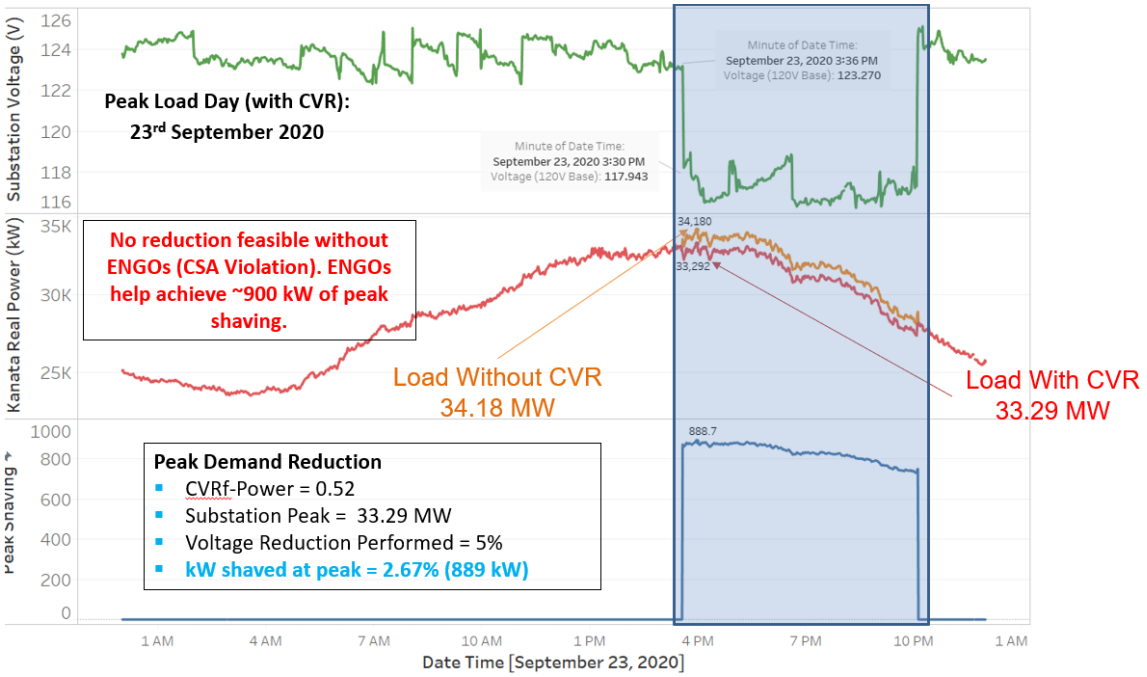
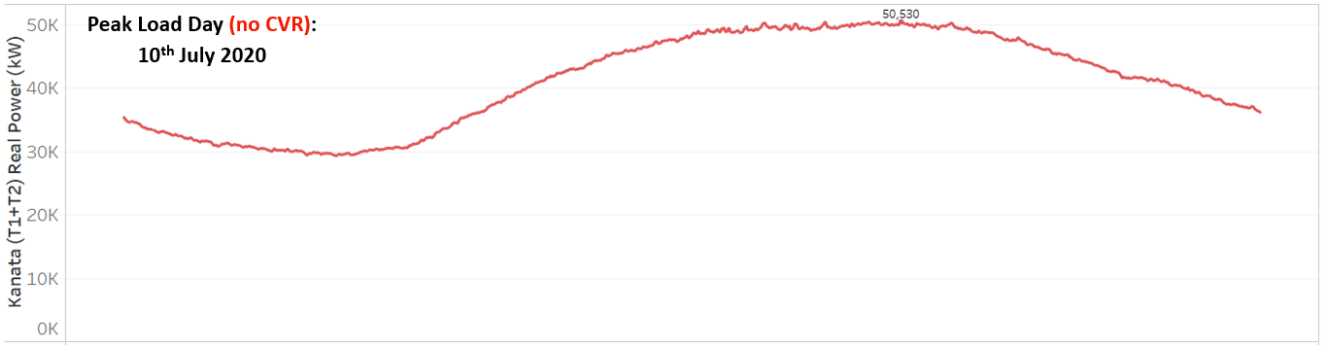



Figure 21: Peak Shaving on September 23rd, 2020 (5% CVR Day)

Similarly, applying the calculated CVRfp to the yearly peak of 50.53 MW (July 2020) a potential reduction of 1.3 MW – 1.6 MW is deemed possible.




**Peak Demand Reduction**

- CVRf-Power = 0.52
- Substation Peak (Without Reduction) = 50.53 MW
- Load Reduction Possible with **5% CVR** (if CVR was performed): 50530*0.05*0.52 = ***1314 kW (2.60%)***
- Load Reduction Possible with **6% CVR** (if CVR was performed): 50530*0.06*0.52 = ***1577 kW (3.12%)***

Figure 22: Peak Reduction Estimate by 5% and 6% CVR Day

The expected 2.6% - 3.1% peak demand reduction is a promising metric in line with the expected results from the CYME simulation proving the efficacy of Sentient Energy's ENGO solution.

# 11. Voltage Improvement Story (Voltage Visibility)

Sentient Energy performed analysis using CYME model and AMI data to provide locations for ENGO devices. While performing this analysis, Sentient Energy also recommended some transformer upgrades to ensure that the overall voltage profile of the system improves and maximum incremental voltage benefits can be obtained from the deployment. Figure 23 through Figure 28: **5% CVR – Energy Savings Test – AMI Voltage Profile** shows a storyline using AMI and GEMS voltage profile of transformer nodes with ENGOs deployed and engaged in ON mode (injecting reactive VAr for voltage support; essentially a historical trend of voltage improvement as the recommended steps were followed by Hydro Ottawa. Ultimately, as a result of these upgrade and ENGO voltage regulation, CVR reduction is made possible without any CSA violations.

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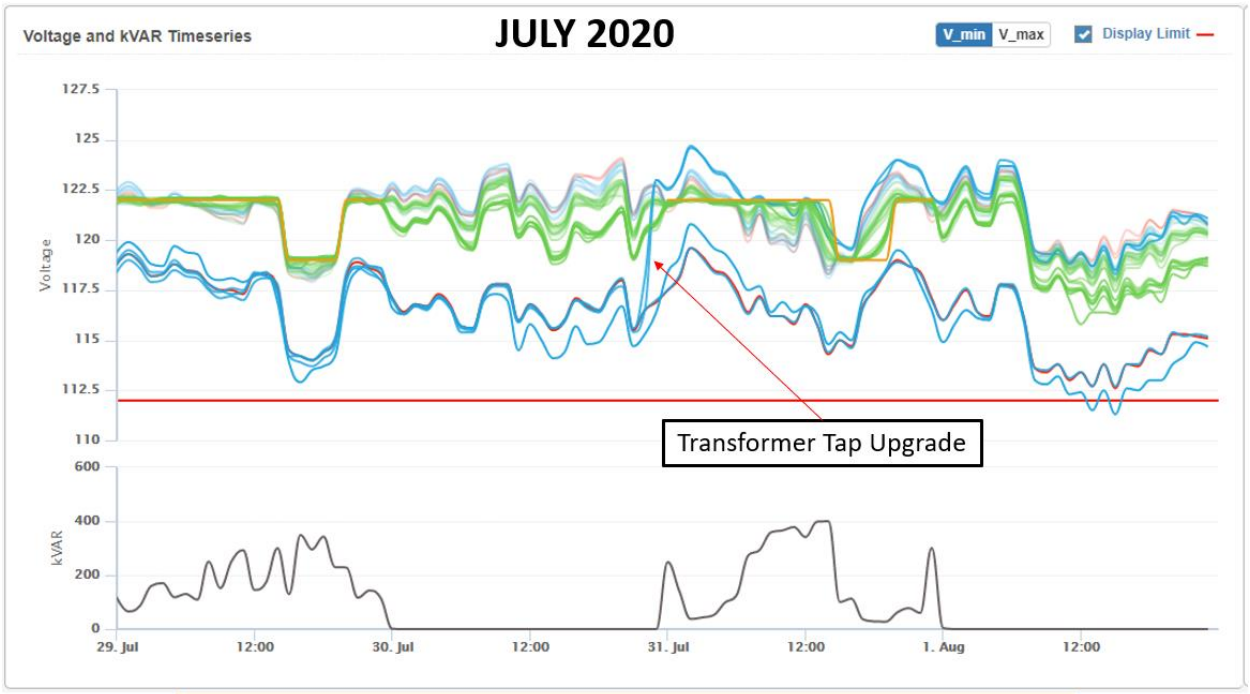
Figure 23: X07487 Transformer Replacement and ENGO ON (May-July 2020)

AMI voltage profile shown over an extended period from last year peak time to this year peak time. It is clear from this plot that after making the upgrades and adding ENGO units to the system, a CVR reduction is possible without any CSA violation which was not the case before.

**Note 11:**

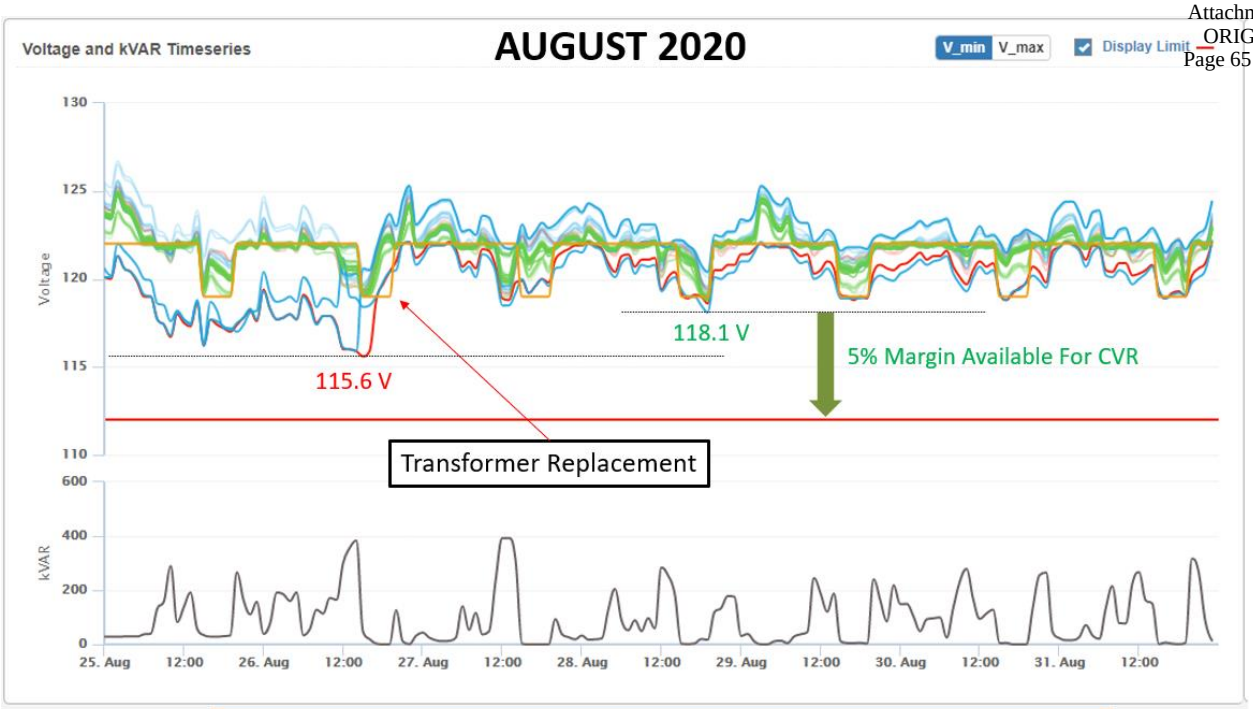
Meter [redacted] connected to Transformer X36610 is excluded for abnormal secondary voltage drop




Two transformers (X074874, X07491) were identified for tap changes resolving voltage outliers and providing margin to pursue 5% CVR

Figure 24: Limiting Voltage Transformer Upgrade (July 2020)

Figure 24: Limiting Voltage Transformer Upgrade (July 2020) shows a GEMS view of ENGO time series voltage from July 30th, 2020. Two transformers (X07487, X07491) were identified for tap upgrades resolving voltage outliers and providing margin to pursue 5% CVR. GEMS provides near real time visibility into operation of assets in the field at high data granularity.




Three transformers (X07484, X07508, X50916) were identified for replacement resolving voltage outliers and providing margin to pursue 5% CVR

**Figure 25: Limiting Voltage Transformer Replacement (August 2020)**

Figure 25: **Limiting Voltage Transformer Replacement (August 2020)** shows a GEMS view of ENGO time series voltage from August 26th, 2020. Three transformers (X07484, X07508, X50916) were identified for replacement (kVA rating upgrade) resolving voltage outliers and providing margin to pursue 5% CVR. GEMS provides near real time visibility into operation of assets in the field at high data granularity.

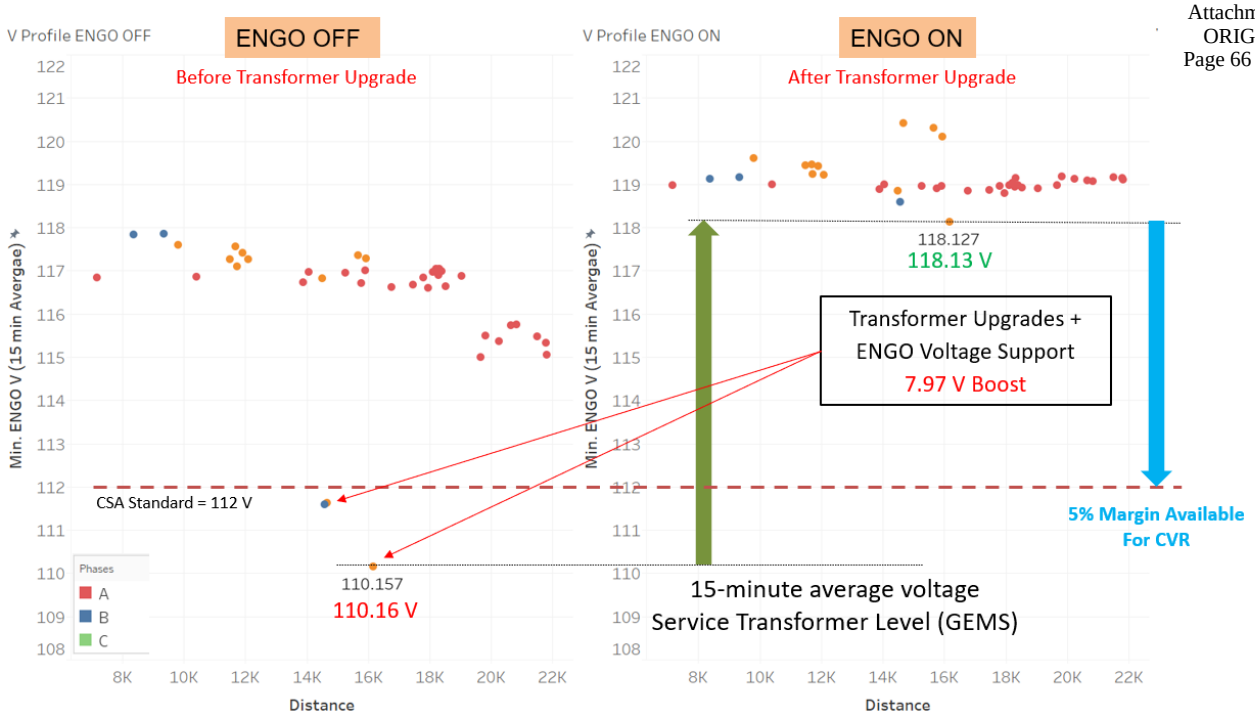



Figure 26: ENGO ON/OFF Voltage Profile (No CVR Day – August 2020)

Figure 26: ENGO ON/OFF Voltage Profile (No CVR Day – August 2020) shows the Voltage Profile (Minimum Voltage vs Distance) measured by ENGO devices before and after the transformer upgrades conducted on August 26th, 2020. With ENGOs turned OFF, there is a CSA violation and no voltage margin present for CVR (prior to system upgrades). Transformer replacement + ENGO ON provides dramatic incremental voltage improvement creating a margin for 5% (and more) CVR.

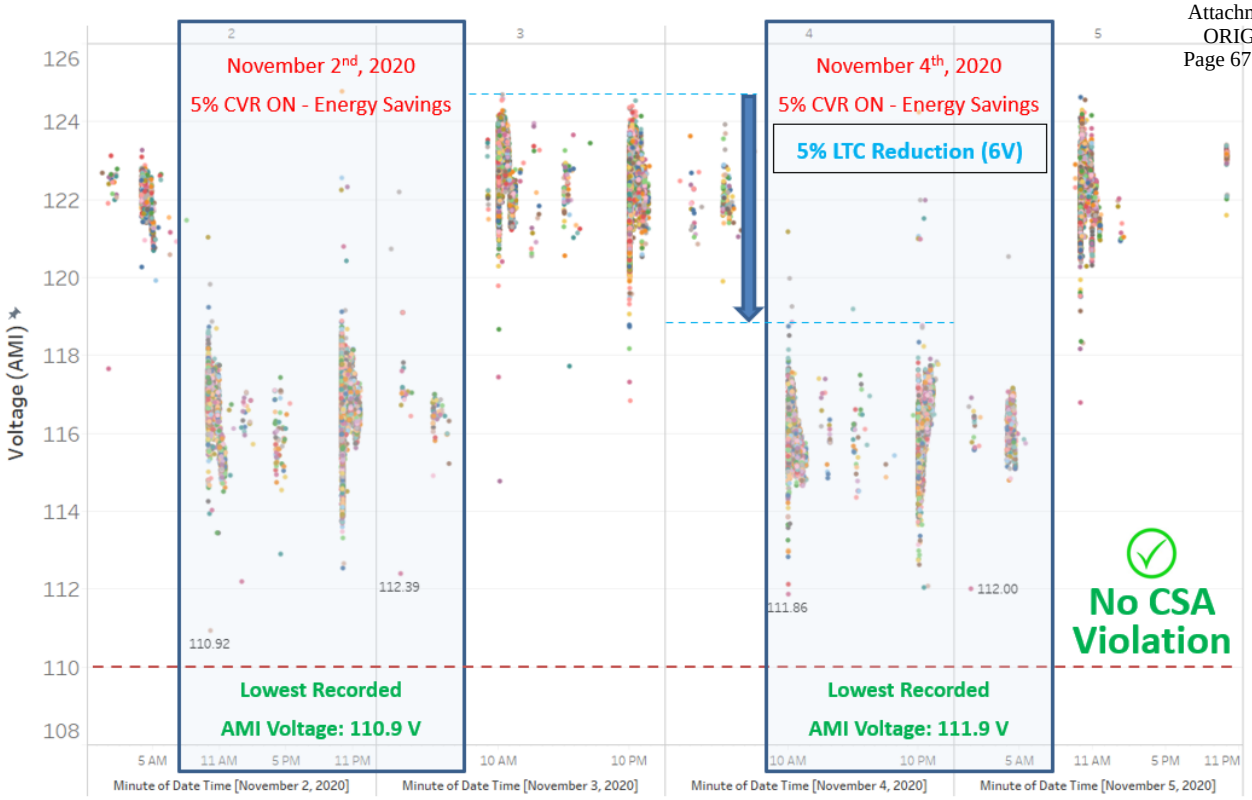



Figure 27: 5% CVR – Energy Savings Test – AMI Voltage Time Series

Figure 27: 5% CVR – Energy Savings Test – AMI Voltage Time Series shows the system-wide AMI voltage recorded during week 1 of energy savings test. 5% reduction in LTC is performed on alternate days in 24-hour intervals. No CSA violation or customer complaint detected. Lowest recorded voltage shows presence of margin for higher CVR.

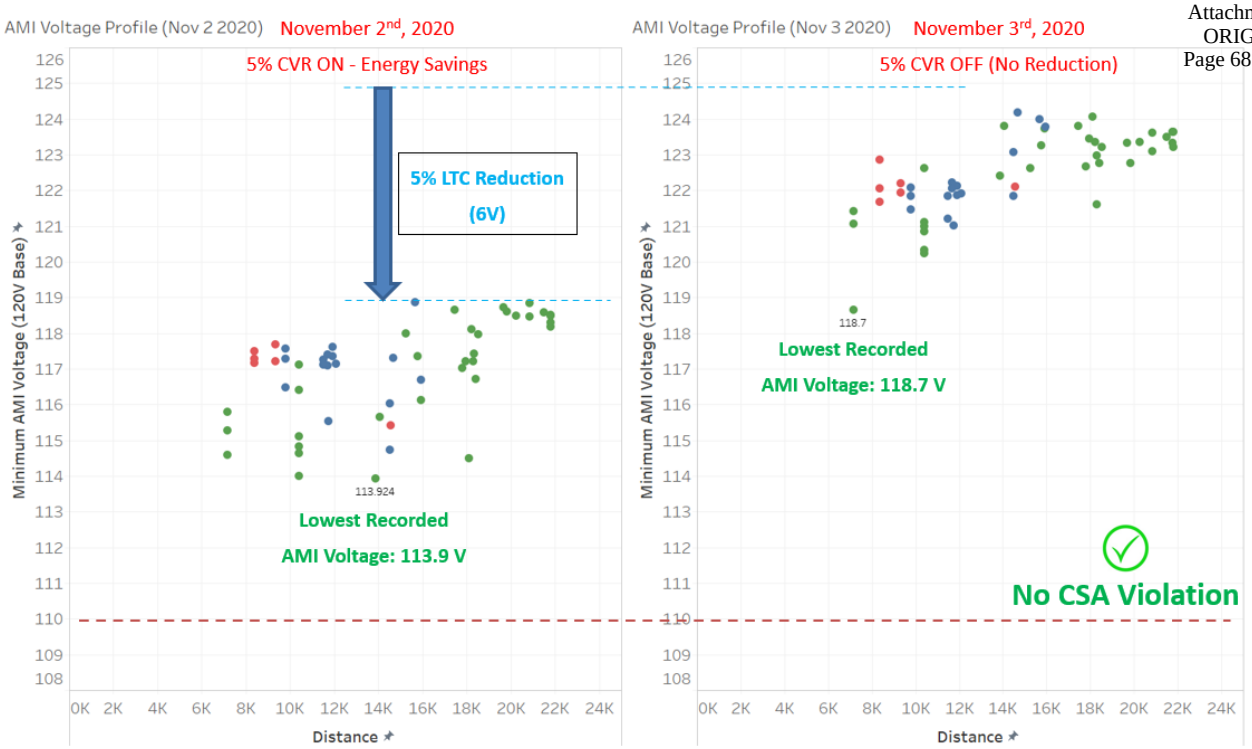



Figure 28: 5% CVR – Energy Savings Test – AMI Voltage Profile

Figure 28: 5% CVR – Energy Savings Test – AMI Voltage Profile shows the AMI Voltage (vs Distance) profile for meters connected to transformers with ENGO deployment during week 1 of energy savings test. 5% reduction in LTC is performed on alternate days in 24-hour intervals. No CSA violation or customer complaint detected.

# 12. Appendix A: List of ENGO Units as per First Analysis

| ENGO ID | [redacted] | XFMR KVA | XFMR Phase | ENGO Phase | OH/UG | # ENGO | Distance |
|---|---|---|---|---|---|---|---|
| ENGO100 | [redacted] | 50 | C | C | OH | 1 | 22341.5 |
| ENGO101 | [redacted] | 25 | C | C | OH | 1 | 68360.3 |
| ENGO102 | [redacted] | 25 | C | C | OH | 1 | 65062 |
| ENGO103 | [redacted] | 25 | C | C | OH | 1 | 71557.3 |
| ENGO104 | [redacted] | 25 | C | C | OH | 1 | 70545.5 |
| ENGO105 | [redacted] | 25 | C | C | OH | 1 | 66439.7 |
| ENGO106 | [redacted] | 25 | C | C | OH | 1 | 67744.2 |
| ENGO107 | [redacted] | 50 | C | C | OH | 1 | 71459.2 |
| ENGO108 | [redacted] | 25 | A | A | OH | 1 | 47802.3 |
| ENGO109 | [redacted] | 25 | B | B | OH | 1 | 48099.1 |
| ENGO110 | [redacted] | 25 | C | C | OH | 1 | 59782.3 |
| ENGO111 | [redacted] | 25 | C | C | OH | 1 | 52204.5 |
| ENGO112 | [redacted] | 50 | C | C | OH | 1 | 62485.8 |
| ENGO113 | [redacted] | 37 | C | C | OH | 1 | 60019.6 |
| ENGO114 | [redacted] | 50 | C | C | OH | 1 | 60085.7 |
| ENGO115 | [redacted] | 10 | B | B | OH | 1 | 53050.9 |
| ENGO116 | [redacted] | 15 | B | B | OH | 1 | 51395.9 |
| ENGO117 | [redacted] | 25 | C | C | OH | 1 | 58376.1 |
| ENGO118 | [redacted] | 25 | C | C | OH | 1 | 60371.4 |
| ENGO119 | [redacted] | 25 | C | C | OH | 1 | 58912.4 |
| ENGO120 | [redacted] | 25 | A | A | OH | 1 | 30638.7 |
| ENGO121 | [redacted] | 25 | A | A | OH | 1 | 21389 |
| ENGO122 | [redacted] | 25 | B | B | OH | 1 | 52297.2 |
| ENGO123 | [redacted] | 25 | B | B | OH | 1 | 32157.2 |
| ENGO124 | [redacted] | 25 | B | B | OH | 1 | 38490.5 |
| ENGO125 | [redacted] | 25 | B | B | OH | 1 | 37706.5 |
| ENGO126 | [redacted] | 50 | C | C | OH | 1 | 23529.4 |
| ENGO127 | [redacted] | 50 | C | C | OH | 1 | 71274.6 |
| ENGO128 | [redacted] | 37.5 | C | C | OH | 1 | 34133.6 |
| ENGO129 | [redacted] | 10 | C | C | OH | 1 | 64531.4 |
| ENGO130 | [redacted] | 25 | C | C | OH | 1 | 45552.8 |
| ENGO131 | [redacted] | 25 | B | B | OH | 1 | 38329.4 |
| ENGO132 | [redacted] | 25 | B | B | OH | 1 | 39671.9 |
| ENGO133 | [redacted] | 37.5 | B | B | OH | 1 | 39082.8 |
| ENGO134 | [redacted] | 25 | B | B | OH | 1 | 39174.7 |
| ENGO135 | [redacted] | 50 | C | C | OH | 1 | 52793.4 |
| ENGO136 | [redacted] | 50 | C | C | OH | 1 | 34341.2 |
| ENGO137 | [redacted] | 25 | C | C | OH | 1 | 53442 |
| ENGO138 | [redacted] | 50 | A | A | OH | 1 | 33077.9 |
| ENGO139 | [redacted] | 50 | C | C | OH | 1 | 32930.3 |
| ENGO140 | [redacted] | 50 | A | A | OH | 1 | 34285.6 |
| ENGO_M1 | [redacted] | 25 | B | B | OH | 1 | 47577.9 |
| ENGO_M2 | [redacted] | 25 | B | B | OH | 1 | 24049 |

# 13. Appendix B: List of ENGO Units as per Final Analysis

| ENGO ID | [redacted] | XFMR KVA | XFMR Phase | ENGO Phase | OH/UG | # ENGO | Distance |
|---|---|---|---|---|---|---|---|
| ENGO100 | [redacted] | 25 | C | C | OH | 1 | 68360.3 |
| ENGO101 | [redacted] | 25 | C | C | OH | 1 | 65062 |
| ENGO102 | [redacted] | 25 | C | C | OH | 1 | 71557.3 |
| ENGO103 | [redacted] | 25 | C | C | OH | 1 | 70545.5 |
| ENGO104 | [redacted] | 25 | C | C | OH | 1 | 66439.7 |
| ENGO105 | [redacted] | 25 | C | C | OH | 1 | 67744.2 |
| ENGO106 | [redacted] | 50 | C | C | OH | 1 | 71459.2 |
| ENGO107 | [redacted] | 25 | A | A | OH | 1 | 47802.3 |
| ENGO108 | [redacted] | 25 | B | B | OH | 1 | 48099.1 |
| ENGO109 | [redacted] | 25 | C | C | OH | 1 | 59782.3 |
| ENGO110 | [redacted] | 25 | C | C | OH | 1 | 52204.5 |
| ENGO111 | [redacted] | 50 | C | C | OH | 1 | 62485.8 |
| ENGO112 | [redacted] | 37 | C | C | OH | 1 | 60019.6 |
| ENGO113 | [redacted] | 50 | C | C | OH | 1 | 60085.7 |
| ENGO114 | [redacted] | 10 | B | B | OH | 1 | 53050.9 |
| ENGO115 | [redacted] | 15 | B | B | OH | 1 | 51395.9 |
| ENGO116 | [redacted] | 50 | A | A | OH | 1 | 27458.2 |
| ENGO117 | [redacted] | 15 | C | C | OH | 1 | 57297.4 |
| ENGO118 | [redacted] | 37 | C | C | OH | 1 | 46135.1 |
| ENGO119 | [redacted] | 25 | C | C | OH | 1 | 60767.8 |
| ENGO120 | [redacted] | 25 | C | C | OH | 1 | 59435.2 |
| ENGO121 | [redacted] | 25 | C | C | OH | 1 | 58376.1 |
| ENGO122 | [redacted] | 25 | C | C | OH | 1 | 60371.4 |
| ENGO123 | [redacted] | 25 | C | C | OH | 1 | 58912.4 |
| ENGO124 | [redacted] | 25 | C | C | OH | 1 | 51738.3 |
| ENGO125 | [redacted] | 25 | A | A | OH | 1 | 30638.7 |
| ENGO126 | [redacted] | 25 | C | C | OH | 1 | 50062.4 |
| ENGO127 | [redacted] | 25 | B | B | OH | 1 | 52297.2 |
| ENGO128 | [redacted] | 25 | B | B | OH | 1 | 32157.2 |
| ENGO129 | [redacted] | 25 | B | B | OH | 1 | 38490.5 |
| ENGO130 | [redacted] | 25 | B | B | OH | 1 | 37706.5 |
| ENGO131 | [redacted] | 50 | C | C | OH | 1 | 23529.4 |
| ENGO132 | [redacted] | 50 | C | C | OH | 1 | 71274.6 |
| ENGO133 | [redacted] | 37.5 | C | C | OH | 1 | 34133.6 |
| ENGO134 | [redacted] | 10 | C | C | OH | 1 | 64531.4 |
| ENGO135 | [redacted] | 25 | C | C | OH | 1 | 45552.8 |
| ENGO136 | [redacted] | 25 | B | B | OH | 1 | 38329.4 |
| ENGO137 | [redacted] | 25 | B | B | OH | 1 | 39671.9 |
| ENGO138 | [redacted] | 37.5 | B | B | OH | 1 | 39082.8 |
| ENGO_M1 | [redacted] | 25 | B | B | OH | 1 | 47577.9 |
| ENGO_T1_1 | [redacted] | 25 | A | A | OH | 1 | 18754.8 |
| ENGO_T1_2 | [redacted] | 25 | B | B | OH | 1 | 24049 |
| ENGO_T1_3 | [redacted] | 50 | C | C | OH | 1 | 22341.5 |

# 14. Appendix C: Lessons learned during ENGO Placement

The initial ENGO placement analysis was conducted using CYME simulations to identify voltage outlier nodes and iteratively deploy ENGO devices in the model. Phase I of the field installation gave us several insights in the process:

1. **Identified constraints during field survey of proposed locations:**

    - Customer owned poles were removed from the list
    - Poles with accessibility issues were removed from the list
    - Poles with 120V service were preferred for placement and 240V poles were removed from the list

    The lessons learnt from this exercise include:

    - Ensuring pole locations criteria is identified before analysis is completed for the final pole list
    - Pole inspections should be completed earlier in the project to confirm any pre-work or to identify the pole as not being ENGO compatible.

2. **The initial phase of ENGO deployment gave us some much-needed visibility (high granularity of recorded data in GEMS) in the field:**

    - It was observed that the voltage profile from the CYME analysis did not correlate well with the field data. This was confirmed on analyzing the AMI data which was limited by the small number of reads (two) recorded on a daily basis.
    - A fresh analysis was conducted using an AMI data-driven approach to revise the list of potential locations for ENGO placement. Performance metrics were re-evaluated and multiple options were considered for deployment and relocation.

    The lessons learnt from this exercise include using field data to verify the accuracy of the CYME model and use a hybrid model + data approach while generating the list of potential ENGO locations.

3. **Consider system topography and operating conditions while conducting analysis:**

    Kanata MTS has two transformer regions T1 (feeding circuits 624F1, 624F2 and 624F3) and T2 (feeding circuits 624F4 and 624F5) which are connected by a closed bus tie and regulated through a single LTC controller under normal operating condition. Initially the analysis was conducted on the two transformer areas as independent systems with separate improvement metrics. This was later rectified to conduct combined studies for the normal operating condition and separate analysis for the abnormal operating condition with the bus tie open.

The main takeaway from this effort was communication and clarification of all assumptions made during the study and aligning the Sentient Energy analysis to correctly reflect the HOL system state.

4. **Evaluating primary asset modifications prior to ENGO installation and ensure availability of inventory and construction material:**

   During the project, five (5) transformers were identified for connected kVA rating upgrades and tap changes to rectify voltage issues. These primary asset modifications greatly helped improve the overall voltage profile and provided margin to pursue an additional reduction in voltage.

   The lesson learned from this aspect of the project is to address primary asset issues before the ENGO analysis and be prepared with materials like mounting hardware for construction.

# WHOLESALE MARKET SERVICE RATE

This Application reflects the current Wholesale Market Service (WMS) rate of $0.0041/kWh, Capacity Based Recovery (CBR) rate of $0.0004/kWh, and Rural or Remote Electricity Rate Protection (RRRP) rate of $0.0015/kWh. These are the most recent rates approved by the Ontario Energy Board (OEB).[1]

Hydro Ottawa proposes to update WMS rates in accordance with applicable OEB Decisions and Orders during the 2026-2030 period.

[1] Ontario Energy Board, *Decision and Order In the matter of regulatory charges effective January 1, 2025, for the Wholesale Market Services rate and the Rural or Remote Electricity Rate Protection charge,* EB-2024-0282 (December 10, 2024), page 1.

# STANDARD SUPPLY SERVICE CHARGE

## 1. INTRODUCTION

The Standard Supply Service Administration Charge (SSS Charge) is charged to customers who purchase electricity directly from their distributor. Under the Standard Supply Service Code, distributors must provide a standard supply service to sell electricity under section 29 of the *Electricity Act*.[1] The SSS Charge is intended to recover the incremental costs of providing standard supply service to all customers not enrolled with a retailer. The SSS Charge was last set by the OEB in 2005[2] and since implementation the rate has not been adjusted to reflect actual costs or inflation. Hydro Ottawa is applying for a utility-specific SSS Charge to recover costs that are over and above Hydro Ottawa's service costs in accordance with Section 2.8.4 of the *Chapter 2 Filing Requirements for Electricity Distribution Rate Applications - 2025 Edition for 2026 Rate Applications*, dated December 9, 2024. This Schedule provides information on costs related to bill display requirements, settlement variances and related working capital requirements to support SSS services.

Please see Schedule 6-3-4 - Other Operating Revenue for the related revenue as part of other revenue. In addition, please see Schedule 6-3-1 - Other Revenue Summary and Schedule 6-1-1 - Revenue Requirement and Revenue Deficiency or Sufficiency for more details regarding revenue requirement and total revenue offsets.

## 2. BACKGROUND

As part of Hydro Ottawa's 2021-2025 Custom Incentive Rate-setting (Custom IR) Application, Hydro Ottawa sought approval for a utility-specific SSS Charge. The proposed rate design aligned the SSS Charge with the Retail Distributor Consolidated Charge,[3] rather than a cost based approach. This rate design was proposed to ensure customers pay an equal service charge regardless of

[1] Ontario Energy Board. Standard Supply Service Code for Electricity Distributors (Revised January 1, 2023), page 1.
[2] Ontario Energy Board, 2006 Electricity Distribution Rate Handbook (May 11, 2005), page 126.
[3] Hydro Ottawa Limited, *2021-2025 Custom Incentive Rate-Setting Distribution Rate Application*, EB-2019-0261 Exhibit 3-2-1: Other Revenue(February 10, 2020), page 23.

electricity service provider, and the pricing between Hydro Ottawa and the Retailer would be relatively maintained. As part of the 2021-2025 Approved Settlement Agreement, Hydro Ottawa continued to utilize the OEB's prescribed SSS Charge of $0.25 per customer per month for the 2021-2025 period.[4] In the agreement the Parties[5] acknowledged the charge had not been adjusted to reflect actual costs of inflation since it was first introduced, and the Parties believed a timely review of the rate design methodology used for the SSS Charge was warranted. To date, the SSS charge has not been reviewed generically to determine if the charge accurately reflects its costs.

## 3. UTILITY SPECIFIC STANDARD SUPPLY SERVICE CHARGE

Effective January 1, 2026, Hydro Ottawa is requesting approval for a utility-specific SSS Charge rate for the 2026-2030 period. Hydro Ottawa has considered the amount of time that has elapsed since the original rate was set over 20 years ago and the change in complexity in providing the SSS services. As part of this application a cost-based approach has been used to determine the SSS rate required to recover the costs incurred to provide standard supply service to all customers who are not with a retailer.

Table 1 below provides the approved 2025 SSS Charge and the proposed SSS Charge for 2026-2030. As discussed, the 2026 rate was determined through a cost-based approach and the 2027-2030 test year rates were determined by using an inflationary formula.

To remain consistent with OEB province wide charges, such as the pole attachment and retailer service charges, Hydro Ottawa proposes to inflate the 2026 rate by the OEB approved inflationary factor for the 2027-2030 period. As a placeholder for the OEB approved inflationary factors, the 2027-2030 rates have been escalated by 2.10% annually. This is consistent with the escalation rate applied to certain other operating revenue throughout this Application. For the Historical 2021-2023,

[4] Hydro Ottawa Limited, *2021-2025 Custom Incentive Rate-Setting Approved Settlement Proposal*, EB-2019-0261 (November 19, 2020) Page 29
[5] Building Owners and Managers Association (BOMA), Consumers Council of Canada (CCC), Distributed Resource Coalition (DRC), Environmental Defence (ED), Energy Probe Research Foundation (Energy Probe), Pollution Probe (PP), School Energy Coalition (SEC), Vulnerable Energy Consumers Coalition (VECC)

Bridge 2024-2025 and Test Years 2026-2030 SSS Administration Charge revenues, please refer to Schedule 6-3-4 - Other Operating Revenues.[6]

**Table 1 – 2025 Approved and 2026-2030 Proposed SSS Charge Per Month**

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|
| Standard Supply Service Administrative Charge | $ 0.25 | $ 1.51 | $ 1.54 | $ 1.57 | $ 1.60 | $ 1.63 |

## 4. COST METHODOLOGY

To determine the utility-specific rate, Hydro Ottawa conducted an analysis of the necessary business processes to provide SSS services and their associated incremental costs. The proposed SSS rate is designed to recover costs for labour, material, and the working capital required to provide SSS services. The rate calculation included only incremental costs, which are detailed below:

- Incremental labour costs associated with administering the Regulated Price Plan (RPP) and commodity charges (Hourly Ontario Energy Price and Global Adjustment), include processes related to updating seasonal Time-of-Use hours and Tiered thresholds, and processing the Ontario Electricity Rebate;
- Incremental internal labour for wholesale market settlement activities;
- Incremental internal labor for monthly market settlement with the Independent Electricity System Operator, Hydro One, and embedded generators as well as associated internal/external reporting requirements;
- Vendor costs associated with administering the RPP, HOEP and Global Adjustment billing; and
- Working capital expenses including the total cost of power and the Operations, Maintenance and Administration (OM&A) expenses detailed above.

[6] 2026-2030 SSS Administration Charge revenue amounts were estimated based on preliminary cost of power expense and revenue load and customer forecast resulting in $106K variance between SSS costs detailed below and revenue amounts included in Schedule 6-3-4 - Other Operating Revenue.

Hydro Ottawa's cost analysis revealed additional unestimated costs, including capital expenditures, call center operations, and bad debt expenses. These costs were excluded due to the difficulty in isolating them. Examples of types of costs not included in the cost estimate include:

- Capital Costs related to Billing and Collecting non-distribution charges:
  - Hydro Ottawa continues to drive efficiencies through automating processes to manage costs related to SSS services. For example, Hydro Ottawa fully automated the process for RPP customers to request changes to their rate plan (rate optionality).
  - This resulted in savings of labour costs, however a capital investment was required. The capital costs related to automating rate optionality requests have not been included in the total SSS costs.
- Call center agents are trained to field calls related to consumer questions or requests regarding Electricity, Global Adjustment, and Regulatory line items on their bill. The time and costs associated with these services have not been factored into the cost estimate.
- Bad debt expenses related to non-distribution revenues have not been included in the total costs.

## 5. RATE DESIGN

To derive the 2026 proposed SSS charge, the total 2026 costs were divided by the 2026 estimated average number of SSS customers and further divided by 12 to determine the monthly charge. The 2026 Test Year SSS customer count was determined by multiplying the 2023 percentage split of SSS customers by the 2026 average total customers. Please refer to Schedule 3-1-1 - Revenue Load and Customer Forecast for details on the 2026-2030 customer forecast. Table 2 provides the 2026 estimated costs, number of SSS customers and calculated 2026 SSS rate. The monthly charge will be billed to customers on a daily basis consistent with other proposed fixed rates.[7] For more information, refer to Section 3 of Schedule 8-1-2 - Fixed/Variable Proportion.

[7] Daily rate is the proposed fixed rate times 12 months divided by the number of days in a year and rounded to four decimal places.

## Table 2 - 2026 SSS Cost Estimate and Rate Design

| | 2026 |
|---|---|
| Total Annual SSS Expense | $ 6,764,099 |
| Monthly Average SSS Customer Count[8] | 373,688 |
| Charge per Month | $ 1.51 |

[8] Includes count of Unmetered, Street Lighting, MicroFIT and FIT accounts

# SPECIFIC SERVICE CHARGES

## 1. INTRODUCTION

Specific service charges (SSCs) apply to services that are over and above Hydro Ottawa's standard level of service offerings. These charges may apply if a customer's action or inactions necessitate additional services. The revenue from these charges are included in Uniform System of Account (USofA) - 4235 Miscellaneous Service Revenues or USofA - 4210 Rent from Electric Property and offset the total revenue requirement.

During 2024, Hydro Ottawa undertook a review of many routine service charges to ensure they reflected the associated costs of providing services and achieved efficiencies in the 2021-2024 period. Hydro Ottawa assessed certain repeated requests by a small number of customers which resulted in the inefficient use of resources being expended by the utility. Service charges are proposed for such requests to encourage efficient use of Hydro Ottawa's resources and avoid unnecessary costs.

As part of the 2026-2030 Application, Hydro Ottawa is proposing to revise some previously established service charges and eliminate one existing specific service charge. Unless otherwise indicated, the proposed rate changes and additions are proposed to be adjusted for the years 2027-2030 by an inflationary rate of 2.1% and rounded to the nearest dollar. For more details regarding this factor, please see Schedule 1-3-1 - Alignment with the Renewed Regulatory Framework.

## 2. SERVICE CHARGE CALCULATIONS

In accordance with the methodology outlined in the Electricity Distribution Rate Handbook,[1] the 2026 service charge calculations are provided in Attachment 8-4-1(A) - Proposed and New

[1] Ontario Energy Board, *Electricity Distribution Rate Handbook* (May 11, 2005).

Specific Service Charge Calculations. Details for each SSC are also included in this Schedule below.

## 3. SERVICE CHARGE REVENUES

A detailed schedule of the associated revenues from all SSCs for 2026-2030 is provided in Schedule 6-3-2 - Specific Service Charge Revenue, with the exception of pole attachment revenue, which is detailed in Schedule 6-3-4 - Other Operating Revenue. Please refer to Schedule 6-3-1 - Other Revenue Summary for total other revenue offsets.

## 4. SUMMARY OF PROPOSED SPECIFIC SERVICE CHARGES

Table 1 below summarizes the approved 2025 SSCs and the proposed SSCs, respectively, for the years 2026-2030. All of the proposed SSCs are to be included in Hydro Ottawa's Tariff of Rates and Charges provided in Schedule 8-5-1 - Bill Impacts and Tariff of Rates and Charges.

## Table 1 – Proposed Specific Service Charges

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|
| **Customer Administration** | | | | | | |
| Arrears Certificate | $ 18.00 | - | - | - | - | - |
| Easement Certificate for Unregistered Easements | $ 29.00 | $ 30.00 | $ 30.00 | $ 30.00 | $ 30.00 | $ 30.00 |
| Duplicate Invoices for Previous Billing | $ 6.00 | $ 7.00 | $ 7.00 | $ 7.00 | $ 7.00 | $ 7.00 |
| Special Billing Service, per hour | $ 140.00 | $ 141.00 | $ 144.00 | $ 147.00 | $ 151.00 | $ 154.00 |
| Credit Reference/Credit Check (+ credit agency costs) | $ 18.00 | $ 20.00 | $ 20.00 | $ 20.00 | $ 20.00 | $ 20.00 |
| Unprocessed Payment Charge (+ bank charges) | $ 29.00 | $ 25.00 | $ 25.00 | $ 25.00 | $ 25.00 | $ 25.00 |
| Account Set Up/Change of Occupancy Charge | $ 29.00 | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 |
| Interval Meter - Field Reading | $ 359.00 | $ 366.00 | $ 374.00 | $ 382.00 | $ 390.00 | $ 398.00 |
| High Bill Investigation - If Billing is Correct | $ 270.00 | $ 322.00 | $ 328.00 | $ 335.00 | $ 342.00 | $ 350.00 |
| **Non-Payment of Account** | | | | | | |
| Reconnect at Meter - Regular Hours | $ 76.00 | $ 70.00 | $ 71.00 | $ 72.00 | $ 74.00 | $ 76.00 |
| Reconnect at Meter - After Regular Hours | $ 115.00 | $ 94.00 | $ 96.00 | $ 98.00 | $ 100.00 | $ 102.00 |
| Reconnect at Pole - Regular Hours | $ 286.00 | $ 318.00 | $ 325.00 | $ 331.00 | $ 338.00 | $ 345.00 |
| Reconnect at Pole - After Regular Hours | $ 483.00 | $ 480.00 | $ 490.00 | $ 500.00 | $ 510.00 | $ 521.00 |
| **Other** | | | | | | |
| Temporary Service - Install and Remove ("TS-I&R") - Overhead - no transformer | $ 1,007.00 | $ 1,079.00 | $ 1,102.00 | $ 1,125.00 | $ 1,148.00 | $ 1,172.00 |
| TS-I&R - Underground - no transformer | $ 1,461.00 | $ 1,422.00 | $ 1,452.00 | $ 1,483.00 | $ 1,514.00 | $ 1,546.00 |
| TS-I&R - Overhead - with transformer | $ 3,590.00 | $ 5,010.00 | $ 5,116.00 | $ 5,223.00 | $ 5,333.00 | $ 5,445.00 |
| Specific Charge to Access Power Poles - Wireline | $ 39.14 | $ 39.14 | $ 39.14 | $ 39.14 | $ 39.14 | $ 39.14 |
| Drycore Transformer Charge | Refer to Excel Attachment 8-4-1(B) - Dry Core Calculations | | | | | |
| Energy Resource Facility Administration Charge | $ 162.00 | $ 165.00 | $ 168.00 | $ 172.00 | $ 176.00 | $ 179.00 |

## 5. REVISED SERVICE CHARGES

For 2026-2030 Hydro Ottawa is proposing to revise a number of SSCs, as detailed below.

### *5.1. REMOVAL OF ARREARS CERTIFICATE*

Hydro Ottawa proposes discontinuing the Arrears Certificate service and eliminating its associated charge. Since Hydro Ottawa doesn't hold a new occupant responsible for previous occupants unpaid bills, this charge is unnecessary. Eliminating it will promote fairness for all customers.

### *5.2. EASEMENT CERTIFICATE FOR UNREGISTERED EASEMENTS*

The Easement Certificate for Unregistered Easements service involves researching and presenting findings to the customer. Hydro Ottawa is proposing to increase the current 2025 rate for Easement Certificates for Unregistered Easements from $29 to $30 for 2026. The proposed charge is based upon applying a 2.10% inflationary increase to the 2025 approved rate. This service varies in terms of resource effort and time. This revised rate is reflective of the average cost to render this service if the requested data is stored electronically. To provide rate predictability and stability, Hydro Ottawa proposes maintaining this rate at $30 annually from 2027 to 2030.

### *5.3. DUPLICATE INVOICES FOR PREVIOUS BILLING*

Hydro Ottawa is proposing to increase the current 2025 rate for Duplicate Invoices from $6 to $7 in 2026, and hold the rate constant through to 2030. The increase represents the increase in labour costs involved for this task. This rate remains low due to the availability of electronically-formatted customer bills (from 2014 onwards) which enables duplicate bills to be disseminated by email rather than external mail, therefore eliminating the need for printing and postage. Customers are encouraged to use MyAccount (the utility's online customer service portal) where they are able to view past bills at no cost.

### 5.4. SPECIAL BILLING SERVICE

Special Billing Service is applied to all requests for customized billing information that involves sourcing, compiling, and presenting several months or years of billing information for customers or their agents. This rate reflects the labour time involved in providing these services and associated labour rate. Hydro Ottawa is seeking approval for an increase from $140 in 2025 to $141 in 2026 and to apply annual 2.10% inflationary adjustments through to 2030.

### 5.5. CREDIT REFERENCE / CREDIT CHECK

The Credit Reference/Credit Check service charge is to recover internal costs associated with completing reference checks, which is labour driven. Hydro Ottawa is proposing an increase from the current 2025 rate of $18 to $20 in 2026 to reflect increase in costs. To provide rate predictability and stability, Hydro Ottawa proposes maintaining the rate at $20 annually from 2027 to 2030.

### 5.6. UNPROCESSED PAYMENT CHARGE

Hydro Ottawa is proposing to reduce the current Unprocessed Payment Charge from $29 in 2025 to $25 in 2026 and hold constant through to 2030. To optimize operational efficiency, part of this process is now completed by the Customer Contact Centre, which is outsourced. This strategy allows Hydro Ottawa to reduce costs associated with handling high-volume, routine tasks. These improvements have led to cost savings and enables Hydro Ottawa to seek approval for this rate decrease.

### 5.7. ACCOUNT SET UP CHARGE

Hydro Ottawa is proposing a significant reduction in the Account Set Up Charge, decreasing it from $29 in 2025 to $10 in 2026, with this lower rate remaining constant through 2030. This reduction is supported by Hydro Ottawa's ongoing efforts to streamline and automate customer move processes. Hydro Ottawa achieved a 23% automation rate for customers moves (defined as move-in for starting new service, move-in/move-out for transferring service) from 2021-2023, streamlining processes from online form intake to customer confirmation emails. To further

optimize efficiency, the remaining moves are primarily handled by the Customer Contact Centre, allowing Hydro Ottawa to leverage its internal team's expertise for more complex customer needs and ultimately provide higher value support. This approach has reduced costs associated with high-volume, routine tasks, enabling the utility to propose a decrease in the Account Set Up Charge.

### *5.8. INTERVAL METER - FIELD READING*

Hydro Ottawa provides communication equipment for most of its commercial customers, but some businesses use their own. Occasionally where customer-owned equipment malfunctions and the problem persists for an extended period, Hydro Ottawa dispatches a field technician to manually read the meter. Because these manual readings are rare, Hydro Ottawa anticipates decreases in future revenue from this service.

Hydro Ottawa is proposing to increase the current 2025 rate of $359 to $366 in 2026 and the rate to be adjusted by 2.10% inflationary increases on an annual basis through 2030. The main driver of the increased rate is the increased labour rate.

### *5.9. HIGH BILL INVESTIGATION - IF BILLING IS CORRECT*

Providing high bill investigation services is a labour-intensive process as it requires dispatching a field agent to the customer's location to physically inspect the meter. It also involves an office staff to facilitate the request, compile the results, and coordinate the site visit. The associated costs include not only labour costs but also fleet expenses incurred by sending a field agent on-site.

To account for rising labour costs, Hydro Ottawa is seeking approval for a rate increase from $270 in 2025 to $322 in 2026. Following this initial adjustment, the rate is proposed to be adjusted by 2.10% inflationary increases on an annual basis through 2030.

### 5.10. RECONNECT AT METER - REGULAR HOURS AND AFTER REGULAR HOURS

Hydro Ottawa can remotely reconnect most meters through its Advanced Metering Infrastructure (AMI) equipped with the EnergyAxis Management System (EA_MS). These meters are installed in hard-to-access locations and premises that have high Move-In/Move-Out rates. The use of such technology has reduced the direct cost associated with reconnection service. By eliminating the need for on-site visits, Hydro Ottawa has minimized operational and administrative labour costs, as well as expenses related to fleet maintenance and fuel consumption. Since its last rebasing application,[2] Hydro Ottawa has increased the percentage of remote disconnections by 10%, achieving a current rate of 70%. This initiative has resulted in cost savings attributed to the reduction in labour and vehicle costs. As a result of these cost efficiencies, Hydro Ottawa is proposing to reduce the current Reconnect at Meter - Regular Hours rate from $76 in 2025 to $70, and reduce Reconnect at Meter - After Regular Hours rate from $115 in 2025 to $94 in 2026. Hydro Ottawa is proposing that the rate in the 2027-2030 period is adjusted for 2.10% inflationary increases on an annual basis.

### 5.11. RECONNECT AT POLE - REGULAR HOURS AND AFTER REGULAR HOURS

Reconnection at poles is more costly than at the meter, as it requires two highly-qualified employees due to the complexity and safety risks of pole work. As a result, Hydro Ottawa is seeking a rate increase to recover associated internal costs of labour and fleet.

If completed within regular hours, Hydro Ottawa is seeking approval to increase the Regular Hours rate from $286 in 2025 to $318 in 2026. If completed after regular hours, Hydro Ottawa is seeking approval to reduce the After Regular Hours rate from $483 in 2025 to $480 in 2026 to better align the rate with current costs. Hydro Ottawa also proposes to apply a 2.10% inflationary increase on an annual basis through to 2030 on both the reconnect at pole - regular hours and after regular hours.

[2] Hydro Ottawa Limited, *2021-2025 Custom Incentive Rate-setting Distribution Rate Application*, EB-2019-0261 (February 10, 2020).

### 5.12. TEMPORARY SERVICES - INSTALL & REMOVE

For temporary services related to overhead with no transformer, Hydro Ottawa is seeking approval for an increase from $1,007 in 2025 to $1,079 in 2026 to account for increase in costs.

For temporary services related to underground with no transformer, Hydro Ottawa is seeking approval for a reduction from $1,461 in 2025 to $1,422 in 2026 to better align the rate with current costs.

For temporary services related to overhead with a transformer, Hydro Ottawa is seeking approval for an increase from $3,590 in 2025 to $5,010 in 2026. The rate increase is primarily due to an increase of transformer cost and to ensure all proper labour hours are included.

For all three categories, Hydro Ottawa also proposes to apply a 2.10% inflationary increase on an annual basis through 2030.

### 5.13. SPECIFIC ACCESS TO POWER POLES - WIRELINE ATTACHMENTS

Hydro Ottawa currently charges third party pole attachment fees to 11 telecommunications companies, two municipalities, and one local distribution company. Hydro Ottawa proposes to continue to use the OEB's generic rate for pole attachments throughout the 2026-2030 period.

For the purpose of calculating revenue requirement, Hydro Ottawa has used the OEB-approved 2025 rate for 2026-2030 estimate. This approach was taken to mitigate any decrease in the number of pole attachments due to the increased desire for third parties to move assets underground.

### 5.14. SPECIFIC ACCESS TO POWER POLES - WIRELESS ATTACHMENTS

On January 28, 2016, the OEB released a Decision and Order authorizing electricity distributors to charge market rates for wireless pole attachments.[3] Hydro Ottawa will continue to follow the direction in the OEB's decision when entering into any new wireless pole attachment agreements throughout the 2026-2030 period.

### 5.15. DRY CORE TRANSFORMER CHARGE

The dry core transformer charge is applied to recover unmetered energy lost in the operation of a dry core transformer. A specific charge is calculated for each transformer based on the Canadian Standards Association standard C802-94 (CSA-C802-94).[4] For transformer sizes not included in CSA-C802-94, there are no load losses, or associated costs that are interpolated based on the transformer size. Hydro Ottawa will continue its practice of calculating the dry core transformer loss charge for any new size of transformer upon connection, based on the dry core rate design, and adding it to the drycore schedule during the following rate application.

The 2026-2030 dry core rates are outlined in Excel Attachment 8-4-1(B) - Dry Core Calculations. The rates have been set based on the proposed 2026-2030 distribution rates of the >50kW commercial classes, as well as the forecasted Regulated Price Plan (RPP), transmission, low voltage, and regulatory rates.

Hydro Ottawa is proposing to adjust these rates on an annual basis to reflect any changes in the distribution, RPP, and transmission rates. In addition, Regulatory rates will be updated as per any applicable OEB Decision and/or Order.

[3] Ontario Energy Board, *Decision and Order - Amending Rate-Regulated Electricity Distributor Licenses to Authorize Market Rates for Wireless Pole Attachments*, EB-2016-0015 (January 28, 2016).
[4] Standards Council of Canada, "CAN/CSA-C802-94 - Maximum Losses for Distribution, Power and Dry-Type Transformers," https://scc-ccn.ca/standardsdb/standards/4005579.

## 5.16. ENERGY RESOURCE FACILITY ADMINISTRATION CHARGE

The Energy Resource Facility Administration Charge - Without Account Set Up (One Time) is charged when there is an assignment of contracts which require legal services and service entrance assessments on the part of Hydro Ottawa. This charge applies to new generation facilities associated with a new or existing generation account, regardless of size.

The revised Energy Resource Facility Administration Charges reflect a reassessment of the costs associated with establishing these accounts. Hydro Ottawa is seeking approval to increase the approved 2025 rate of $162 to $165 in 2026, with the proposed charges to be increased annually by 2.10% through 2030. As noted above, this is consistent with the inflation rate applied to many of Hydro Ottawa's 2027-2030 other revenue rates where applicable.

**Unregistered Easements**
**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (inside staff):<br>- Dist Operations (Service Desk)<br>- Receives request and payment- We receive hard copy of Unregistered Easement Check. Either Jennie or Claudia would scan the check to Payment Processing (8.5 min)<br>- Completes Unregistered Easement Check (30 min)<br>- Scans results via email to Customer. Updates Salesforece (5 min) | $141.00 | 0.73 | $102.23 |
| Direct Labour (inside staff):<br>- Payment Processing<br>- Processes payment in JDE (straight to GL) (5 min) | $141.00 | 0.08 | $11.75 |
| | | ***Total Labour Cost*** | ***$113.98*** |
| **OTHER** | | | |
| Material | N/A | | |
| Contract | N/A | | |
| Other | N/A | | |
| | | ***Total Other*** | **$0.00** |
| ***Total Cost*** | | | ***$113.98*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$114** |
| **Specific Service Charge Value - Proposed rate $** | | | **$30** |

**Duplicate Invoice**
**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (Outsourced): | $39.00 | 0.08 | 3.25 |
| Direct Labour (Outsourced):<br>- Contact Center Staff Phone (3 min)<br>- Intaking and setting up to do | $57.00 | 0.05 | 2.85 |
| ***Total Labour Cost*** | | | ***6.10*** |
| **OTHER** | | | |
| Material | N/A | | |
| Contract | N/A | | |
| Other | N/A | | |
| ***Total Other*** | | | ***0.00*** |
| ***Total Cost*** | | | ***6.10*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$7** |

**Special Billing Service**
**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (inside staff) Straight Time | $141.00 | 1.00 | 141.00 |
| ***Total Labour Cost*** | | | ***141.00*** |
| **OTHER** | | | |
| Material | N/A | | |
| Contract | N/A | | |
| Other | N/A | | |
| ***Total Other*** | | | ***0.00*** |
| ***Total Cost*** | | | ***141.00*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$141** |

**Credit Reference Fees**
**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (Outsourced):<br>- Contact Center Staff (10 min)<br>- Receive request from customer<br>- Complete process of receiving documentation for removing the deposit requirement<br>- Research / complete request via Equifax (if required)<br>- Apply adjustment to the customer's account in CC&B | $57.00 | 0.17 | 9.50 |
| Direct Labour (Inside staff):<br>- Customer Experience agent<br>- This time is for the overall review of the Equifax invoice and verification. (1 min per transaction) | $141.00 | 0.02 | 2.35 |
| Direct Labour (Inside staff):<br>- AP Costs to complete Equifax Payment (3 min) | $141.00 | 0.05 | 7.05 |
| ***Total Labour Cost*** | | | ***18.90*** |
| **OTHER** | | | |
| Material | N/A | | |
| Contract | N/A | | |
| Other - Equifax check | N/A | | |
| ***Total Other*** | | | ***0.00*** |
| ***Total Cost*** | | | ***18.90*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$19** |
| **Specific Service Charge Value - held at $20 for five years** | | | **$20** |

**Unprocessed Payment Charge**
**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (Inside staff):<br>- Payment Processing (3 min)<br>- A/R Settlment Associate receives notice of rejected payment from the bank<br>- Reviews the customers account in CC&B. Finds the payment and cancels<br>Customer Contact (4 min)<br>-Customer Contact Agents send a removal email to customers | $141.00 | 0.12 | 16.45 |
| Direct Labour (Outsourced):<br>- Optima<br>- This time is for the overall payment arrangement management around the NSF process (NSF report takes `4hrs to review 40 = `6 min per transaction + other time = 9 min per transaction )<br>- Optima reviews NSF reports<br>- Takes actions as required to remove people from payment plans. | $39.00 | 0.15 | 5.85 |
| ***Total Labour Cost*** | | | ***22.30*** |
| **OTHER** | | | |
| Material-Printing & Postage | 1.18 | | |
| Contract | N/A | | |
| Other - Bank fee | 1.50 | | |
| ***Total Other*** | ***$2.68*** | | ***2.68*** |
| ***Total Cost*** | | | ***24.98*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$25** |

**Account Setup Charge**
**Costing:**

| | Contact Center (Phone Manual) | | | Internal Customer Contact | | | Contact Center (Manual) | | | Contact Center (Semi-Auto) | | | Contact Center (Auto) | | | Blended | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2026 Rate/Hr | Hours | Calculated Cost | 2026 Rate/Hr | Hours | Calculated Cost | 2026 Rate/Hr | Hours | Calculated Cost | 2026 Rate/Hr | Hours | Calculated Cost | 2026 Rate/Hr | Hours | Calculated Cost | 2026 Rate/Hr | Hours | Calculated Cost |
| **LABOUR** | | | | | | | | | | | | | | | | | | |
| Direct Labour Outsourced Contact Center (Optima) | $57.00 | 0.25 | $14.25 | $141.00 | 0.17 | $23.50 | $39.00 | 0.17 | $6.50 | $39.00 | 0.05 | $1.95 | $0.00 | 0 | $0.00 | | | $9.21 |
| ***Total Labour Cost*** | | | ***$14.25*** | | | ***$23.50*** | | | ***$6.50*** | | | ***$1.95*** | | | ***$0.00*** | | | ***$9.21*** |
| **OTHER** | | | | | | | | | | | | | | | | | | |
| Material | N/A | | | N/A | | | N/A | | | N/A | | | N/A | | | N/A | | |
| Contract | N/A | | | N/A | | | N/A | | | N/A | | | N/A | | | N/A | | |
| Other | N/A | | | N/A | | | N/A | | | N/A | | | N/A | | | N/A | | |
| ***Total Other*** | ***$0.00*** | | **$0.00** | ***$0.00*** | | **$0.00** | ***$0.00*** | | **$0.00** | ***$0.00*** | | **$0.00** | ***$0.00*** | | **$0.00** | ***$0.00*** | | **$0.00** |
| ***Total Cost*** | | | ***$14.25*** | | | ***$23.50*** | | | ***$6.50*** | | | ***$1.95*** | | | ***$0.00*** | | | ***$9.21*** |
| **Specific Service Charge Rounded up to nearest $** | | | **$15** | | | **$24** | | | **$7** | | | **$2** | | | **$0** | | | **$10** |

**Interval Meter–Field Read**
**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (inside staff) Straight Time<br>- MDS - Managing "missed calls" lists, updating records, importing manual data files and data validation.<br>- Exporting data to create CC&B import files. Managing Savage for missing data records. | $141.00 | 1.00 | 141.00 |
| Direct Labour (field staff) Straight Time<br>- Meter Technician travel, on site manual data collection (Performed after on-site initial site visit) | $141.00 | 1.50 | 211.50 |
| ***Total Labour Cost*** | | | ***352.50*** |
| **OTHER** | | | |
| Fleet - Ford Transits | 9.00 | 1.50 | 13.50 |
| Material | N/A | | |
| Contract | N/A | | |
| Other | N/A | | |
| ***Total Other*** | | | ***13.50*** |
| ***Total Cost*** | | | ***366.00*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$366** |

**High Bill Investigation (sending field agent to the field to check meter)**
**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (inside staff):<br>- Collection Agent (5 min)<br>- Customer calls to make arrangements for field check. Agents sets it up. | $141.00 | 0.08 | 11.75 |
| Direct Labour (outside staff):<br>- Field Representative (2 hours)<br>- 1 Rep for 2 hours<br>- Customer on site. The rep meets with customer on site and does a walk through. Looks at the usage (what the customer has on) and trouble shoots. | $141.00 | 2.00 | 282.00 |
| Customer Contact Center (10 minutes) | $57.00 | 0.17 | 9.50 |
| ***Total Labour Cost*** | | | ***303.25*** |
| **OTHER** | | | |
| Fleet - Ford Transits | 9.00 | 2.00 | 18.00 |
| Material | N/A | | |
| Contract | N/A | | |
| Other | N/A | | |
| ***Total Other*** | | | ***18.00*** |
| ***Total Cost*** | | | ***321.25*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$322** |

**Reconn Charges - @ Meter (Regular Hours)**
**Costing:**

| | Physically at Meter | | | Remote | | | Blended | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2026 Rate/Hr | Hours | Calculated Cost | 2026 Rate/Hr | Hours | Calculated Cost | 2026 Rate/Hr | Hours | Calculated Cost |
| **LABOUR** | | | | | | | | | |
| Direct Labour (Optima):<br>- Optima Agent<br>- Customer calls to discuss reconnection. Agent reviews account and sets up a To Do in CC&B for a Collection Agent to contact the customer (6min) | $57.00 | 0.1 | $5.70 | $57.00 | 0.1 | $5.70 | | | $5.70 |
| Direct Labour (inside staff):<br>- Collection Agent (5 min)<br>- Customer calls to make arrangements for reconnect (and associated payments etc)<br>- If "remote" then the additional steps taken<br>- Logs into MASS and calls up meter number for disconnect. (1 min)<br>- Updates field activity and CC&B (3 min) | $141 | 0.08 | $11.75 | $141.00 | 0.15 | $21.15 | | | $18.33 |
| If Physically at meter, then the following steps taken: Direct Labour (outside staff):<br>- Field Rep (1 hour)<br>- One staff needed if reconnection at Meter; Two if at Pole | $141 | 1 | $141.00 | N/A | N/A | | | | $42.30 |
| ***Total Labour Cost*** | | | ***$158.45*** | | | ***$26.85*** | | | ***$66.33*** |
| **OTHER** | | | | | | | | | |
| Fleet - Ford Transits | 9 | 1 | $9.00 | | N/A | | | | $2.70 |
| Material | N/A | | | N/A | | | N/A | | |
| Contract | N/A | | | N/A | | | N/A | | |
| Other - MAS software costs (If remote) | N/A | | | 0.00 | | $0.00 | 0.00 | | $0.00 |
| ***Total Other*** | | | **$9.00** | | | **$0.00** | | | **$2.70** |
| ***Total Cost*** | | | ***$167.45*** | | | ***$26.85*** | | | ***$69.03*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$168** | | | **$27** | | | **$70** |

**Reconn Charges - @ Meter (AFTER Hours)**
**Costing:**

| | Physically at Meter | | | Remote | | | Blended | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2026 Rate/Hr | Hours | Calculated Cost | 2026 Rate/Hr | Hours | Calculated Cost | 2026 Rate/Hr | Hours | Calculated Cost |
| **LABOUR** | | | | | | | | | |
| Direct Labour (Optima):<br>- Optima Agent<br>- Customer calls to discuss reconnection. Agent reviews account and enters the request into OMS for the System Office to contact the customer (6min) | $57.00 | 0.10 | $5.70 | $57.00 | 0.10 | $5.70 | | | $5.70 |
| Direct Labour (inside staff):<br>- System Office<br>- Customer calls to make arrangements for reconnect (and associated payments etc) (5 min)<br>If Remote disconnect:<br>- Logs into MAS and calls up meter number for disconnect. (1 min)<br>- Updates field activity and CC&B (3 min) | $141.00 | 0.08 | $11.75 | $141.00 | 0.15 | $21.15 | | | $18.33 |
| System Office Shift Differential | $1.41 | 0.08 | $0.12 | $1.41 | 0.15 | $0.21 | | | $0.18 |
| If Physical Disconnect:<br>- Direct Labour (outside staff):<br>Field Representative (1 hour)<br>- One staff needed if reconnection at Meter; Two if at Pole | $222.00 | 1.00 | $221.74 | N/A | N/A | | | | $66.52 |
| ***Total Labour Cost*** | | | ***$239.31*** | | | ***$27.06*** | | | ***$90.73*** |
| **OTHER** | | | | | | | | | |
| Fleet - Ford Transits | 9.00 | 1.00 | $9.00 | | | | | | $2.70 |
| Material | N/A | | | N/A | | | | | |
| Contract | N/A | | | N/A | | | | | |
| Other - MAS software costs (If remote) | | | | 0.00 | | $0.00 | | | $0.00 |
| Other - OMS software costs | 0.00 | | | 0.00 | | $0.00 | | | $0.00 |
| ***Total Other*** | | | **$9.00** | | | **$0.00** | | | **$2.70** |
| ***Total Cost*** | | | ***$248.31*** | | | ***$27.06*** | | | ***$93.43*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$249** | | | **$28** | | | **$94** |

**Reconn Charges - @ Pole (Regular Hours)**
**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (Optima):<br>- Optima Agent<br>- Customer calls to discuss reconnection. Agent reviews account and sets up a To Do in CC&B for a Collection Agent to contact the customer (6min) | $57.00 | 0.10 | 5.70 |
| Direct Labour (inside staff):<br>- Collection Agent (5 min)<br>- Customer calls to make arrangements for reconnect (and associated payments etc) | $141.00 | 0.08 | 11.75 |
| Direct Labour (outside staff):<br>- Field Representative (1 hour x two staff)<br>- One staff needed if reconnection at Meter; Two if at Pole | $141.00 | 2.00 | 282.00 |
| ***Total Labour Cost*** | | | ***299.45*** |
| **OTHER** | | | |
| Fleet - Ford Transits | 9.00 | 2.00 | 18.00 |
| Material | N/A | | |
| Contract | N/A | | |
| Other | N/A | | |
| ***Total Other*** | | | ***18.00*** |
| ***Total Cost*** | | | ***317.45*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$318** |

**Reconn Charges - @ Pole (AFTER Hours)**
**Costing:**

| | Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (Optima):<br>- Optima Agent<br>- Customer calls to discuss reconnection. Agent reviews account and enters the request into OMS for the System Office to contact the customer (6min) | $57.00 | 0.10 | $5.70 |
| Direct Labour (inside staff):<br>- System Office (5 min)<br>- Customer calls to make arrangements for reconnect (and associated payments etc) | $141.00 | 0.08 | $11.75 |
| System Office Shift Differential | $1.41 | 0.08 | $0.12 |
| Direct Labour (outside staff): OT rate used<br>- Field Representative (1 hour )<br>- One staff needed if reconnection at Meter; Two if at Pole | $221.74 | 2.00 | $443.48 |
| ***Total Labour Cost*** | | | ***$461.05*** |
| **OTHER** | | | |
| Fleet - Ford Transits | 9.00 | 2.00 | $18.00 |
| Material | N/A | | |
| Contract | N/A | | |
| Other - OMS software costs | 0.00 | | |
| ***Total Other*** | | | ***$18.00*** |
| ***Total Cost*** | | | ***$479.05*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$480** |

**Temp Services: I&R Overhead no transformer**

**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Internal labour<br>- 2 Powerline Maintainer (2 hours each) | $141 | 4 | $564.00 |
| - Service layout agents (0.5h travel and 1hr on site) | $141 | 1.5 | $211.50 |
| ***Total Labour Cost*** | | | ***$775.50*** |
| **OTHER** | | | |
| Material | | | $45.00 |
| Metering cost | | | $117.00 |
| Fleet: 2 hours of vehicle RBD | $63.00 | 2 | $126.00 |
| Fleet: 1.5 hour for cargo van (Layout agent) | $9.00 | 1.5 | $15.00 |
| ***Total Other*** | | | ***$303.00*** |
| ***Total Cost*** | | | ***$1,078.50*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$1,079** |

**Temp Services: I&R Underground no transformer**

**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Internal labour<br>- 2 PLM (3 hours each) | $141 | 6 | $846.00 |
| - Service layout agents (0.5h travel and 1hr on site) | $141 | 1.5 | $211.50 |
| ***Total Labour Cost*** | | | ***$1,057.50*** |
| **OTHER** | | | |
| Material | | | $45.00 |
| Metering cost | | | $117.00 |
| Fleet: 3 hours of vehicle RBD | $63.00 | 3 | $189.00 |
| Fleet: 1.5 hour for cargo van (Layout agent) | $9.00 | 1.5 | $13.50 |
| ***Total Other*** | | | ***$364.50*** |
| ***Total Cost*** | | | ***$1,422.00*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$1,422** |

**Temp Services: I&R Overhead with transformer**

**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Internal labour<br>- 5 PLM (4 hours each) | 141 | 20 | $2,820 |
| - Service layout agents (0.5h travel and 1hr on site) | 141 | 1.5 | $212 |
| - Field Tech | 141 | 1 | $141 |
| ***Total Labour Cost*** | | | ***$3,173*** |
| **OTHER** | | | |
| Material (25% of transformer cost, around $1,200) | | | $1,200 |
| Metering cost | | | $117 |
| Fleet: 4 hours of 1 large Bucket Truck | $60.00 | 4 | $240 |
| Fleet: 4 hours of 1 large RBD | $63.00 | 4 | $252 |
| Fleet: 1 hour of 1 Pickup Truck | $15.00 | 1 | $15 |
| Fleet: 1.5 hour for cargo van (Layout agent) | $9.00 | 1.5 | $14 |
| ***Total Other*** | | | ***$1,838*** |
| ***Total Cost*** | | | ***$5,010*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$5,010** |

**Energy Resource Facility Admin Charge**
**Costing:**

| | 2026 Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|
| **LABOUR** | | | |
| Direct Labour (inside staff):<br>- Metering<br>- Receive & review assignment request, prepare assignment instrument and new payment form (20 min) | $141.00 | 0.33 | $47.00 |
| Direct Labour (inside staff):<br>- Legal Dept<br>- Review assignment instrument (20 min) | $141.00 | 0.33 | $47.00 |
| Direct Labour (inside staff):<br>- Finance (Total 30 min):<br>- Contract Information Validation (5 min)<br>- HST verification (5 min)<br>- Direct Deposit Set Up (5 min)<br>- CC&B Account validation (5 min)<br>- Set up rate, HST etc. in CC&B (5 min)<br>- Contact Database update (5 min) | $141.00 | 0.50 | $71.00 |
| ***Total Labour Cost*** | | | ***$165.00*** |
| **OTHER** | | | |
| Vehicle Time | N/A | | |
| Materials - Postage @ $0.90/ acct | N/A | | |
| Contract | N/A | | |
| Other: | N/A | | |
| ***Total Other*** | | | ***$0.00*** |
| ***Total Cost*** | | | ***$165.00*** |
| **Specific Service Charge Value - Rounded up to nearest $** | | | **$165.00** |

# Attachment 8-4-1(B) - Dry Core Calculations

## (Refer to the attachment in Excel format)

# GENERATION CHARGES

## 1. INTRODUCTION

The Generation Service charges reflect the costs of managing generation accounts on a monthly basis.

Hydro Ottawa is proposing to remove the Net-Metering Service Charge and maintain the Micro Feed in Tariff (MicroFIT), Feed in Tariff (FIT), and Hydro Electric Contract Initiative (HCI), Renewable Energy Standard Offer Program (RESOP), and Other Energy Resource Service charges as part of this Application. Under the 2026 to 2030 framework, the proposed 2026 charges would adjust for 2.10% inflationary increases on an annual basis through 2030. The 2.10% is consistent with the inflation rate applied to the majority of other revenue rates as part of this Application.

Table 1 summarizes the approved Generator Service charges for 2025 and the proposed Generator Service charges for 2026-2030.

**Table 1 – Monthly Generator Service Charges**

| | Approved | Proposed | | | | |
|---|---|---|---|---|---|---|
| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| MicroFIT[1] | $ 16 | $ 11 | $ 12 | $ 12 | $ 12 | $ 12 |
| FIT[2] | $ 84 | $ 87 | $ 89 | $ 91 | $ 93 | $ 95 |
| HCI, RESOP, Other Energy Resource | $ 347 | $ 266 | $ 272 | $ 277 | $ 283 | $ 289 |
| Net-Metering | $ 15 | - | - | - | - | - |

[1] Includes other generators <10KW that require settlement services from Hydro Ottawa. For further details, please attachments 8-5-1(B) - 2027-2030 Proposed Tariff of Rates and Charges and 8-5-1(C) - 2026-2030 Bill Impacts Model
[2] Includes other generators >10KW that require settlement services from Hydro Ottawa. For further details, please attachments 8-5-1(B) - 2027-2030 Proposed Tariff of Rates and Charges and 8-5-1(C) - 2026-2030 Bill Impacts Model

## 2. MICROFIT AND OTHER GENERATION <10 KW

As a result of business efficiencies and automating processes in managing the monthly MicroFIT accounts, Hydro Ottawa is applying to reduce the current 2025 rate of $16 to $11 in 2026.

As MicroFIT generation contracts are renewed and new programming may be introduced, Hydro Ottawa is proposing to adjust the name of this service charge to be inclusive of other generators <10KW that require settlement services from Hydro Ottawa that do not fall under net metering. For further details, please see Attachment 8-5-1(B) - 2027-2030 Proposed Tariff of Rates and Charges and 8-5-1(C) - 2026-2030 Bill Impacts Model.

## 3. FIT AND OTHER GENERATION >10 KW

Hydro Ottawa is proposing to increase the current 2025 rate of $84 to $87 for FIT customers in 2026 and apply inflationary increases through 2030. The main driver of the increased rate is due to increased internal labour rates.

Similar to the MicroFit generation service charge, FIT generation contracts may be renewed and new programing may have another programing name; Hydro Ottawa is proposing to adjust the name of this service charge to be inclusive of other generators >10KW that require settlement services from Hydro Ottawa that align with the classification of Larger Generators or net metering. For further details, please see Attachment 8-5-1(B) - 2027-2030 Proposed Tariff of Rates and Charges and 8-5-1(C) - 2026-2030 Bill Impacts Model.

## 4. HCI, RESOP, OTHER ENERGY RESOURCE

As a result of greater efficiencies in managing an increasing number of generators, Hydro Ottawa is applying to decrease the current approved 2025 rate of $347 to $266 in 2026 for HCI, RESOP and Other Energy Resource.

## 5. NET METERING SERVICE CHARGE

Hydro Ottawa is proposing to remove the Net Metering service charge for the 2026-2030 period. As of November 1, 2021 Hydro Ottawa stopped charging the monthly service charge to Net Metering customers. Net metering customers, unlike other generation customers, also incur a monthly fixed service charge based on the distribution rate class they are assigned. The net metering charge was removed to encourage residents to generate their own energy, and support the City of Ottawa's Energy & Emissions Plan. For further details, please refer to Schedule 6-3-4 - Other Operating Revenue.

**Generation charges**
**MICRO FIT Monthly**
**Costing:**

| | | | Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|---|---|
| **L** | Direct Labour (Inside Staff):<br>Straight Time: Billing Agent - reduced as exception work only (mostly automated)<br>1 day/month | | $141.00 | 7.25 | $1,022.25 |
| **A** | Direct Labour (Inside Staff):<br>Straight Time: MDS Analyst @ 3.5 days/month | | $141.00 | 25.38 | $3,577.88 |
| **B** | Direct Labour (Inside Staff):<br>Straight Time: Finance @ 4.0 days/month | | $141.00 | 29.00 | $4,089.00 |
| **O** | Direct Labour (Inside Staff):<br>Straight Time: Accounts Payables Union Clerk @ 72 min/month | | $141.00 | 1.20 | $169.20 |
| **U** | Direct Labour (Inside Staff):<br>Straight Time: Accounts Payables Supervisor @ 18 min/month | | $141.00 | 0.30 | $42.30 |
| **R** | **Sub total** | | | | **$8,900.63** |
| | Number of Accounts as of March 2024 | | 872 | | |
| ***Average Total Cost (Labour Hrs Cost over # of accounts)*** | | | | | ***$10.21*** |
| **O** | | | | | |
| **T** | | | | | |
| **H** | **Other:** | Materials - Postage per account | 1.03 | | $0.52 |
| **E** | | Cheque per account * | 0.26 | | $0.13 |
| **R** | | Other | N/A | | |
| | | ***Total Other*** | | | **$0.65** |
| ***Total Cost*** | | | | | ***$10.85*** |
| **2026 proposed rate $** | | | | | ***$11.00*** |

**Generation charges**
**FIT Monthly**
**Costing:**

| | | | Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|---|---|
| **L** | Direct Labour (Inside Staff):<br>Straight Time: MDS Analyst @ 3.5 days/month | | $141.00 | 25.38 | $3,577.88 |
| **A** | Direct Labour (Inside Staff):<br>Straight Time: Finance @ 5.2 days/month | | $141.00 | 37.70 | $5,315.70 |
| **B** | Direct Labour (Inside Staff):<br>Straight Time: Accounts Payables Union Clerk @ 8 min/month | | $141.00 | 0.13 | $18.80 |
| **O** | Direct Labour (Inside Staff):<br>Straight Time: Accounts Payables Supervisor @ 2 min/month | | $141.00 | 0.03 | $4.70 |
| **U** | **Sub total** | | | | **$8,917.08** |
| **R** | Number of Accounts as of March 2024 | | 103 | | |
| | | | | | |
| ***Average Total Cost (Labour Hrs Cost over # of accounts)*** | | | | | ***$86.57*** |
| **O** | | | | | |
| **T** | | | | | |
| **H** | **Other:** | Materials - Postage per account | 0.00 | | |
| **E** | | Contract | N/A | | |
| **R** | | Other | N/A | | |
| | | ***Total Other*** | | | **$0.00** |
| ***Total Cost*** | | | | | ***$86.57*** |
| **2026 proposed rate $** | | | | | ***$87.00*** |

**Generation charges**
**HCI, RESOP, Other Energy Resource Facility Monthly Account Management Charge**
**Costing:**

| | | | Rate/Hr | Hours | Calculated Cost |
|---|---|---|---|---|---|
| **L** | Direct Labour (Inside Staff):<br>Straight Time: Finance @ 1.8 days/month | | $141.00 | 13.05 | $1,840.05 |
| **A** | Direct Labour (Inside Staff):<br>Straight Time: Accounts Payables Union Clerk @ 20 min/month | | $141.00 | 0.33 | $47.00 |
| **B** | Direct Labour (Inside Staff):<br>Straight Time: Accounts Payables Supervisor @ 4 min/month | | $141.00 | 0.07 | $9.40 |
| **O** | Direct Labour (Inside Staff):<br>Straight Time: MDS Analyst @ 3.5 hours/month | | $141.00 | 3.50 | $493.50 |
| **U** | | **Sub total** | | | **$2,389.95** |
| **R** | | Number of Accounts as of March 2024 | 9 | | |
| | | | | | |
| ***Average Total Cost (Labour Hrs Cost over # of accounts)*** | | | | | ***$265.55*** |
| **O** | | | | | |
| **T** | | | | | |
| **H** | **Other:** | Materials - Postage / acct * | N/A | | |
| **E** | | Contract | N/A | | |
| **R** | | Other | N/A | | |
| | | ***Total Other*** | | | **$0.00** |
| ***Total Cost*** | | | | | ***$265.55*** |
| **2026 proposed rate $** | | | | | ***$266.00*** |

# RETAIL SERVICE CHARGES

## 1. INTRODUCTION

Retail service charges (RSCs) apply to the services provided by a distributor to retailers or customers with respect to the supply of competitive electricity through retailer contracts in accordance with the Retail Settlement Code. As part of this Application, Hydro Ottawa will not be seeking distributor-specific RSCs.

## 2. RETAIL SERVICE CHARGES

Table 1 below provides illustrative RSCs for 2026-2030. The 2026 charges are consistent with 2025 approved rates in the OEB Decision and Order for retailer service charges.[1] As a placeholder for the generic RSCs the 2027-2030 period, charges have been held flat for illustrative purposes. Hydro Ottawa proposes to update RSCs in accordance with applicable OEB Decisions and Orders during the 2026-2030 period.

[1] Ontario Energy Board, *Decision and Order In the matter of the inflationary adjustment effective January 1, 2025, for energy retailer service charges for electricity distributors*, EB-2024-0226 (September 26, 2024).

## Table 1 – Retail Service Charges

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|
| Standard charge, per retailer | $ 121.23 | $ 121.23 | $ 121.23 | $ 121.23 | $ 121.23 | $ 121.23 |
| Monthly fixed charge, per retailer | $ 48.50 | $ 48.50 | $ 48.50 | $ 48.50 | $ 48.50 | $ 48.50 |
| Monthly variable charge, per customer, per retailer | $ 1.20 | $ 1.20 | $ 1.20 | $ 1.20 | $ 1.20 | $ 1.20 |
| Distributor-consolidated billing monthly charge, per customer, per retailer | $ 0.71 | $ 0.71 | $ 0.71 | $ 0.71 | $ 0.71 | $ 0.71 |
| Retailer-consolidated billing monthly credit, per customer, per retailer | $ (0.71) | $ (0.71) | $ (0.71) | $ (0.71) | $ (0.71) | $ (0.71) |
| Service Transaction Requests, per request | $ 0.61 | $ 0.61 | $ 0.61 | $ 0.61 | $ 0.61 | $ 0.61 |
| Service Transactions Requests, per process | $ 1.20 | $ 1.20 | $ 1.20 | $ 1.20 | $ 1.20 | $ 1.20 |
| Electronic Business Transaction, up to two per year | no charge | no charge | no charge | no charge | no charge | no charge |
| Electronic Business Transaction, more than two, per request | $ 4.85 | $ 4.85 | $ 4.85 | $ 4.85 | $ 4.85 | $ 4.85 |
| Notice of switch letter charge, per letter | $ 2.42 | $ 2.42 | $ 2.42 | $ 2.42 | $ 2.42 | $ 2.42 |

Hydro Ottawa has not included charges for the Notice of Switch Letter Charge, as the utility has chosen to opt out of applying the charge. As noted in a letter to the OEB dated April 12, 2019, Hydro Ottawa considered the associated costs of implementing and maintaining this charge and found that the costs outweigh the forecasted revenues. In accordance with the direction set forth in the OEB's Decision and Order of energy retailer service charges effective May 1, 2019,[2] Hydro Ottawa will notify the OEB should a decision to commence re-applying the charge be made in the future.

[2] Ontario Energy Board, *Decision and Order In the matter of energy retailer service charges effective May 1, 2019*, EB-2015-03034 (February 14, 2019).

# Schedule 8-5-1 Bill Impacts and Tariff of Rates and Charges

## 1. INTRODUCTION

This Schedule describes bill impacts for typical customers in each rate class arising from Hydro Ottawa's revenue requirement adjusted for cost allocation.

Hydro Ottawa's 2025 current and 2026 proposed tariffs of rates and charges are provided in Excel Attachment 8-5-1(A) - OEB Workform - 2025 Current and 2026 Proposed Tariff of Rates and Charges. A PDF version of the utility's 2025 current and 2026-2030 proposed tariff of rates and charges is provided as Attachment 8-5-1(B) - 2025 Current and 2026-2030 Proposed Tariff of Rates and Charges.

Details of the impacts of the proposed rates are provided in Excel Attachment 8-5-1(C) - 2026-2030 Bill Impacts Model. Attachment 8-5-1(C) illustrates individual and combined impacts of the distribution, transmission connection and network charges, total bill impact, as well as all other components of the bill. Typical consumption levels are used for each rate class to illustrate bill impacts.

## 2. SUMMARY OF RATE IMPACTS

Table 1 below provides a summary of bill impacts per rate class including the total change in monthly bill, as expressed in both monetary and percentage terms. The summary is inclusive of variance accounts. Bill impacts for residential and general service customers are shown using OEB's typical consumption usage of 750 kWh per month and 2,000 kWh per month respectively. Additional bill impacts are provided in Excel Attachment 8-5-1(C) - 2026-2030 Bill Impacts Model which are not shown in Table 1.

## Table 1 – Summary of Rate Impacts

| Rate Class | | Approved | Proposed | | | | |
|---|---|---|---|---|---|---|---|
| | | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| Residential (750 kWh) | Distribution Charge | $34.51 | $40.59 | $44.38 | $47.69 | $50.41 | $53.15 |
| | Change in Distribution Charge | | $6.08 | $3.79 | $3.31 | $2.72 | $2.74 |
| | % Distribution Increase | | 17.62% | 9.34% | 7.46% | 5.70% | 5.44% |
| | % Increase of Total Bill | | 6.05% | 2.73% | 2.33% | 1.88% | 1.85% |
| General Service <50 kW (2000 kWh) | Distribution Charge | $85.93 | $100.50 | $108.92 | $116.42 | $123.04 | $128.84 |
| | Change in Distribution Charge | | $14.57 | $8.42 | $7.50 | $6.62 | $5.80 |
| | % Distribution Increase | | 16.96% | 8.38% | 6.89% | 5.69% | 4.71% |
| | % Increase of Total Bill | | 4.94% | 2.35% | 2.05% | 1.77% | 1.53% |
| General Service 50 kW - 1,499 kW (185 kW) | Distribution Charge | $1,366.91 | $1,673.88 | $1,835.23 | $1,966.69 | $2,079.17 | $2,192.43 |
| | Change in Distribution Charge | | $306.97 | $161.36 | $131.46 | $112.48 | $113.26 |
| | % Distribution Increase | | 22.46% | 9.64% | 7.16% | 5.72% | 5.45% |
| | % Increase of Total Bill | | 0.40% | 1.36% | 1.09% | 0.92% | 0.92% |
| General Service 1,500 kW - 4,999 kW (1,925 kW) | Distribution Charge | $16,219.02 | $18,031.03 | $20,584.54 | $22,143.40 | $23,428.53 | $24,549.08 |
| | Change in Distribution Charge | | $1,812.00 | $2,553.51 | $1,558.87 | $1,285.13 | $1,120.54 |
| | % Distribution Increase | | 11.17% | 14.16% | 7.57% | 5.80% | 4.78% |
| | % Increase of Total Bill | | -0.93% | 1.88% | 1.12% | 0.92% | 0.79% |
| Large Use (7,500 kW) | Distribution Charge | $61,692.18 | $69,467.43 | $81,506.43 | $89,100.93 | $94,642.68 | $102,371.43 |
| | Change in Distribution Charge | | $7,775.25 | $12,039.00 | $7,594.50 | $5,541.75 | $7,728.75 |
| | % Distribution Increase | | 12.60% | 17.33% | 9.32% | 6.22% | 8.17% |
| | % Increase of Total Bill | | -1.03% | 2.06% | 1.27% | 0.92% | 1.27% |
| Sentinel Lighting (0.4 kW) | Distribution Charge | $20.19 | $21.91 | $24.10 | $25.89 | $27.37 | $28.86 |
| | Change in Distribution Charge | | $1.72 | $2.19 | $1.79 | $1.48 | $1.49 |
| | % Distribution Increase | | 8.51% | 9.97% | 7.45% | 5.73% | 5.43% |
| | % Increase of Total Bill | | 9.23% | 6.15% | 4.77% | 3.78% | 3.65% |
| Street Lighting (50kW) | Distribution Charge | $928.89 | $983.59 | $732.56 | $766.04 | $782.25 | $789.60 |
| | Change in Distribution Charge | | $54.70 | ($251.03) | $33.48 | $16.21 | $7.36 |
| | % Distribution Increase | | 5.89% | -25.52% | 4.57% | 2.12% | 0.94% |
| | % Increase of Total Bill | | -0.21% | -7.55% | 1.09% | 0.52% | 0.24% |
| Unmetered Scattered Load (470 kWh) | Distribution Charge | $22.98 | $25.80 | $28.49 | $30.47 | $32.23 | $33.72 |
| | Change in Distribution Charge | | $2.82 | $2.70 | $1.97 | $1.76 | $1.49 |
| | % Distribution Increase | | 12.27% | 10.46% | 6.92% | 5.78% | 4.64% |
| | % Increase of Total Bill | | 5.14% | 3.10% | 2.22% | 1.94% | 1.29% |

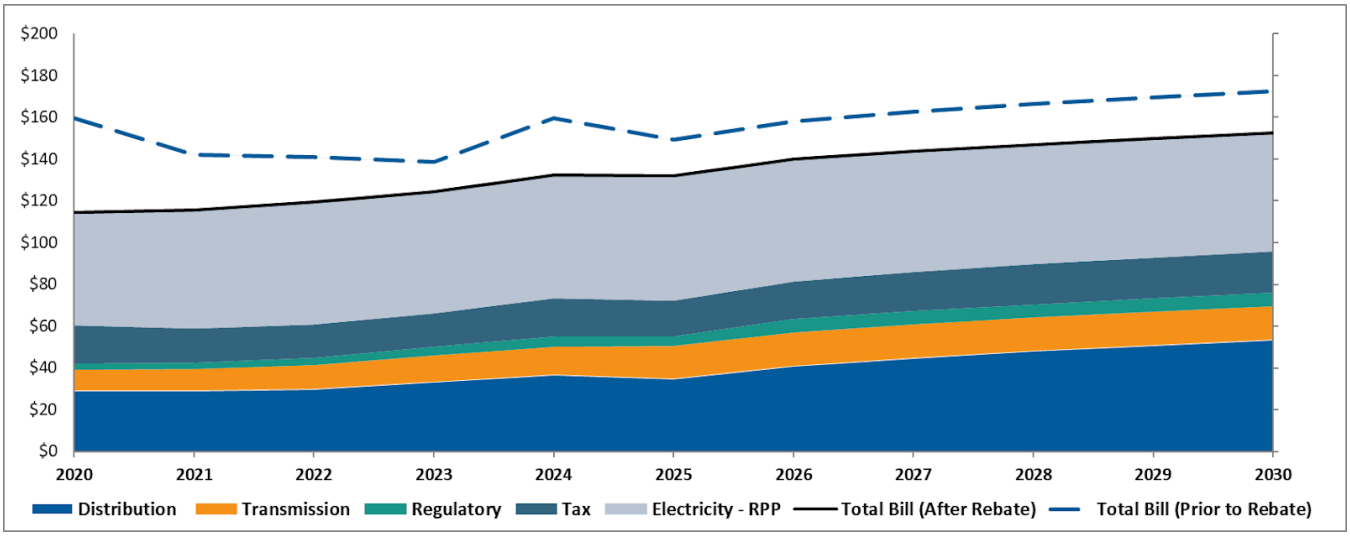
## 2.1. SUMMARY OF RESIDENTIAL RATE IMPACTS

Figure 1 displays the bill components for a Hydro Ottawa Regulated Price Plan (RPP) residential consumer who uses 750 kWh per month.

For the 2020-2025 period, the bill has been illustrated using the OEB-approved rates for all charges.

For the 2026-2030 Test Years, Hydro Ottawa has used the rates detailed in Excel Attachment 8-5-1(C) - 2026-2030 Bill Impacts Model. This includes the following: the proposed distribution, low voltage, transmission and network charges; the current RPP rates;[1] the proposed Standard Supply Service (SSS) Charge; current Wholesale charges; taxes; and application of the 13.1% Ontario Electricity Rebate to all years.

**Figure 1 – Hydro Ottawa Bill Components 2020-2030**
**Residential Customer (750 kWh)**




[1] RPP Rates as of November 1, 2024.

# Attachment 8-5-1(A) - OEB Workform - 2025 Current and 2026 Proposed Tariff of Rates and Charges

## (Refer to the attachment in Excel format)

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## RESIDENTIAL SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triple or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 34.26 |
| Rate Rider for Lost Revenue Adjustment Mechanism (LRAM) Recovery - effective until December 31, 2025 | $ | 0.25 |
| Smart Metering Entity Charge - effective until December 31, 2027 | $ | 0.42 |
| Low Voltage Service Rate | $/kWh | 0.00005 |
| Rate Rider for Disposition of Deferral/Variance Accounts (2025) - effective until December 31, 2025 | $/kWh | (0.0002) |
| Rate Rider for Disposition of Capacity Based Recovery Account (2025) - Applicable only for Class B Customers - effective until December 31, 2025 | $/kWh | 0.0002 |
| Rate Rider for Disposition of Global Adjustment Account (2025) - Applicable only for Non-RPP Customers - effective until December 31, 2025 | $/kWh | 0.0039 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0126 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 0.25 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than 50 kW. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 23.53 |
| Smart Metering Entity Charge - effective until December 31, 2027 | $ | 0.42 |
| Distribution Volumetric Rate | $/kWh | 0.0305 |
| Low Voltage Service Rate | $/kWh | 0.00005 |
| Rate Rider for Lost Revenue Adjustment Mechanism (LRAM) Recovery - effective until December 31, 2025 | $/kWh | 0.0007 |
| Rate Rider for Disposition of Capacity Based Recovery Account (2025) - Applicable only for Class B Customers - effective until December 31, 2025 | $/kWh | 0.0002 |
| Rate Rider for Disposition of Global Adjustment Account (2025) - Applicable only for Non-RPP Customers - effective until December 31, 2025 | $/kWh | 0.0039 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0118 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0070 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 0.25 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## GENERAL SERVICE 50 TO 1,499 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 1,500 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 200.00 |
| Distribution Volumetric Rate | $/kW | 6.5553 |
| Low Voltage Service Rate | $/kW | 0.02063 |
| Rate Rider for Lost Revenue Adjustment Mechanism (LRAM) Recovery - effective until December 31, 2025 | $/kW | (0.2477) |
| Rate Rider for Disposition of Deferral/Variance Accounts (2025) - effective until December 31, 2025 | $/kW | 0.3531 |
| Rate Rider for Disposition of Capacity Based Recovery Account (2025) - Applicable only for Class B Customers - effective until December 31, 2025 | $/kWh | 0.0002 |
| Rate Rider for Disposition of Deferral/Variance Accounts (2025) - Applicable only for Non-Wholesale Market Participants - effective until December 31, 2025 | $/kW | (0.3050) |
| Rate Rider for Disposition of Global Adjustment Account (2025) - Applicable only for Non-RPP Customers - effective until December 31, 2025 | $/kWh | 0.0039 |
| Retail Transmission Rate - Network Service Rate | $/kW | 4.8480 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.8187 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 0.25 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## GENERAL SERVICE 1,500 TO 4,999 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 1,500 kW but less than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 4126.75 |
| Distribution Volumetric Rate | $/kW | 6.0796 |
| Low Voltage Service Rate | $/kW | 0.02204 |
| Rate Rider for Lost Revenue Adjustment Mechanism (LRAM) Recovery - effective until December 31, 2025 | $/kW | 0.2021 |
| Rate Rider for Disposition of Deferral/Variance Accounts (2025) - effective until December 31, 2025 | $/kW | 0.0536 |
| Rate Rider for Disposition of Capacity Based Recovery Account (2025) - Applicable only for Class B Customers - effective until December 31, 2025 | $/kWh | 0.0002 |
| Rate Rider for Disposition of Global Adjustment Account (2025) - Applicable only for Non-RPP Customers - effective until December 31, 2025 | $/kWh | 0.0039 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.0337 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.0126 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 0.25 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## LARGE USE SERVICE CLASSIFICATION

This classification refers to an account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

**MONTHLY RATES AND CHARGES - Delivery Component**

| | | |
|---|---|---|
| Service Charge | $ | 14946.93 |
| Distribution Volumetric Rate | $/kW | 6.0316 |
| Low Voltage Service Rate | $/kW | 0.02482 |
| Rate Rider for Lost Revenue Adjustment Mechanism (LRAM) Recovery - effective until December 31, 2025 | $/kW | 0.2011 |
| Rate Rider for Disposition of Deferral/Variance Accounts (2025) - effective until December 31, 2025 | $/kW | 0.0634 |
| Rate Rider for Disposition of Capacity Based Recovery Account (2025) - Applicable only for Class B Customers - effective until December 31, 2025 | $/kWh | 0.0002 |
| Rate Rider for Disposition of Global Adjustment Account (2025) - Applicable only for Non-RPP Customers - effective until December 31, 2025 | $/kWh | 0.0039 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.5802 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.3924 |

**MONTHLY RATES AND CHARGES - Regulatory Component**

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 0.25 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase whose monthly average peak demand is less than, or is forecast to be less than, 50 kW and the consumption is unmetered. These connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical demand/consumption of the proposed unmetered load. Class B consumers are defined in accordance with O. Reg. 429/04. Qualification for this classification is at the discretion of Hydro Ottawa as defined in its Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 7.09 |
| Distribution Volumetric Rate | $/kWh | 0.0338 |
| Low Voltage Service Rate | $/kWh | 0.00005 |
| Rate Rider for Disposition of Deferral/Variance Accounts (2025) - effective until December 31, 2025 | $/kWh | 0.0001 |
| Rate Rider for Disposition of Capacity Based Recovery Account (2025) - Applicable only for Class B Customers - effective until December 31, 2025 | $/kWh | 0.0002 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0118 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0070 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 0.25 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## STANDBY POWER SERVICE CLASSIFICATION

This classification refers to an account that has Load Displacement Generation equal to or greater than 500 kW and requires the distributor to provide back-up service. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such asthe Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component - Approved on an Interim Basis

| | | |
|---|---|---|
| Service Charge | $ | 186.89 |
| General Service 50 TO 1,499 kW customer | $/kW | 2.4940 |
| General Service 1,500 TO 4,999 kW customer | $/kW | 2.2877 |
| General Service Large User kW customer | $/kW | 2.5388 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## SENTINEL LIGHTING SERVICE CLASSIFICATION

This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 7.02 |
| Distribution Volumetric Rate | $/kW | 32.9297 |
| Low Voltage Service Rate | $/kW | 0.01532 |
| Rate Rider for Disposition of Deferral/Variance Accounts (2025) - effective until December 31, 2025 | $/kW | 0.0414 |
| Rate Rider for Disposition of Capacity Based Recovery Account (2025) - Applicable only for Class B Customers - effective until December 31, 2025 | $/kWh | 0.0002 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.5788 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.0942 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 0.25 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## STREET LIGHTING SERVICE CLASSIFICATION

This classification refers to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting controlled by photocells. The consumption for these customers is based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

**MONTHLY RATES AND CHARGES - Delivery Component**

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 1.12 |
| Distribution Volumetric Rate | $/kW | 7.8164 |
| Low Voltage Service Rate | $/kW | 0.01564 |
| Rate Rider for Disposition of Account 1595 - effective until December 31, 2026 | $/kW | 4.8925 |
| Rate Rider for Disposition of Deferral/Variance Accounts (2025) - effective until December 31, 2025 | $/kW | 0.0410 |
| Rate Rider for Disposition of Capacity Based Recovery Account (2025) - Applicable only for Class B Customers - effective until December 31, 2025 | $/kWh | 0.0002 |
| Rate Rider for Disposition of Global Adjustment Account (2025) - Applicable only for Non-RPP Customers - effective until December 31, 2025 | $/kWh | 0.0039 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.5970 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.1377 |

**MONTHLY RATES AND CHARGES - Regulatory Component**

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 0.25 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## NET-METERING SERVICE CLASSIFICATION

This classification applies to an eligible electricity generation facility as defined in O. Reg. 541/05 . Further servicing details are available in the distributor's Conditions of Service.

**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

**MONTHLY RATES AND CHARGES - Delivery Component**

| | | |
|---|---|---|
| Service Charge | $ | 16.00 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## microFIT SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

**MONTHLY RATES AND CHARGES - Delivery Component**

| | | |
|---|---|---|
| Service Charge | $ | 16.00 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## FIT SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's FIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

**MONTHLY RATES AND CHARGES - Delivery Component**

| | | |
|---|---|---|
| Service Charge | $ | 84.00 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## HCI, RESOP, OTHER ENERGY RESOURCE SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's HCI, RESOP and Other Energy Resource programs and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

**MONTHLY RATES AND CHARGES - Delivery Component**

| | | |
|---|---|---|
| Service Charge | $ | 347.00 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## ALLOWANCES

| | | |
|---|---|---|
| Transformer Allowance for Ownership - per kW of billing demand/month - effective until October 31, 2025 | $/kW | (0.45) |
| Primary Metering Allowance for Transformer Losses - applied to measured demand & energy | % | (1.00) |

## SPECIFIC SERVICE CHARGES

**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### Customer Administration

| | | |
|---|---|---|
| Arrears Certificate | $ | 18.00 |
| Easement Certificate for Unregistered Easements | $ | 29.00 |
| Duplicate invoices for previous billing | $ | 6.00 |
| Special billing service per hour (min 1 hour, 15 min incremental billing thereafter) | $ | 140.00 |
| Credit reference/credit check (plus credit agency costs) | $ | 18.00 |
| Unprocessed payment charge (plus bank charges) | $ | 29.00 |
| Account set up charge/change of occupancy charge (plus credit agency costs if applicable) | $ | 29.00 |
| Interval meter - field reading | $ | 359.00 |
| High bill investigation - if billing is correct | $ | 270.00 |

### Non-Payment of Account

| | | |
|---|---|---|
| Late payment - per month<br>(effective annual rate 19.56% per annum or 0.04896% compounded daily rate | % | 1.50 |
| Reconnection at meter - during regular hours | $ | 76.00 |
| Reconnection at meter - after regular hours | $ | 115.00 |
| Reconnection at pole - during regular hours | $ | 286.00 |
| Reconnection at pole - after regular hours | $ | 483.00 |

### Other

| | | |
|---|---|---|
| Temporary service - install & remove - overhead - no transformer | $ | 1007.00 |
| Temporary service - install & remove - underground - no transformer | $ | 1461.00 |
| Temporary service - install & remove - overhead - with transformer | $ | 3590.00 |
| Specific charge for access to the power poles - $/pole/year (with the exception of wireless attachments) | $ | 39.14 |
| Dry core transformer distribution charge | | Per Attached Table |
| Energy resource facility administration charge (account set-up charge separately if applicable) | $ | 162.00 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0035**

## RETAIL SERVICE CHARGES (if applicable)

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity.

| | | |
|---|---|---|
| One-time charge, per retailer, to establish the service agreement between the distributor and the retailer | $ | 121.23 |
| Monthly fixed charge, per retailer | $ | 48.50 |
| Monthly variable charge, per customer, per retailer | $/cust. | 1.20 |
| Distributor-consolidated billing monthly charge, per customer, per retailer | $/cust. | 0.71 |
| Retailer-consolidated billing monthly credit, per customer, per retailer | $/cust. | (0.71) |
| Service Transaction Requests (STR) | | |
| Request fee, per request, applied to the requesting party | $ | 0.61 |
| Processing fee, per request, applied to the requesting party | $ | 1.20 |
| Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party | | |
| Up to twice a year | $ | no charge |
| More than twice a year, per request (plus incremental delivery costs) | $ | 4.85 |
| Notice of switch letter charge, per letter (unless the distributor has opted out of applying the charge as per the Ontario Energy Board's Decision and Order EB-2015-0304, issued on February 14, 2019) | $ | 2.42 |

## LOSS FACTORS

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

| | |
|---|---|
| Total Loss Factor - Secondary Metered Customer < 5,000 kW | 1.0338 |
| Total Loss Factor - Secondary Metered Customer > 5,000 kW | 1.0152 |
| Total Loss Factor - Primary Metered Customer < 5,000 kW | 1.0234 |
| Total Loss Factor - Primary Metered Customer > 5,000 kW | 1.0051 |

# Hydro Ottawa Limited
## TARIFF OF RATES AND CHARGES
### Effective and Implementation Date January 1, 2025

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

EB-2024-0035

**Dry Core Transformer Charges**

| Transformers | No Load | Load | Cost of | Cost of | Total | Cost of | Total |
|---|---|---|---|---|---|---|---|
| Rates | | | $ 8.2510 | $ 0.1075 | | $ 6.2222 | |
| 1.5 KVA 1PH, 1.2kV BIL | 58 | 243 | $ 0.47 | $ 3.67 | $ 4.14 | $ 0.35 | $ 4.49 |
| 25 KVA 1 PH, 1.2kV BIL | 150 | 900 | $ 1.33 | $ 9.77 | $ 11.10 | $ 1.00 | $ 12.10 |
| 37.5 KVA 1 PH, 1.2kV BIL | 200 | 1200 | $ 1.77 | $ 13.03 | $ 14.80 | $ 1.33 | $ 16.13 |
| 50 KVA 1 PH, 1.2kV BIL | 250 | 1600 | $ 2.25 | $ 16.39 | $ 18.64 | $ 1.70 | $ 20.34 |
| 75 KVA 1 PH, 1.2kV BIL | 350 | 1900 | $ 3.01 | $ 22.59 | $ 25.60 | $ 2.27 | $ 27.87 |
| 100 KVA 1 PH, 1.2kV BIL | 400 | 2600 | $ 3.62 | $ 26.26 | $ 29.88 | $ 2.73 | $ 32.61 |
| 112.5 kVA 1 PH, 1.2kV BIL | 447 | 2936 | $ 4.06 | $ 29.38 | $ 33.44 | $ 3.06 | $ 36.50 |
| *150 KVA 1 PH, 1.2kV BIL | 525 | 3500 | $ 4.80 | $ 34.56 | $ 39.36 | $ 3.62 | $ 42.98 |
| 167 KVA 1 PH, 1.2kV BIL | 650 | 4400 | $ 5.97 | $ 42.86 | $ 48.83 | $ 4.50 | $ 53.33 |
| 175 KVA 1PH, 1.2kV BIL | 665 | 4496 | $ 6.10 | $ 43.84 | $ 49.94 | $ 4.60 | $ 54.54 |
| *200 KVA 1 PH, 1.2kV BIL | 696 | 4700 | $ 6.38 | $ 45.88 | $ 52.26 | $ 4.81 | $ 57.07 |
| *225 KVA 1 PH, 1.2kV BIL | 748 | 5050 | $ 6.86 | $ 49.31 | $ 56.17 | $ 5.17 | $ 61.34 |
| 250 KVA 1 PH, 1.2kV BIL | 800 | 5400 | $ 7.34 | $ 52.73 | $ 60.07 | $ 5.53 | $ 65.60 |
| 300 KVA 1 PH, 1.2kV BIL | 920 | 6123 | $ 8.40 | $ 60.55 | $ 68.95 | $ 6.33 | $ 75.28 |
| 333 KVA 1PH 1.2kV BIL | 1000 | 6600 | $ 9.10 | $ 65.76 | $ 74.86 | $ 6.87 | $ 81.73 |
| | | | | | | | |
| *10 kVA 3 PH, 1.2kV BIL | 83 | 400 | $ 0.69 | $ 5.30 | $ 5.99 | $ 0.52 | $ 6.51 |
| *15 KVA 3 PH, 1.2kV BIL | 125 | 650 | $ 1.06 | $ 8.04 | $ 9.10 | $ 0.80 | $ 9.90 |
| 30 kVA 3PH, 1.2kV BIL | 250 | 1300 | $ 2.12 | $ 16.07 | $ 18.19 | $ 1.60 | $ 19.79 |
| 45 KVA 3 PH, 1.2kV BIL | 300 | 1800 | $ 2.65 | $ 19.54 | $ 22.19 | $ 2.00 | $ 24.19 |
| 75 KVA 3 PH, 1.2kV BIL | 400 | 2400 | $ 3.54 | $ 26.05 | $ 29.59 | $ 2.67 | $ 32.26 |
| 112.5 KVA 3 PH, 1.2kV BIL | 600 | 3400 | $ 5.22 | $ 38.87 | $ 44.09 | $ 3.93 | $ 48.02 |
| 125 KVA 3PH, 1.2kV BIL | 633 | 3767 | $ 5.58 | $ 41.20 | $ 46.78 | $ 4.21 | $ 50.99 |
| 150 KVA 3 PH, 1.2kV BIL | 700 | 4500 | $ 6.32 | $ 45.91 | $ 52.23 | $ 4.77 | $ 57.00 |
| *175 KVA 3PH, 1.2kV BIL | 766 | 4767 | $ 6.85 | $ 50.07 | $ 56.92 | $ 5.16 | $ 62.08 |
| *200 KVA 3PH, 1.2kV BIL | 833 | 5033 | $ 7.38 | $ 54.29 | $ 61.67 | $ 5.56 | $ 67.23 |
| 225 KVA 3 PH, 1.2kV BIL | 900 | 5300 | $ 7.91 | $ 58.51 | $ 66.42 | $ 5.97 | $ 72.39 |
| 300 KVA 3 PH, 1.2kV BIL | 1100 | 6300 | $ 9.59 | $ 71.33 | $ 80.92 | $ 7.23 | $ 88.15 |
| 400 KVA 3 PH, 1.2kV BIL | 1750 | 6950 | $ 13.90 | $ 110.27 | $ 124.17 | $ 10.48 | $ 134.65 |
| *450 KVA 3PH, 1.2kV BIL | 2075 | 7275 | $ 16.06 | $ 129.74 | $ 145.80 | $ 12.11 | $ 157.91 |
| 500 KVA 3 PH, 95kV BIL | 2400 | 7600 | $ 18.21 | $ 149.20 | $ 167.41 | $ 13.73 | $ 181.14 |
| 750 KVA 3 PH, 95kV BIL | 3000 | 12000 | $ 23.87 | $ 189.12 | $ 212.99 | $ 18.00 | $ 230.99 |
| 1000 KVA 3 PH, 95kV BIL | 3400 | 13000 | $ 26.78 | $ 213.71 | $ 240.49 | $ 20.20 | $ 260.69 |
| 1500 KVA 3 PH, 95kV BIL | 4500 | 18000 | $ 35.80 | $ 283.68 | $ 319.48 | $ 27.00 | $ 346.48 |
| 2000 KVA 3 PH, 95kV BIL | 5400 | 21000 | $ 42.70 | $ 339.79 | $ 382.49 | $ 32.20 | $ 414.69 |
| 2500 KVA 3 PH, 95kV BIL | 6500 | 25000 | $ 51.27 | $ 408.71 | $ 459.98 | $ 38.66 | $ 498.64 |
| 3000 KVA 3PH, 95kV BIL | 7700 | 29000 | $ 60.46 | $ 483.53 | $ 543.99 | $ 45.60 | $ 589.59 |
| 3750 KVA 3PH, 95kV BIL | 9500 | 35000 | $ 74.25 | $ 595.74 | $ 669.99 | $ 55.99 | $ 725.98 |
| 5000 KVA 3PH, 95kV BIL | 11000 | 39000 | $ 85.30 | $ 688.21 | $ 773.51 | $ 64.33 | $ 837.84 |

No Load and load losses from CSA standard C802-94: Maximum losses for distribution, power and dry-type transformers commercial use.
Average load factor = 0.46 average loss factor = 0.2489

*For non-preferred KVA ratings no load and load losses are interpolated as per CSA standard

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## RESIDENTIAL SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triple or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 41.13 |
| Rate Rider for Group 2 Deferral/Variance Account Balances - effective until December 31, 2026 | $ | (0.54) |
| Smart Metering Entity Charge - effective until December 31, 2026 | $ | 0.42 |
| Low Voltage Service Rate | $/kWh | 0.00006 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0133 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0074 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.51 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than 50 kW. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 28.1 |
| Smart Metering Entity Charge - effective until December 31, 2026 | $ | 0.42 |
| Distribution Volumetric Rate | $/kWh | 0.0364 |
| Low Voltage Service Rate | $/kWh | 0.00006 |
| Rate Rider for Group 2 Deferral/Variance Account Balances - effective until December 31, 2026 | $/kWh | (0.0006) |
| Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) - effective until December 31, 2026 | $/kWh | 0.0004 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.51 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE 50 TO 1,499 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 1,500 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 200 |
| Distribution Volumetric Rate | $/kW | 8.0854 |
| Low Voltage Service Rate | $/kW | 0.02456 |
| Rate Rider for Group 2 Deferral/Variance Account Balances - effective until December 31, 2026 | $/kW | (0.1185) |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.1058 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.915 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.51 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE 1,500 TO 4,999 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 1,500 kW but less than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 4,126.75 |
| Distribution Volumetric Rate | $/kW | 7.756 |
| Low Voltage Service Rate | $/kW | 0.02625 |
| Rate Rider for Group 2 Deferral/Variance Account Balances - effective until December 31, 2026 | $/kW | (0.1332) |
| Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) - effective until December 31, 2026 | $/kW | (0.3998) |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.3013 |

# Hydro Ottawa Limited
## TARIFF OF RATES AND CHARGES
### Effective and Implementation Date January 1, 2026
**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

| | | EB-2024-0115 |
|---|---|---|
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.1155 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.51 |

# Hydro Ottawa Limited
## TARIFF OF RATES AND CHARGES
### Effective and Implementation Date January 1, 2026
**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# LARGE USE SERVICE CLASSIFICATION

This classification refers to an account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

## APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

## MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 14,946.93 |
| Distribution Volumetric Rate | $/kW | 7.8803 |
| Low Voltage Service Rate | $/kW | 0.02956 |
| Rate Rider for Group 2 Deferral/Variance Account Balances - effective until December 31, 2026 | $/kW | (0.1305) |
| Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) - effective until December 31, 2026 | $/kW | (0.4804) |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.8769 |

# Hydro Ottawa Limited
## TARIFF OF RATES AND CHARGES
### Effective and Implementation Date January 1, 2026
**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

| | | EB-2024-0115 |
|---|---|---|
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.5083 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.51 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase whose monthly average peak demand is less than, or is forecast to be less than, 50 kW and the consumption is unmetered. These connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical demand/consumption of the proposed unmetered load. Class B consumers are defined in accordance with O. Reg. 429/04. Qualification for this classification is at the discretion of Hydro Ottawa as defined in its Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 8.17 |
| Distribution Volumetric Rate | $/kWh | 0.0389 |
| Low Voltage Service Rate | $/kWh | 0.00006 |
| Rate Rider for Group 2 Deferral/Variance Account Balances - effective until December 31, 2026 | $/kWh | (0.0009) |
| Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) - effective until December 31, 2026 | $/kWh | (0.0005) |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.51 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## STANDBY POWER SERVICE CLASSIFICATION

This classification refers to an account that has Load Displacement Generation equal to or greater than 500 kW and requires the distributor to provide back-up service. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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### MONTHLY RATES AND CHARGES - Delivery Component - Approved on an Interim Basis

| | | |
|---|---|---|
| Service Charge | $ | 186.89 |
| General Service 50 TO 1,499 kW customer | $/kW | 4.0421 |
| General Service 1,500 TO 4,999 kW customer | $/kW | 3.876 |
| General Service Large User kW customer | $/kW | 3.9399 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## SENTINEL LIGHTING SERVICE CLASSIFICATION

This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 7.76 |
| Distribution Volumetric Rate | $/kW | 36.4171 |
| Low Voltage Service Rate | $/kW | 0.01825 |
| Rate Rider for Group 2 Deferral/Variance Account Balances - effective until December 31, 2026 | $/kW | (1.0395) |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.769 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.1657 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.51 |

# Hydro Ottawa Limited
## TARIFF OF RATES AND CHARGES
### Effective and Implementation Date January 1, 2026
**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# STREET LIGHTING SERVICE CLASSIFICATION

This classification refers to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting controlled by photocells. The consumption for these customers is based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 1.28 |
| Distribution Volumetric Rate | $/kW | 9.022 |
| Low Voltage Service Rate | $/kW | 0.01863 |
| Rate Rider for Group 2 Deferral/Variance Account Balances - effective until December 31, 2026 | $/kW | (0.3518) |
| Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) - effective until December 31, 2026 | $/kW | (0.5982) |
| Rate Rider for Disposition of Account 1595 - effective until December 31, 2026 | $/kW | 4.8925 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.7882 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.2107 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.51 |

# NET-METERING SERVICE CLASSIFICATION

This classification applies to an eligible electricity generation facility as defined in O. Reg. 541/05 . Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | |
|---|---|
| Service Charge | $ |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## MicroFIT AND OTHER GENERATION <10kW SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 11 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## FIT AND OTHER GENERATION >10kW SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's FIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 87 |

# Hydro Ottawa Limited
## TARIFF OF RATES AND CHARGES
### Effective and Implementation Date January 1, 2026
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**EB-2024-0115**

# HCI, RESOP, OTHER ENERGY RESOURCE SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's HCI, RESOP and Other Energy Resource programs and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 266 |

# ALLOWANCES

| | | |
|---|---|---|
| Primary Metering Allowance for Transformer Losses - applied to measured demand & energy | % | -1 |

# SPECIFIC SERVICE CHARGES

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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### Customer Administration

| | | |
|---|---|---|
| Arrears Certificate | $ | 0 |
| Easement Certificate for Unregistered Easements | $ | 30 |
| Duplicate invoices for previous billing | $ | 7 |
| Special billing service per hour (min 1 hour, 15 min incremental billing thereafter) | $ | 141 |
| Credit reference/credit check (plus credit agency costs) | $ | 20 |
| Unprocessed payment charge (plus bank charges) | $ | 25 |
| Account set up charge/change of occupancy charge (plus credit agency costs if applicable) | $ | 10 |
| Interval meter - field reading | $ | 366 |

# Hydro Ottawa Limited
## TARIFF OF RATES AND CHARGES
### Effective and Implementation Date January 1, 2026
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| | | EB-2024-0115 |
|---|---|---|
| High bill investigation - if billing is correct | $ | 322 |

**Non-Payment of Account**

| | | |
|---|---|---|
| Late payment - per month | | |
| (effective annual rate 19.56% per annum or 0.04896% compounded daily rate | % | 1.5 |
| Reconnection at meter - during regular hours | $ | 70 |
| Reconnection at meter - after regular hours | $ | 94 |
| Reconnection at pole - during regular hours | $ | 318 |
| Reconnection at pole - after regular hours | $ | 480 |

**Other**

| | | |
|---|---|---|
| Temporary service - install & remove - overhead - no transformer | $ | 1079 |
| Temporary service - install & remove - underground - no transformer | $ | 1422 |
| Temporary service - install & remove - overhead - with transformer | $ | 5010 |
| Specific charge for access to the power poles - $/pole/year (with the exception of wireless attachments) | $ | 39.14 |
| Dry core transformer distribution charge | | Per Attached Table |
| Energy resource facility administration charge (account set-up charge separately if applicable) | $ | 165 |

## RETAIL SERVICE CHARGES (if applicable)

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

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Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity.

| | | |
|---|---|---|
| One-time charge, per retailer, to establish the service agreement between the distributor and the retailer | $ | 125.59 |
| Monthly fixed charge, per retailer | $ | 50.25 |
| Monthly variable charge, per customer, per retailer | $/cust. | 1.24 |
| Distributor-consolidated billing monthly charge, per customer, per retailer | $/cust. | 0.74 |
| Retailer-consolidated billing monthly credit, per customer, per retailer | $/cust. | -0.74 |
| Service Transaction Requests (STR) | | |
| Request fee, per request, applied to the requesting party | $ | 0.63 |
| Processing fee, per request, applied to the requesting party | $ | 1.24 |
| Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party | | |
| Up to twice a year | $ | no charge |
| More than twice a year, per request (plus incremental delivery costs) | $ | 5.02 |
| Notice of switch letter charge, per letter (unless the distributor has opted out of applying the charge as per the Ontario Energy Board's Decision and Order EB-2015-0304, issued on February 14, 2019) | $ | 2.42 |

# Hydro Ottawa Limited

## TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## LOSS FACTORS

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

| | |
|---|---|
| Total Loss Factor - Secondary Metered Customer < 5,000 kW | 1.0332 |
| Total Loss Factor - Secondary Metered Customer > 5,000 kW | 1.0151 |
| Total Loss Factor - Primary Metered Customer < 5,000 kW | 1.0229 |
| Total Loss Factor - Primary Metered Customer > 5,000 kW | 1.0049 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2026

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

EB-2024-0115

**Dry Core Transformer Charges**

| Transformers | No Load Loss (W) | Load Loss (W) | Cost of Transmission and LV per kW | Cost of Energy and Wholesale Market per kWh | Total Monthly cost of power | Cost of Distribution per kW | Total |
|---|---|---|---|---|---|---|---|
| Rates | | | $ 8.6344 | $ 0.1075 | | $ 7.9072 | |
| 1.5 KVA 1PH, 1.2kV BIL | 58 | 243 | $ 0.49 | $ 3.67 | $ 4.16 | $ 0.45 | $ 4.60 |
| 25 KVA 1 PH, 1.2kV BIL | 150 | 900 | $ 1.39 | $ 9.77 | $ 11.16 | $ 1.27 | $ 12.43 |
| 37.5 KVA 1 PH, 1.2kV BIL | 200 | 1200 | $ 1.85 | $ 13.03 | $ 14.88 | $ 1.69 | $ 16.57 |
| 50 KVA 1 PH, 1.2kV BIL | 250 | 1600 | $ 2.36 | $ 16.39 | $ 18.75 | $ 2.16 | $ 20.91 |
| 75 KVA 1 PH, 1.2kV BIL | 350 | 1900 | $ 3.15 | $ 22.59 | $ 25.73 | $ 2.88 | $ 28.61 |
| 100 KVA 1 PH, 1.2kV BIL | 400 | 2600 | $ 3.79 | $ 26.26 | $ 30.05 | $ 3.47 | $ 33.53 |
| 112.5 kVA 1 PH, 1.2kV BIL | 447 | 2936 | $ 4.25 | $ 29.38 | $ 33.63 | $ 3.89 | $ 37.53 |
| *150 KVA 1 PH, 1.2kV BIL | 525 | 3500 | $ 5.02 | $ 34.56 | $ 39.58 | $ 4.60 | $ 44.17 |
| 167 KVA 1 PH, 1.2kV BIL | 650 | 4400 | $ 6.24 | $ 42.86 | $ 49.10 | $ 5.72 | $ 54.82 |
| 175 KVA 1PH, 1.2kV BIL | 665 | 4496 | $ 6.39 | $ 43.84 | $ 50.23 | $ 5.85 | $ 56.07 |
| *200 KVA 1 PH, 1.2kV BIL | 696 | 4700 | $ 6.68 | $ 45.88 | $ 52.56 | $ 6.12 | $ 58.68 |
| *225 KVA 1 PH, 1.2kV BIL | 748 | 5050 | $ 7.18 | $ 49.31 | $ 56.49 | $ 6.57 | $ 63.06 |
| 250 KVA 1 PH, 1.2kV BIL | 800 | 5400 | $ 7.68 | $ 52.73 | $ 60.41 | $ 7.03 | $ 67.44 |
| 300 KVA 1 PH, 1.2kV BIL | 920 | 6123 | $ 8.79 | $ 60.55 | $ 69.34 | $ 8.05 | $ 77.39 |
| 333 KVA 1PH 1.2kV BIL | 1000 | 6600 | $ 9.53 | $ 65.76 | $ 75.29 | $ 8.73 | $ 84.01 |
| | | | | | | | |
| *10 kVA 3 PH, 1.2kV BIL | 83 | 400 | $ 0.72 | $ 5.30 | $ 6.03 | $ 0.66 | $ 6.69 |
| *15 KVA 3 PH, 1.2kV BIL | 125 | 650 | $ 1.11 | $ 8.04 | $ 9.15 | $ 1.02 | $ 10.16 |
| 30 kVA 3PH, 1.2kV BIL | 250 | 1300 | $ 2.22 | $ 16.07 | $ 18.29 | $ 2.03 | $ 20.33 |
| 45 KVA 3 PH, 1.2kV BIL | 300 | 1800 | $ 2.78 | $ 19.54 | $ 22.31 | $ 2.54 | $ 24.86 |
| 75 KVA 3 PH, 1.2kV BIL | 400 | 2400 | $ 3.70 | $ 26.05 | $ 29.75 | $ 3.39 | $ 33.14 |
| 112.5 KVA 3 PH, 1.2kV BIL | 600 | 3400 | $ 5.46 | $ 38.87 | $ 44.33 | $ 5.00 | $ 49.33 |
| 125 KVA 3PH, 1.2kV BIL | 633 | 3767 | $ 5.84 | $ 41.20 | $ 47.04 | $ 5.35 | $ 52.39 |
| 150 KVA 3 PH, 1.2kV BIL | 700 | 4500 | $ 6.61 | $ 45.91 | $ 52.52 | $ 6.06 | $ 58.58 |
| *175 KVA 3PH, 1.2kV BIL | 766 | 4767 | $ 7.16 | $ 50.07 | $ 57.23 | $ 6.56 | $ 63.80 |
| *200 KVA 3PH, 1.2kV BIL | 833 | 5033 | $ 7.72 | $ 54.29 | $ 62.01 | $ 7.07 | $ 69.08 |
| 225 KVA 3 PH, 1.2kV BIL | 900 | 5300 | $ 8.28 | $ 58.51 | $ 66.79 | $ 7.58 | $ 74.37 |
| 300 KVA 3 PH, 1.2kV BIL | 1100 | 6300 | $ 10.04 | $ 71.33 | $ 81.37 | $ 9.19 | $ 90.56 |
| 400 KVA 3 PH, 1.2kV BIL | 1750 | 6950 | $ 14.55 | $ 110.27 | $ 124.81 | $ 13.32 | $ 138.14 |
| *450 KVA 3PH, 1.2kV BIL | 2075 | 7275 | $ 16.80 | $ 129.74 | $ 146.54 | $ 15.39 | $ 161.92 |
| 500 KVA 3 PH, 95kV BIL | 2400 | 7600 | $ 19.06 | $ 149.20 | $ 168.26 | $ 17.45 | $ 185.71 |
| 750 KVA 3 PH, 95kV BIL | 3000 | 12000 | $ 24.98 | $ 189.12 | $ 214.10 | $ 22.87 | $ 236.97 |
| 1000 KVA 3 PH, 95kV BIL | 3400 | 13000 | $ 28.03 | $ 213.71 | $ 241.74 | $ 25.67 | $ 267.41 |
| 1500 KVA 3 PH, 95kV BIL | 4500 | 18000 | $ 37.46 | $ 283.68 | $ 321.14 | $ 34.31 | $ 355.45 |
| 2000 KVA 3 PH, 95kV BIL | 5400 | 21000 | $ 44.68 | $ 339.79 | $ 384.47 | $ 40.92 | $ 425.38 |
| 2500 KVA 3 PH, 95kV BIL | 6500 | 25000 | $ 53.65 | $ 408.71 | $ 462.37 | $ 49.13 | $ 511.50 |
| 3000 KVA 3PH, 95kV BIL | 7700 | 29000 | $ 63.27 | $ 483.53 | $ 546.80 | $ 57.94 | $ 604.74 |
| 3750 KVA 3PH, 95kV BIL | 9500 | 35000 | $ 77.70 | $ 595.74 | $ 673.45 | $ 71.16 | $ 744.61 |
| 5000 KVA 3PH, 95kV BIL | 11000 | 39000 | $ 89.27 | $ 688.21 | $ 777.48 | $ 81.75 | $ 859.23 |

No Load and load losses from CSA standard C802-94: Maximum losses for distribution, power and dry-type transformers commercial use.
Average load factor = 0.46 average loss factor = 0.2489

*For non-preferred KVA ratings no load and load losses are interpolated as per CSA standard

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# RESIDENTIAL SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triple or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 44.38 |
| Smart Metering Entity Charge | $ | 0.42 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0133 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0074 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5400 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than 50 kW. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 30.32 |
| Smart Metering Entity Charge | $ | 0.42 |
| Distribution Volumetric Rate | $/kWh | 0.0393 |
| Low Voltage Service Rate | $/kWh | 0.00006 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5400 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE 50 TO 1,499 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 1,500 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 200.00 |
| Distribution Volumetric Rate | $/kW | 8.8107 |
| Low Voltage Service Rate | $/kW | 0.02520 |
| Rate Rider for Lost Revenue Adjustment Mechanism (LRAM) Recovery - effective until December 31, 2027 | $/kW | 0.0284 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.1058 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.9150 |

## MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5400 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# GENERAL SERVICE 1,500 TO 4,999 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 1,500 kW but less than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 4,126.75 |
| Distribution Volumetric Rate | $/kW | 8.5495 |
| Low Voltage Service Rate | $/kW | 0.02694 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.3013 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.1155 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5400 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# LARGE USE SERVICE CLASSIFICATION

This classification refers to an account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 14,946.93 |
| Distribution Volumetric Rate | $/kW | 8.8746 |
| Low Voltage Service Rate | $/kW | 0.03034 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.8769 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.5083 |

## MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5400 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase whose monthly average peak demand is less than, or is forecast to be less than, 50 kW and the consumption is unmetered. These connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical demand/consumption of the proposed unmetered load. Class B consumers are defined in accordance with O. Reg. 429/04. Qualification for this classification is at the discretion of Hydro Ottawa as defined in its Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 8.80 |
| Distribution Volumetric Rate | $/kWh | 0.0419 |
| Low Voltage Service Rate | $/kWh | 0.00006 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5400 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# STANDBY POWER SERVICE CLASSIFICATION

This classification refers to an account that has Load Displacement Generation equal to or greater than 500 kW and requires the distributor to provide back-up service. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such asthe Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component - Approved on an Interim Basis

| | | |
|---|---|---|
| Service Charge | $ | 186.89 |
| General Service 50 TO 1,499 kW customer | $/kW | 4.4048 |
| General Service 1,500 TO 4,999 kW customer | $/kW | 4.2729 |
| General Service Large User kW customer | $/kW | 4.4370 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## SENTINEL LIGHTING SERVICE CLASSIFICATION

This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 8.37 |
| Distribution Volumetric Rate | $/kW | 39.3161 |
| Low Voltage Service Rate | $/kW | 0.01873 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.7690 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.1657 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5400 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# STREET LIGHTING SERVICE CLASSIFICATION

This classification refers to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting controlled by photocells. The consumption for these customers is based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 1.20 |
| Distribution Volumetric Rate | $/kW | 8.3632 |
| Low Voltage Service Rate | $/kW | 0.01912 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.7882 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.2107 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5400 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## NET-METERING SERVICE CLASSIFICATION

This classification applies to an eligible electricity generation facility as defined in O. Reg. 541/05 . Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $0.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# MICROFIT AND OTHER GENERATION <10kW SERVICE

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $12.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# FIT SERVICE AND OTHER GENERATION >10kW CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's FIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $89.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# HCI, RESOP, OTHER ENERGY RESOURCE SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's HCI, RESOP and Other Energy Resource programs and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $272.00 |

# ALLOWANCES

| | | |
|---|---|---|
| Primary Metering Allowance for Transformer Losses - applied to measured demand & energy | % | -1 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# SPECIFIC SERVICE CHARGES

**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### Customer Administration

| | | |
|---|---|---|
| Arrears Certificate | $ | $0 |
| Easement Certificate for Unregistered Easements | $ | $30 |
| Duplicate invoices for previous billing | $ | $7 |
| Special billing service per hour (min 1 hour, 15 min incremental billing thereafter) | $ | $144 |
| Credit reference/credit check (plus credit agency costs) | $ | $20 |
| Unprocessed payment charge (plus bank charges) | $ | $25 |
| Account set up charge/change of occupancy charge (plus credit agency costs if applicable) | $ | $10 |
| Interval meter - field reading | $ | 374 |
| High bill investigation - if billing is correct | $ | 328 |

### Non-Payment of Account

| | | |
|---|---|---|
| Late payment - per month(effective annual rate 19.56% per annum or 0.04896% compounded daily rate | % | $1.50 |
| Reconnection at meter - during regular hours | $ | $71 |
| Reconnection at meter - after regular hours | $ | $96 |
| Reconnection at pole - during regular hours | $ | $325 |
| Reconnection at pole - after regular hours | $ | $490 |

### Other

| | | |
|---|---|---|
| Temporary service - install & remove - overhead - no transformer | $ | $1,102 |
| Temporary service - install & remove - underground - no transformer | $ | $1,452 |
| Temporary service - install & remove - overhead - with transformer | $ | $5,116 |
| Specific charge for access to the power poles - $/pole/year(with the exception of wireless attachments) | $ | $39.14 |
| Dry core transformer distribution charge | | Per Attached Table |
| Energy resource facility administration charge (account set-up charge separately if applicable) | $ | $168 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## RETAIL SERVICE CHARGES (if applicable)

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity.

| | | |
|---|---|---|
| One-time charge, per retailer, to establish the service agreement between the distributor and the retailer | $ | $121.23 |
| Monthly fixed charge, per retailer | $ | $48.50 |
| Monthly variable charge, per customer, per retailer | $/cust. | $1.20 |
| Distributor-consolidated billing monthly charge, per customer, per retailer | $/cust. | $0.71 |
| Retailer-consolidated billing monthly credit, per customer, per retailer | $/cust. | ($0.71) |
| Service Transaction Requests (STR) | | |
| Request fee, per request, applied to the requesting party | $ | $0.61 |
| Processing fee, per request, applied to the requesting party | $ | $1.20 |
| Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party | | |
| up to twice a year | $ | no charge |
| More than twice a year, per request (plus incremental delivery costs) | $ | $4.85 |
| Notice of switch letter charge, per letter (unless the distributor has opted out of applying the charge as per the Ontario Energy Board's Decision and Order EB-2015-0304, issued on February 14, 2019) | $ | $2.42 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2027

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## LOSS FACTORS

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

| | |
|---|---|
| Total Loss Factor - Secondary Metered Customer < 5,000 kW | 1.0332 |
| Total Loss Factor - Secondary Metered Customer > 5,000 kW | 1.0151 |
| Total Loss Factor - Primary Metered Customer < 5,000 kW | 1.0229 |
| Total Loss Factor - Primary Metered Customer > 5,000 kW | 1.0049 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

**Effective and Implementation Date January 1, 2027**

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

EB-2024-0115

**Dry Core Transformer Charges**

| Transformers | No Load Loss (W) | Load Loss (W) | Cost of Transmission and LV per kW | Cost of Energy and Wholesale Market per kWh | Total Monthly cost of power | Cost of Distribution per kW | Total |
|---|---|---|---|---|---|---|---|
| Rates | | | $ 8.6351 | $ 0.1075 | | $ 8.7449 | |
| 1.5 KVA 1PH, 1.2kV BIL | 58 | 243 | $ 0.49 | $ 3.67 | $ 4.16 | $ 0.49 | $ 4.65 |
| 25 KVA 1 PH, 1.2kV BIL | 150 | 900 | $ 1.39 | $ 9.77 | $ 11.16 | $ 1.41 | $ 12.56 |
| 37.5 KVA 1 PH, 1.2kV BIL | 200 | 1200 | $ 1.85 | $ 13.03 | $ 14.88 | $ 1.87 | $ 16.75 |
| 50 KVA 1 PH, 1.2kV BIL | 250 | 1600 | $ 2.36 | $ 16.39 | $ 18.75 | $ 2.39 | $ 21.14 |
| 75 KVA 1 PH, 1.2kV BIL | 350 | 1900 | $ 3.15 | $ 22.59 | $ 25.73 | $ 3.19 | $ 28.92 |
| 100 KVA 1 PH, 1.2kV BIL | 400 | 2600 | $ 3.79 | $ 26.26 | $ 30.05 | $ 3.84 | $ 33.90 |
| 112.5 kVA 1 PH, 1.2kV BIL | 447 | 2936 | $ 4.25 | $ 29.38 | $ 33.63 | $ 4.31 | $ 37.94 |
| *150 KVA 1 PH, 1.2kV BIL | 525 | 3500 | $ 5.02 | $ 34.56 | $ 39.58 | $ 5.08 | $ 44.66 |
| 167 KVA 1 PH, 1.2kV BIL | 650 | 4400 | $ 6.24 | $ 42.86 | $ 49.10 | $ 6.32 | $ 55.43 |
| 175 KVA 1PH, 1.2kV BIL | 665 | 4496 | $ 6.39 | $ 43.84 | $ 50.23 | $ 6.47 | $ 56.69 |
| *200 KVA 1 PH, 1.2kV BIL | 696 | 4700 | $ 6.68 | $ 45.88 | $ 52.56 | $ 6.77 | $ 59.33 |
| *225 KVA 1 PH, 1.2kV BIL | 748 | 5050 | $ 7.18 | $ 49.31 | $ 56.49 | $ 7.27 | $ 63.76 |
| 250 KVA 1 PH, 1.2kV BIL | 800 | 5400 | $ 7.68 | $ 52.73 | $ 60.41 | $ 7.78 | $ 68.19 |
| 300 KVA 1 PH, 1.2kV BIL | 920 | 6123 | $ 8.79 | $ 60.55 | $ 69.34 | $ 8.90 | $ 78.24 |
| 333 KVA 1PH 1.2kV BIL | 1000 | 6600 | $ 9.53 | $ 65.76 | $ 75.29 | $ 9.65 | $ 84.94 |
| | | | | | | | |
| *10 kVA 3 PH, 1.2kV BIL | 83 | 400 | $ 0.72 | $ 5.30 | $ 6.03 | $ 0.73 | $ 6.76 |
| *15 KVA 3 PH, 1.2kV BIL | 125 | 650 | $ 1.11 | $ 8.04 | $ 9.15 | $ 1.12 | $ 10.27 |
| 30 kVA 3PH, 1.2kV BIL | 250 | 1300 | $ 2.22 | $ 16.07 | $ 18.29 | $ 2.25 | $ 20.54 |
| 45 KVA 3 PH, 1.2kV BIL | 300 | 1800 | $ 2.78 | $ 19.54 | $ 22.31 | $ 2.81 | $ 25.13 |
| 75 KVA 3 PH, 1.2kV BIL | 400 | 2400 | $ 3.70 | $ 26.05 | $ 29.75 | $ 3.75 | $ 33.50 |
| 112.5 KVA 3 PH, 1.2kV BIL | 600 | 3400 | $ 5.46 | $ 38.87 | $ 44.33 | $ 5.53 | $ 49.86 |
| 125 KVA 3PH, 1.2kV BIL | 633 | 3767 | $ 5.84 | $ 41.20 | $ 47.04 | $ 5.92 | $ 52.95 |
| 150 KVA 3 PH, 1.2kV BIL | 700 | 4500 | $ 6.61 | $ 45.91 | $ 52.52 | $ 6.70 | $ 59.22 |
| *175 KVA 3PH, 1.2kV BIL | 766 | 4767 | $ 7.17 | $ 50.07 | $ 57.24 | $ 7.26 | $ 64.49 |
| *200 KVA 3PH, 1.2kV BIL | 833 | 5033 | $ 7.72 | $ 54.29 | $ 62.01 | $ 7.82 | $ 69.83 |
| 225 KVA 3 PH, 1.2kV BIL | 900 | 5300 | $ 8.28 | $ 58.51 | $ 66.79 | $ 8.38 | $ 75.18 |
| 300 KVA 3 PH, 1.2kV BIL | 1100 | 6300 | $ 10.04 | $ 71.33 | $ 81.37 | $ 10.16 | $ 91.53 |
| 400 KVA 3 PH, 1.2kV BIL | 1750 | 6950 | $ 14.55 | $ 110.27 | $ 124.82 | $ 14.73 | $ 139.55 |
| *450 KVA 3PH, 1.2kV BIL | 2075 | 7275 | $ 16.80 | $ 129.74 | $ 146.54 | $ 17.02 | $ 163.55 |
| 500 KVA 3 PH, 95kV BIL | 2400 | 7600 | $ 19.06 | $ 149.20 | $ 168.26 | $ 19.30 | $ 187.56 |
| 750 KVA 3 PH, 95kV BIL | 3000 | 12000 | $ 24.98 | $ 189.12 | $ 214.10 | $ 25.30 | $ 239.39 |
| 1000 KVA 3 PH, 95kV BIL | 3400 | 13000 | $ 28.03 | $ 213.71 | $ 241.74 | $ 28.39 | $ 270.13 |
| 1500 KVA 3 PH, 95kV BIL | 4500 | 18000 | $ 37.47 | $ 283.68 | $ 321.15 | $ 37.94 | $ 359.09 |
| 2000 KVA 3 PH, 95kV BIL | 5400 | 21000 | $ 44.68 | $ 339.79 | $ 384.47 | $ 45.25 | $ 429.72 |
| 2500 KVA 3 PH, 95kV BIL | 6500 | 25000 | $ 53.66 | $ 408.71 | $ 462.37 | $ 54.34 | $ 516.71 |
| 3000 KVA 3PH, 95kV BIL | 7700 | 29000 | $ 63.28 | $ 483.53 | $ 546.80 | $ 64.08 | $ 610.89 |
| 3750 KVA 3PH, 95kV BIL | 9500 | 35000 | $ 77.71 | $ 595.74 | $ 673.45 | $ 78.70 | $ 752.15 |
| 5000 KVA 3PH, 95kV BIL | 11000 | 39000 | $ 89.27 | $ 688.21 | $ 777.48 | $ 90.41 | $ 867.89 |

No Load and load losses from CSA standard C802-94: Maximum losses for distribution, power and dry-type transformers commercial use.
Average load factor = 0.46 average loss factor = 0.2489

*For non-preferred KVA ratings no load and load losses are interpolated as per CSA standard

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## RESIDENTIAL SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triple or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 47.69 |
| Smart Metering Entity Charge | $ | 0.43 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0133 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0074 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5700 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than 50 kW. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 32.42 |
| Smart Metering Entity Charge | $ | 0.43 |
| Distribution Volumetric Rate | $/kWh | 0.0420 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5700 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE 50 TO 1,499 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 1,500 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 200.00 |
| Distribution Volumetric Rate | $/kW | 9.5497 |
| Low Voltage Service Rate | $/kW | 0.02553 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.1058 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.9150 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5700 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# GENERAL SERVICE 1,500 TO 4,999 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 1,500 kW but less than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 4,126.75 |
| Distribution Volumetric Rate | $/kW | 9.3593 |
| Low Voltage Service Rate | $/kW | 0.02729 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.3013 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.1155 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5700 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# LARGE USE SERVICE CLASSIFICATION

This classification refers to an account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 14,946.93 |
| Distribution Volumetric Rate | $/kW | 9.8872 |
| Low Voltage Service Rate | $/kW | 0.03073 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.8769 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.5083 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0045 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5700 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

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**EB-2024-0115**

# UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase whose monthly average peak demand is less than, or is forecast to be less than, 50 kW and the consumption is unmetered. These connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical demand/consumption of the proposed unmetered load. Class B consumers are defined in accordance with O. Reg. 429/04. Qualification for this classification is at the discretion of Hydro Ottawa as defined in its Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 9.41 |
| Distribution Volumetric Rate | $/kWh | 0.0448 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5700 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# STANDBY POWER SERVICE CLASSIFICATION

This classification refers to an account that has Load Displacement Generation equal to or greater than 500 kW and requires the distributor to provide back-up service. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such asthe Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component - Approved on an Interim Basis

| | | |
|---|---|---|
| Service Charge | $ | 186.89 |
| General Service 50 TO 1,499 kW customer | $/kW | 4.7743 |
| General Service 1,500 TO 4,999 kW customer | $/kW | 4.6778 |
| General Service Large User kW customer | $/kW | 4.9433 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

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**EB-2024-0115**

## SENTINEL LIGHTING SERVICE CLASSIFICATION

This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 9.00 |
| Distribution Volumetric Rate | $/kW | 42.2271 |
| Low Voltage Service Rate | $/kW | 0.01897 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.7690 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.1657 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5700 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

# STREET LIGHTING SERVICE CLASSIFICATION

This classification refers to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting controlled by photocells. The consumption for these customers is based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 1.25 |
| Distribution Volumetric Rate | $/kW | 8.7708 |
| Low Voltage Service Rate | $/kW | 0.01936 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.7882 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.2107 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.5700 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

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**EB-2024-0115**

## NET-METERING SERVICE CLASSIFICATION

This classification applies to an eligible electricity generation facility as defined in O. Reg. 541/05 . Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $0.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

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**EB-2024-0115**

# MICROFIT AND OTHER GENERATION <10kW SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $12.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

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**EB-2024-0115**

# FIT SERVICE AND OTHER GENERATION >10kW CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's FIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $91.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

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**EB-2024-0115**

# HCI, RESOP, OTHER ENERGY RESOURCE SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's HCI, RESOP and Other Energy Resource programs and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $277.00 |

# ALLOWANCES

| | | |
|---|---|---|
| Primary Metering Allowance for Transformer Losses - applied to measured demand & energy | % | -1 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

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**EB-2024-0115**

## SPECIFIC SERVICE CHARGES

**APPLICATION**

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No charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### Customer Administration

| | | |
|---|---|---|
| Arrears Certificate | $ | $0 |
| Easement Certificate for Unregistered Easements | $ | $30 |
| Duplicate invoices for previous billing | $ | $7 |
| Special billing service per hour (min 1 hour, 15 min incremental billing thereafter) | $ | $147 |
| Credit reference/credit check (plus credit agency costs) | $ | $20 |
| Unprocessed payment charge (plus bank charges) | $ | $25 |
| Account set up charge/change of occupancy charge (plus credit agency costs if applicable) | $ | $10 |
| Interval meter - field reading | $ | 382 |
| High bill investigation - if billing is correct | $ | 335 |

### Non-Payment of Account

| | | |
|---|---|---|
| Late payment - per month(effective annual rate 19.56% per annum or 0.04896% compounded daily rate | % | $1.50 |
| Reconnection at meter - during regular hours | $ | $72 |
| Reconnection at meter - after regular hours | $ | $98 |
| Reconnection at pole - during regular hours | $ | $331 |
| Reconnection at pole - after regular hours | $ | $500 |

### Other

| | | |
|---|---|---|
| Temporary service - install & remove - overhead - no transformer | $ | $1,125 |
| Temporary service - install & remove - underground - no transformer | $ | $1,483 |
| Temporary service - install & remove - overhead - with transformer | $ | $5,223 |
| Specific charge for access to the power poles - $/pole/year(with the exception of wireless attachments) | $ | $39.14 |
| Dry core transformer distribution charge | | Per Attached Table |
| Energy resource facility administration charge (account set-up charge separately if applicable) | $ | $172 |

# Hydro Ottawa Limited

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**EB-2024-0115**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

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Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity.

| | | |
|---|---|---|
| One-time charge, per retailer, to establish the service agreement between the distributor and the retailer | $ | $121.23 |
| Monthly fixed charge, per retailer | $ | $48.50 |
| Monthly variable charge, per customer, per retailer | $/cust. | $1.20 |
| Distributor-consolidated billing monthly charge, per customer, per retailer | $/cust. | $0.71 |
| Retailer-consolidated billing monthly credit, per customer, per retailer | $/cust. | ($0.71) |
| Service Transaction Requests (STR) | | |
| Request fee, per request, applied to the requesting party | $ | $0.61 |
| Processing fee, per request, applied to the requesting party | $ | $1.20 |
| Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party | | |
| up to twice a year | $ | no charge |
| More than twice a year, per request (plus incremental delivery costs) | $ | $4.85 |
| Notice of switch letter charge, per letter (unless the distributor has opted out of applying the charge as per the Ontario Energy Board's Decision and Order EB-2015-0304, issued on February 14, 2019) | $ | $2.42 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2028

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**EB-2024-0115**

## LOSS FACTORS

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

| | |
|---|---|
| Total Loss Factor - Secondary Metered Customer < 5,000 kW | 1.0332 |
| Total Loss Factor - Secondary Metered Customer > 5,000 kW | 1.0151 |
| Total Loss Factor - Primary Metered Customer < 5,000 kW | 1.0229 |
| Total Loss Factor - Primary Metered Customer > 5,000 kW | 1.0049 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

**Effective and Implementation Date January 1, 2028**

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EB-2024-0115

**Dry Core Transformer Charges**

| Transformers | No Load Loss (W) | Load Loss (W) | Cost of Transmission and LV per kW | Cost of Energy and Wholesale Market per kWh | Total Monthly cost of power | Cost of Distribution per kW | Total |
|---|---|---|---|---|---|---|---|
| Rates | | | $ 8.6355 | $ 0.1075 | | $ 9.5987 | |
| 1.5 KVA 1PH, 1.2kV BIL | 58 | 243 | $ 0.49 | $ 3.67 | $ 4.16 | $ 0.54 | $ 4.70 |
| 25 KVA 1 PH, 1.2kV BIL | 150 | 900 | $ 1.39 | $ 9.77 | $ 11.16 | $ 1.54 | $ 12.70 |
| 37.5 KVA 1 PH, 1.2kV BIL | 200 | 1200 | $ 1.85 | $ 13.03 | $ 14.88 | $ 2.06 | $ 16.93 |
| 50 KVA 1 PH, 1.2kV BIL | 250 | 1600 | $ 2.36 | $ 16.39 | $ 18.75 | $ 2.62 | $ 21.37 |
| 75 KVA 1 PH, 1.2kV BIL | 350 | 1900 | $ 3.15 | $ 22.59 | $ 25.73 | $ 3.50 | $ 29.23 |
| 100 KVA 1 PH, 1.2kV BIL | 400 | 2600 | $ 3.79 | $ 26.26 | $ 30.05 | $ 4.22 | $ 34.27 |
| 112.5 kVA 1 PH, 1.2kV BIL | 447 | 2936 | $ 4.25 | $ 29.38 | $ 33.63 | $ 4.73 | $ 38.36 |
| *150 KVA 1 PH, 1.2kV BIL | 525 | 3500 | $ 5.02 | $ 34.56 | $ 39.58 | $ 5.58 | $ 45.16 |
| 167 KVA 1 PH, 1.2kV BIL | 650 | 4400 | $ 6.24 | $ 42.86 | $ 49.10 | $ 6.94 | $ 56.04 |
| 175 KVA 1PH, 1.2kV BIL | 665 | 4496 | $ 6.39 | $ 43.84 | $ 50.23 | $ 7.10 | $ 57.33 |
| *200 KVA 1 PH, 1.2kV BIL | 696 | 4700 | $ 6.68 | $ 45.88 | $ 52.56 | $ 7.43 | $ 59.99 |
| *225 KVA 1 PH, 1.2kV BIL | 748 | 5050 | $ 7.18 | $ 49.31 | $ 56.49 | $ 7.98 | $ 64.47 |
| 250 KVA 1 PH, 1.2kV BIL | 800 | 5400 | $ 7.68 | $ 52.73 | $ 60.41 | $ 8.53 | $ 68.95 |
| 300 KVA 1 PH, 1.2kV BIL | 920 | 6123 | $ 8.79 | $ 60.55 | $ 69.34 | $ 9.77 | $ 79.11 |
| 333 KVA 1PH 1.2kV BIL | 1000 | 6600 | $ 9.53 | $ 65.76 | $ 75.29 | $ 10.59 | $ 85.88 |
| | | | | | | | |
| *10 kVA 3 PH, 1.2kV BIL | 83 | 400 | $ 0.72 | $ 5.30 | $ 6.03 | $ 0.80 | $ 6.83 |
| *15 KVA 3 PH, 1.2kV BIL | 125 | 650 | $ 1.11 | $ 8.04 | $ 9.15 | $ 1.23 | $ 10.38 |
| 30 kVA 3PH, 1.2kV BIL | 250 | 1300 | $ 2.22 | $ 16.07 | $ 18.29 | $ 2.47 | $ 20.76 |
| 45 KVA 3 PH, 1.2kV BIL | 300 | 1800 | $ 2.78 | $ 19.54 | $ 22.31 | $ 3.08 | $ 25.40 |
| 75 KVA 3 PH, 1.2kV BIL | 400 | 2400 | $ 3.70 | $ 26.05 | $ 29.75 | $ 4.11 | $ 33.87 |
| 112.5 KVA 3 PH, 1.2kV BIL | 600 | 3400 | $ 5.46 | $ 38.87 | $ 44.33 | $ 6.07 | $ 50.40 |
| 125 KVA 3PH, 1.2kV BIL | 633 | 3767 | $ 5.84 | $ 41.20 | $ 47.04 | $ 6.49 | $ 53.53 |
| 150 KVA 3 PH, 1.2kV BIL | 700 | 4500 | $ 6.61 | $ 45.91 | $ 52.52 | $ 7.35 | $ 59.87 |
| *175 KVA 3PH, 1.2kV BIL | 766 | 4767 | $ 7.17 | $ 50.07 | $ 57.24 | $ 7.96 | $ 65.20 |
| *200 KVA 3PH, 1.2kV BIL | 833 | 5033 | $ 7.72 | $ 54.29 | $ 62.01 | $ 8.58 | $ 70.60 |
| 225 KVA 3 PH, 1.2kV BIL | 900 | 5300 | $ 8.28 | $ 58.51 | $ 66.79 | $ 9.20 | $ 76.00 |
| 300 KVA 3 PH, 1.2kV BIL | 1100 | 6300 | $ 10.04 | $ 71.33 | $ 81.37 | $ 11.16 | $ 92.53 |
| 400 KVA 3 PH, 1.2kV BIL | 1750 | 6950 | $ 14.55 | $ 110.27 | $ 124.82 | $ 16.17 | $ 140.99 |
| *450 KVA 3PH, 1.2kV BIL | 2075 | 7275 | $ 16.80 | $ 129.74 | $ 146.54 | $ 18.68 | $ 165.22 |
| 500 KVA 3 PH, 95kV BIL | 2400 | 7600 | $ 19.06 | $ 149.20 | $ 168.26 | $ 21.18 | $ 189.45 |
| 750 KVA 3 PH, 95kV BIL | 3000 | 12000 | $ 24.98 | $ 189.12 | $ 214.10 | $ 27.77 | $ 241.86 |
| 1000 KVA 3 PH, 95kV BIL | 3400 | 13000 | $ 28.03 | $ 213.71 | $ 241.74 | $ 31.16 | $ 272.90 |
| 1500 KVA 3 PH, 95kV BIL | 4500 | 18000 | $ 37.47 | $ 283.68 | $ 321.15 | $ 41.65 | $ 362.80 |
| 2000 KVA 3 PH, 95kV BIL | 5400 | 21000 | $ 44.68 | $ 339.79 | $ 384.47 | $ 49.67 | $ 434.14 |
| 2500 KVA 3 PH, 95kV BIL | 6500 | 25000 | $ 53.66 | $ 408.71 | $ 462.37 | $ 59.64 | $ 522.02 |
| 3000 KVA 3PH, 95kV BIL | 7700 | 29000 | $ 63.28 | $ 483.53 | $ 546.81 | $ 70.34 | $ 617.15 |
| 3750 KVA 3PH, 95kV BIL | 9500 | 35000 | $ 77.71 | $ 595.74 | $ 673.46 | $ 86.38 | $ 759.84 |
| 5000 KVA 3PH, 95kV BIL | 11000 | 39000 | $ 89.28 | $ 688.21 | $ 777.49 | $ 99.24 | $ 876.72 |

No Load and load losses from CSA standard C802-94: Maximum losses for distribution, power and dry-type transformers commercial use.
Average load factor = 0.46 average loss factor = 0.2489

*For non-preferred KVA ratings no load and load losses are interpolated as per CSA standard

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## RESIDENTIAL SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triple or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 50.41 |
| Rate Rider for Group 2 Accounts - effective until December 31, 2026 | $ | 0.00 |
| Smart Metering Entity Charge | $ | 0.44 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0133 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0074 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6000 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than 50 kW. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 34.24 |
| Smart Metering Entity Charge | $ | 0.44 |
| Distribution Volumetric Rate | $/kWh | 0.0444 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6000 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE 50 TO 1,499 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 1,500 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 200.00 |
| Distribution Volumetric Rate | $/kW | 10.1577 |
| Low Voltage Service Rate | $/kW | 0.02595 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.1058 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.9150 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6000 |

# Hvdro Ottawa Limited
## PROPOSED - TARIFF OF RATES AND CHARGES
### Effective and Implementation Date January 1, 2029
**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE 1,500 TO 4,999 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 1,500 kW but less than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 4,126.75 |
| Distribution Volumetric Rate | $/kW | 10.0269 |
| Low Voltage Service Rate | $/kW | 0.02773 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.3013 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.1155 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6000 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## LARGE USE SERVICE CLASSIFICATION

This classification refers to an account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 14,946.93 |
| Distribution Volumetric Rate | $/kW | 10.6261 |
| Low Voltage Service Rate | $/kW | 0.03123 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.8769 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.5083 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0045 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6000 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase whose monthly average peak demand is less than, or is forecast to be less than, 50 kW and the consumption is unmetered. These connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical demand/consumption of the proposed unmetered load. Class B consumers are defined in accordance with O. Reg. 429/04. Qualification for this classification is at the discretion of Hydro Ottawa as defined in its Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 9.95 |
| Distribution Volumetric Rate | $/kWh | 0.0474 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6000 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## STANDBY POWER SERVICE CLASSIFICATION

This classification refers to an account that has Load Displacement Generation equal to or greater than 500 kW and requires the distributor to provide back-up service. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such asthe Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component - Approved on an Interim Basis

| | | |
|---|---|---|
| Service Charge | $ | 186.89 |
| General Service 50 TO 1,499 kW customer | $/kW | 5.0783 |
| General Service 1,500 TO 4,999 kW customer | $/kW | 5.0116 |
| General Service Large User kW customer | $/kW | 5.3128 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## SENTINEL LIGHTING SERVICE CLASSIFICATION

This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 9.51 |
| Distribution Volumetric Rate | $/kW | 44.6606 |
| Low Voltage Service Rate | $/kW | 0.01928 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.7690 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.1657 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6000 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## STREET LIGHTING SERVICE CLASSIFICATION

This classification refers to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting controlled by photocells. The consumption for these customers is based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 1.28 |
| Distribution Volumetric Rate | $/kW | 8.9377 |
| Low Voltage Service Rate | $/kW | 0.01968 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.7882 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.2107 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6000 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## NET-METERING SERVICE CLASSIFICATION

This classification applies to an eligible electricity generation facility as defined in O. Reg. 541/05 . Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $0.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## MICROFIT AND OTHER GENERATION <10kW SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $12.00 |

## FIT SERVICE AND OTHER GENERATION >10kW CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's FIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $93.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## HCI, RESOP, OTHER ENERGY RESOURCE SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's HCI, RESOP and Other Energy Resource programs and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $283.00 |

## ALLOWANCES

| | | |
|---|---|---|
| Primary Metering Allowance for Transformer Losses - applied to measured demand & energy | % | -1 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## SPECIFIC SERVICE CHARGES

**APPLICATION**

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

| | | |
|---|---|---|
| **Customer Administration** | | |
| Arrears Certificate | $ | $0 |
| Easement Certificate for Unregistered Easements | $ | $30 |
| Duplicate invoices for previous billing | $ | $7 |
| Special billing service per hour (min 1 hour, 15 min incremental billing thereafter) | $ | $151 |
| Credit reference/credit check (plus credit agency costs) | $ | $20 |
| Unprocessed payment charge (plus bank charges) | $ | $25 |
| Account set up charge/change of occupancy charge (plus credit agency costs if applicable) | $ | $10 |
| Interval meter - field reading | $ | 390 |
| High bill investigation - if billing is correct | $ | 342 |
| **Non-Payment of Account** | | |
| Late payment - per month(effective annual rate 19.56% per annum or 0.04896% compounded daily rate | % | $1.50 |
| Reconnection at meter - during regular hours | $ | $74 |
| Reconnection at meter - after regular hours | $ | $100 |
| Reconnection at pole - during regular hours | $ | $338 |
| Reconnection at pole - after regular hours | $ | $510 |
| **Other** | | |
| Temporary service - install & remove - overhead - no transformer | $ | $1,148 |
| Temporary service - install & remove - underground - no transformer | $ | $1,514 |
| Temporary service - install & remove - overhead - with transformer | $ | $5,333 |
| Specific charge for access to the power poles - $/pole/year(with the exception of wireless attachments) | $ | $39.14 |
| Dry core transformer distribution charge | | Per Attached Table |
| Energy resource facility administration charge (account set-up charge separately if applicable) | $ | $176 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## RETAIL SERVICE CHARGES (if applicable)

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity.

| | | |
|---|---|---|
| One-time charge, per retailer, to establish the service agreement between the distributor and the retailer | $ | $121.23 |
| Monthly fixed charge, per retailer | $ | $48.50 |
| Monthly variable charge, per customer, per retailer | $/cust. | $1.20 |
| Distributor-consolidated billing monthly charge, per customer, per retailer | $/cust. | $0.71 |
| Retailer-consolidated billing monthly credit, per customer, per retailer | $/cust. | ($0.71) |
| Service Transaction Requests (STR) | | |
| Request fee, per request, applied to the requesting party | $ | $0.61 |
| Processing fee, per request, applied to the requesting party | $ | $1.20 |
| Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party | | |
| up to twice a year | $ | no charge |
| More than twice a year, per request (plus incremental delivery costs) | $ | $4.85 |
| Notice of switch letter charge, per letter (unless the distributor has opted out of applying the charge as per the Ontario Energy Board's Decision and Order EB-2015-0304, issued on February 14, 2019) | $ | $2.42 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2029

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## LOSS FACTORS

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

| | |
|---|---|
| Total Loss Factor - Secondary Metered Customer < 5,000 kW | 1.0332 |
| Total Loss Factor - Secondary Metered Customer > 5,000 kW | 1.0151 |
| Total Loss Factor - Primary Metered Customer < 5,000 kW | 1.0229 |
| Total Loss Factor - Primary Metered Customer > 5,000 kW | 1.0049 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

**Effective and Implementation Date January 1, 2029**

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

EB-2024-0115

**Dry Core Transformer Charges**

| Transformers | No Load Loss (W) | Load Loss (W) | Cost of Transmission and LV per kW | Cost of Energy and Wholesale Market per kWh | Total Monthly cost of power | Cost of Distribution per kW | Total |
|---|---|---|---|---|---|---|---|
| Rates | | | $ 8.6359 | $ 0.1075 | | $ 10.2702 | |
| 1.5 KVA 1PH, 1.2kV BIL | 58 | 243 | $ 0.49 | $ 3.67 | $ 4.16 | $ 0.58 | $ 4.74 |
| 25 KVA 1 PH, 1.2kV BIL | 150 | 900 | $ 1.39 | $ 9.77 | $ 11.16 | $ 1.65 | $ 12.81 |
| 37.5 KVA 1 PH, 1.2kV BIL | 200 | 1200 | $ 1.85 | $ 13.03 | $ 14.88 | $ 2.20 | $ 17.08 |
| 50 KVA 1 PH, 1.2kV BIL | 250 | 1600 | $ 2.36 | $ 16.39 | $ 18.75 | $ 2.81 | $ 21.55 |
| 75 KVA 1 PH, 1.2kV BIL | 350 | 1900 | $ 3.15 | $ 22.59 | $ 25.73 | $ 3.74 | $ 29.47 |
| 100 KVA 1 PH, 1.2kV BIL | 400 | 2600 | $ 3.79 | $ 26.26 | $ 30.06 | $ 4.51 | $ 34.57 |
| 112.5 kVA 1 PH, 1.2kV BIL | 447 | 2936 | $ 4.25 | $ 29.38 | $ 33.63 | $ 5.06 | $ 38.69 |
| *150 KVA 1 PH, 1.2kV BIL | 525 | 3500 | $ 5.02 | $ 34.56 | $ 39.58 | $ 5.97 | $ 45.55 |
| 167 KVA 1 PH, 1.2kV BIL | 650 | 4400 | $ 6.24 | $ 42.86 | $ 49.10 | $ 7.43 | $ 56.53 |
| 175 KVA 1PH, 1.2kV BIL | 665 | 4496 | $ 6.39 | $ 43.84 | $ 50.23 | $ 7.59 | $ 57.82 |
| *200 KVA 1 PH, 1.2kV BIL | 696 | 4700 | $ 6.68 | $ 45.88 | $ 52.56 | $ 7.95 | $ 60.51 |
| *225 KVA 1 PH, 1.2kV BIL | 748 | 5050 | $ 7.18 | $ 49.31 | $ 56.49 | $ 8.54 | $ 65.03 |
| 250 KVA 1 PH, 1.2kV BIL | 800 | 5400 | $ 7.68 | $ 52.73 | $ 60.41 | $ 9.13 | $ 69.54 |
| 300 KVA 1 PH, 1.2kV BIL | 920 | 6123 | $ 8.79 | $ 60.55 | $ 69.34 | $ 10.45 | $ 79.80 |
| 333 KVA 1PH 1.2kV BIL | 1000 | 6600 | $ 9.53 | $ 65.76 | $ 75.29 | $ 11.33 | $ 86.62 |
| | | | | | | | |
| *10 kVA 3 PH, 1.2kV BIL | 83 | 400 | $ 0.72 | $ 5.30 | $ 6.03 | $ 0.86 | $ 6.89 |
| *15 KVA 3 PH, 1.2kV BIL | 125 | 650 | $ 1.11 | $ 8.04 | $ 9.15 | $ 1.32 | $ 10.47 |
| 30 kVA 3PH, 1.2kV BIL | 250 | 1300 | $ 2.22 | $ 16.07 | $ 18.29 | $ 2.64 | $ 20.93 |
| 45 KVA 3 PH, 1.2kV BIL | 300 | 1800 | $ 2.78 | $ 19.54 | $ 22.32 | $ 3.30 | $ 25.62 |
| 75 KVA 3 PH, 1.2kV BIL | 400 | 2400 | $ 3.70 | $ 26.05 | $ 29.75 | $ 4.40 | $ 34.15 |
| 112.5 KVA 3 PH, 1.2kV BIL | 600 | 3400 | $ 5.46 | $ 38.87 | $ 44.33 | $ 6.49 | $ 50.82 |
| 125 KVA 3PH, 1.2kV BIL | 633 | 3767 | $ 5.84 | $ 41.20 | $ 47.04 | $ 6.95 | $ 53.98 |
| 150 KVA 3 PH, 1.2kV BIL | 700 | 4500 | $ 6.61 | $ 45.91 | $ 52.52 | $ 7.87 | $ 60.39 |
| *175 KVA 3PH, 1.2kV BIL | 766 | 4767 | $ 7.17 | $ 50.07 | $ 57.24 | $ 8.52 | $ 65.76 |
| *200 KVA 3PH, 1.2kV BIL | 833 | 5033 | $ 7.72 | $ 54.29 | $ 62.01 | $ 9.18 | $ 71.20 |
| 225 KVA 3 PH, 1.2kV BIL | 900 | 5300 | $ 8.28 | $ 58.51 | $ 66.79 | $ 9.85 | $ 76.64 |
| 300 KVA 3 PH, 1.2kV BIL | 1100 | 6300 | $ 10.04 | $ 71.33 | $ 81.37 | $ 11.94 | $ 93.31 |
| 400 KVA 3 PH, 1.2kV BIL | 1750 | 6950 | $ 14.55 | $ 110.27 | $ 124.82 | $ 17.30 | $ 142.12 |
| *450 KVA 3PH, 1.2kV BIL | 2075 | 7275 | $ 16.80 | $ 129.74 | $ 146.54 | $ 19.98 | $ 166.52 |
| 500 KVA 3 PH, 95kV BIL | 2400 | 7600 | $ 19.06 | $ 149.20 | $ 168.26 | $ 22.67 | $ 190.93 |
| 750 KVA 3 PH, 95kV BIL | 3000 | 12000 | $ 24.98 | $ 189.12 | $ 214.10 | $ 29.71 | $ 243.81 |
| 1000 KVA 3 PH, 95kV BIL | 3400 | 13000 | $ 28.03 | $ 213.71 | $ 241.74 | $ 33.34 | $ 275.08 |
| 1500 KVA 3 PH, 95kV BIL | 4500 | 18000 | $ 37.47 | $ 283.68 | $ 321.15 | $ 44.56 | $ 365.71 |
| 2000 KVA 3 PH, 95kV BIL | 5400 | 21000 | $ 44.68 | $ 339.79 | $ 384.48 | $ 53.14 | $ 437.62 |
| 2500 KVA 3 PH, 95kV BIL | 6500 | 25000 | $ 53.66 | $ 408.71 | $ 462.38 | $ 63.82 | $ 526.19 |
| 3000 KVA 3PH, 95kV BIL | 7700 | 29000 | $ 63.28 | $ 483.53 | $ 546.81 | $ 75.26 | $ 622.07 |
| 3750 KVA 3PH, 95kV BIL | 9500 | 35000 | $ 77.71 | $ 595.74 | $ 673.46 | $ 92.42 | $ 765.88 |
| 5000 KVA 3PH, 95kV BIL | 11000 | 39000 | $ 89.28 | $ 688.21 | $ 777.49 | $ 106.18 | $ 883.67 |

No Load and load losses from CSA standard C802-94: Maximum losses for distribution, power and dry-type transformers commercial use.
Average load factor = 0.46 average loss factor = 0.2489

*For non-preferred KVA ratings no load and load losses are interpolated as per CSA standard

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## RESIDENTIAL SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triple or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 53.15 |
| Smart Metering Entity Charge | $ | 0.45 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0133 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0074 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6300 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than 50 kW. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 35.84 |
| Smart Metering Entity Charge | $ | 0.45 |
| Distribution Volumetric Rate | $/kWh | 0.0465 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6300 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE 50 TO 1,499 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 1,500 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 200.00 |
| Distribution Volumetric Rate | $/kW | 10.7699 |
| Low Voltage Service Rate | $/kW | 0.02640 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.1058 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.9150 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6300 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## GENERAL SERVICE 1,500 TO 4,999 KW SERVICE CLASSIFICATION

This classification refers to non residential accounts whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 1,500 kW but less than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 4,126.75 |
| Distribution Volumetric Rate | $/kW | 10.6090 |
| Low Voltage Service Rate | $/kW | 0.02822 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.3013 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.1155 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6300 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## LARGE USE SERVICE CLASSIFICATION

This classification refers to an account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than 5,000 kW. Class A and Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of WMS - Sub-account CBR Class B is not applicable to wholesale market participants (WMP), customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new Class B customers.

If included in the following listing of monthly rates and charges, the rate rider for the disposition of Global Adjustment is only applicable to non-RPP Class B customers. It is not applicable to WMP, customers that transitioned between Class A and Class B during the variance account accumulation period, or to customers that were in Class A for the entire period. Customers who transitioned are to be charged or refunded their share of the variance disposed through customer specific billing adjustments. This rate rider is to be consistently applied for the entire period to the sunset date of the rate rider. In addition, this rate rider is applicable to all new non-RPP Class B customers.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

*Note: A Customer shall be billed for Demand based on the greater of the measured kilowatts or ninety percent (90%) of the measured kilovolt-amperes.*

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | 14,946.93 |
| Distribution Volumetric Rate | $/kW | 11.6566 |
| Low Voltage Service Rate | $/kW | 0.03177 |
| Retail Transmission Rate - Network Service Rate | $/kW | 5.8769 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 3.5083 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0045 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6300 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

This classification includes accounts taking electricity at 120/240 volts single phase whose monthly average peak demand is less than, or is forecast to be less than, 50 kW and the consumption is unmetered. These connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical demand/consumption of the proposed unmetered load. Class B consumers are defined in accordance with O. Reg. 429/04. Qualification for this classification is at the discretion of Hydro Ottawa as defined in its Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES - Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 10.41 |
| Distribution Volumetric Rate | $/kWh | 0.0496 |
| Low Voltage Service Rate | $/kWh | 0.00007 |
| Retail Transmission Rate - Network Service Rate | $/kWh | 0.0124 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kWh | 0.0072 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6300 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## STANDBY POWER SERVICE CLASSIFICATION

This classification refers to an account that has Load Displacement Generation equal to or greater than 500 kW and requires the distributor to provide back-up service. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such asthe Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component - Approved on an Interim Basis

| | | |
|---|---|---|
| Service Charge | $ | 186.89 |
| General Service 50 TO 1,499 kW customer | $/kW | 5.3844 |
| General Service 1,500 TO 4,999 kW customer | $/kW | 5.3027 |
| General Service Large User kW customer | $/kW | 5.8280 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

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**EB-2024-0115**

## SENTINEL LIGHTING SERVICE CLASSIFICATION

This classification refers to accounts that are an unmetered lighting load supplied to a sentinel light. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 10.03 |
| Distribution Volumetric Rate | $/kW | 47.0779 |
| Low Voltage Service Rate | $/kW | 0.01961 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.7690 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.1657 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | 0.0004 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6300 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

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**EB-2024-0115**

## STREET LIGHTING SERVICE CLASSIFICATION

This classification refers to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting controlled by photocells. The consumption for these customers is based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Class B consumers are defined in accordance with O. Reg. 429/04. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

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It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge (per connection) | $ | 1.29 |
| Distribution Volumetric Rate | $/kW | 9.0324 |
| Low Voltage Service Rate | $/kW | 0.02002 |
| Retail Transmission Rate - Network Service Rate | $/kW | 3.7882 |
| Retail Transmission Rate - Line and Transformation Connection Service Rate | $/kW | 2.2107 |

### MONTHLY RATES AND CHARGES - Regulatory Component

| | | |
|---|---|---|
| Wholesale Market Service Rate (WMS) - not including CBR | $/kWh | 0.0041 |
| Capacity Based Recovery (CBR) - Applicable for Class B Customers | $/kWh | -0.0041 |
| Rural or Remote Electricity Rate Protection Charge (RRRP) | $/kWh | 0.0015 |
| Standard Supply Service - Administrative Charge (if applicable) | $ | 1.6300 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## NET-METERING SERVICE CLASSIFICATION

This classification applies to an eligible electricity generation facility as defined in O. Reg. 541/05 . Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

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### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $0.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## MICROFIT AND OTHER GENERATION <10kW SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

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### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $12.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

**EB-2024-0115**

## FIT SERVICE AND OTHER GENERATION >10kW CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's FIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $95.00 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

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**EB-2024-0115**

## HCI, RESOP, OTHER ENERGY RESOURCE SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Independent Electricity System Operator's HCI, RESOP and Other Energy Resource programs and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

### APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor’s Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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It should be noted that this schedule does not list any charges, assessements or credits that are required by law to be invoiced by a distributor and that are not subject to Ontario Energy Board approval, such as the Global Adjustment and the HST.

### MONTHLY RATES AND CHARGES - Delivery Component

| | | |
|---|---|---|
| Service Charge | $ | $289.00 |

## ALLOWANCES

| | | |
|---|---|---|
| Primary Metering Allowance for Transformer Losses - applied to measured demand & energy | % | -1 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

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**EB-2024-0115**

## SPECIFIC SERVICE CHARGES

**APPLICATION**

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No charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, or as specified herein.

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### Customer Administration

| | | |
|---|---|---|
| Arrears Certificate | $ | $0 |
| Easement Certificate for Unregistered Easements | $ | $30 |
| Duplicate invoices for previous billing | $ | $7 |
| Special billing service per hour (min 1 hour, 15 min incremental billing thereafter) | $ | $154 |
| Credit reference/credit check (plus credit agency costs) | $ | $20 |
| Unprocessed payment charge (plus bank charges) | $ | $25 |
| Account set up charge/change of occupancy charge (plus credit agency costs if applicable) | $ | $10 |
| Interval meter - field reading | $ | 398 |
| High bill investigation - if billing is correct | $ | 350 |

### Non-Payment of Account

| | | |
|---|---|---|
| Late payment - per month<br>(effective annual rate 19.56% per annum or 0.04896% compounded daily rate | % | $1.50 |
| Reconnection at meter - during regular hours | $ | $76 |
| Reconnection at meter - after regular hours | $ | $102 |
| Reconnection at pole - during regular hours | $ | $345 |
| Reconnection at pole - after regular hours | $ | $521 |

### Other

| | | |
|---|---|---|
| Temporary service - install & remove - overhead - no transformer | $ | $1,172 |
| Temporary service - install & remove - underground - no transformer | $ | $1,546 |
| Temporary service - install & remove - overhead - with transformer | $ | $5,445 |
| Specific charge for access to the power poles - $/pole/year(with the exception of wireless attachments) | $ | $39.14 |
| Dry core transformer distribution charge | | Per Attached Table |
| Energy resource facility administration charge (account set-up charge separately if applicable) | $ | $179 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

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**EB-2024-0115**

## RETAIL SERVICE CHARGES (if applicable)

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

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Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity.

| | | |
|---|---|---|
| One-time charge, per retailer, to establish the service agreement between the distributor and the retailer | $ | $121.23 |
| Monthly fixed charge, per retailer | $ | $48.50 |
| Monthly variable charge, per customer, per retailer | $/cust. | $1.20 |
| Distributor-consolidated billing monthly charge, per customer, per retailer | $/cust. | $0.71 |
| Retailer-consolidated billing monthly credit, per customer, per retailer | $/cust. | ($0.71) |
| Service Transaction Requests (STR) | | |
| Request fee, per request, applied to the requesting party | $ | $0.61 |
| Processing fee, per request, applied to the requesting party | $ | $1.20 |
| Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party | | |
| up to twice a year | $ | no charge |
| More than twice a year, per request (plus incremental delivery costs) | $ | $4.85 |
| Notice of switch letter charge, per letter (unless the distributor has opted out of applying the charge as per the Ontario Energy Board's Decision and Order EB-2015-0304, issued on February 14, 2019) | $ | $2.42 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

### Effective and Implementation Date January 1, 2030

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**EB-2024-0115**

## LOSS FACTORS

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

| | |
|---|---|
| Total Loss Factor - Secondary Metered Customer < 5,000 kW | 1.0332 |
| Total Loss Factor - Secondary Metered Customer > 5,000 kW | 1.0151 |
| Total Loss Factor - Primary Metered Customer < 5,000 kW | 1.0229 |
| Total Loss Factor - Primary Metered Customer > 5,000 kW | 1.0049 |

# Hydro Ottawa Limited

## PROPOSED - TARIFF OF RATES AND CHARGES

**Effective and Implementation Date January 1, 2030**

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EB-2024-0115

**Dry Core Transformer Charges**

| Transformers | No Load Loss (W) | Load Loss (W) | Cost of Transmission and LV per kW | Cost of Energy and Wholesale Market per kWh | Total Monthly cost of power | Cost of Distribution per kW | Total |
|---|---|---|---|---|---|---|---|
| Rates | | | $ 8.6364 | $ 0.1075 | | $ 11.0118 | |
| 1.5 KVA 1PH, 1.2kV BIL | 58 | 243 | $ 0.49 | $ 3.67 | $ 4.16 | $ 0.62 | $ 4.78 |
| 25 KVA 1 PH, 1.2kV BIL | 150 | 900 | $ 1.39 | $ 9.77 | $ 11.16 | $ 1.77 | $ 12.93 |
| 37.5 KVA 1 PH, 1.2kV BIL | 200 | 1200 | $ 1.85 | $ 13.03 | $ 14.88 | $ 2.36 | $ 17.24 |
| 50 KVA 1 PH, 1.2kV BIL | 250 | 1600 | $ 2.36 | $ 16.39 | $ 18.75 | $ 3.01 | $ 21.76 |
| 75 KVA 1 PH, 1.2kV BIL | 350 | 1900 | $ 3.15 | $ 22.59 | $ 25.73 | $ 4.01 | $ 29.74 |
| 100 KVA 1 PH, 1.2kV BIL | 400 | 2600 | $ 3.79 | $ 26.26 | $ 30.06 | $ 4.84 | $ 34.89 |
| 112.5 kVA 1 PH, 1.2kV BIL | 447 | 2936 | $ 4.25 | $ 29.38 | $ 33.63 | $ 5.42 | $ 39.06 |
| *150 KVA 1 PH, 1.2kV BIL | 525 | 3500 | $ 5.02 | $ 34.56 | $ 39.58 | $ 6.40 | $ 45.98 |
| 167 KVA 1 PH, 1.2kV BIL | 650 | 4400 | $ 6.25 | $ 42.86 | $ 49.10 | $ 7.96 | $ 57.07 |
| 175 KVA 1PH, 1.2kV BIL | 665 | 4496 | $ 6.39 | $ 43.84 | $ 50.23 | $ 8.14 | $ 58.37 |
| *200 KVA 1 PH, 1.2kV BIL | 696 | 4700 | $ 6.68 | $ 45.88 | $ 52.56 | $ 8.52 | $ 61.08 |
| *225 KVA 1 PH, 1.2kV BIL | 748 | 5050 | $ 7.18 | $ 49.31 | $ 56.49 | $ 9.16 | $ 65.64 |
| 250 KVA 1 PH, 1.2kV BIL | 800 | 5400 | $ 7.68 | $ 52.73 | $ 60.41 | $ 9.79 | $ 70.20 |
| 300 KVA 1 PH, 1.2kV BIL | 920 | 6123 | $ 8.79 | $ 60.55 | $ 69.34 | $ 11.21 | $ 80.55 |
| 333 KVA 1PH 1.2kV BIL | 1000 | 6600 | $ 9.53 | $ 65.76 | $ 75.29 | $ 12.15 | $ 87.44 |
| | | | | | | | |
| *10 kVA 3 PH, 1.2kV BIL | 83 | 400 | $ 0.72 | $ 5.30 | $ 6.03 | $ 0.92 | $ 6.95 |
| *15 KVA 3 PH, 1.2kV BIL | 125 | 650 | $ 1.11 | $ 8.04 | $ 9.15 | $ 1.42 | $ 10.56 |
| 30 kVA 3PH, 1.2kV BIL | 250 | 1300 | $ 2.22 | $ 16.07 | $ 18.29 | $ 2.83 | $ 21.13 |
| 45 KVA 3 PH, 1.2kV BIL | 300 | 1800 | $ 2.78 | $ 19.54 | $ 22.32 | $ 3.54 | $ 25.85 |
| 75 KVA 3 PH, 1.2kV BIL | 400 | 2400 | $ 3.70 | $ 26.05 | $ 29.75 | $ 4.72 | $ 34.47 |
| 112.5 KVA 3 PH, 1.2kV BIL | 600 | 3400 | $ 5.46 | $ 38.87 | $ 44.33 | $ 6.96 | $ 51.29 |
| 125 KVA 3PH, 1.2kV BIL | 633 | 3767 | $ 5.84 | $ 41.20 | $ 47.04 | $ 7.45 | $ 54.49 |
| 150 KVA 3 PH, 1.2kV BIL | 700 | 4500 | $ 6.62 | $ 45.91 | $ 52.52 | $ 8.43 | $ 60.96 |
| *175 KVA 3PH, 1.2kV BIL | 766 | 4767 | $ 7.17 | $ 50.07 | $ 57.24 | $ 9.14 | $ 66.37 |
| *200 KVA 3PH, 1.2kV BIL | 833 | 5033 | $ 7.72 | $ 54.29 | $ 62.01 | $ 9.85 | $ 71.86 |
| 225 KVA 3 PH, 1.2kV BIL | 900 | 5300 | $ 8.28 | $ 58.51 | $ 66.79 | $ 10.56 | $ 77.35 |
| 300 KVA 3 PH, 1.2kV BIL | 1100 | 6300 | $ 10.04 | $ 71.33 | $ 81.37 | $ 12.80 | $ 94.17 |
| 400 KVA 3 PH, 1.2kV BIL | 1750 | 6950 | $ 14.55 | $ 110.27 | $ 124.82 | $ 18.55 | $ 143.37 |
| *450 KVA 3PH, 1.2kV BIL | 2075 | 7275 | $ 16.80 | $ 129.74 | $ 146.54 | $ 21.43 | $ 167.97 |
| 500 KVA 3 PH, 95kV BIL | 2400 | 7600 | $ 19.06 | $ 149.20 | $ 168.26 | $ 24.30 | $ 192.57 |
| 750 KVA 3 PH, 95kV BIL | 3000 | 12000 | $ 24.98 | $ 189.12 | $ 214.10 | $ 31.85 | $ 245.95 |
| 1000 KVA 3 PH, 95kV BIL | 3400 | 13000 | $ 28.04 | $ 213.71 | $ 241.74 | $ 35.75 | $ 277.49 |
| 1500 KVA 3 PH, 95kV BIL | 4500 | 18000 | $ 37.47 | $ 283.68 | $ 321.15 | $ 47.78 | $ 368.93 |
| 2000 KVA 3 PH, 95kV BIL | 5400 | 21000 | $ 44.69 | $ 339.79 | $ 384.48 | $ 56.98 | $ 441.46 |
| 2500 KVA 3 PH, 95kV BIL | 6500 | 25000 | $ 53.66 | $ 408.71 | $ 462.38 | $ 68.42 | $ 530.80 |
| 3000 KVA 3PH, 95kV BIL | 7700 | 29000 | $ 63.29 | $ 483.53 | $ 546.81 | $ 80.69 | $ 627.51 |
| 3750 KVA 3PH, 95kV BIL | 9500 | 35000 | $ 77.72 | $ 595.74 | $ 673.46 | $ 99.10 | $ 772.56 |
| 5000 KVA 3PH, 95kV BIL | 11000 | 39000 | $ 89.29 | $ 688.21 | $ 777.50 | $ 113.85 | $ 891.34 |

No Load and load losses from CSA standard C802-94: Maximum losses for distribution, power and dry-type transformers commercial use.
Average load factor = 0.46 average loss factor = 0.2489

*For non-preferred KVA ratings no load and load losses are interpolated as per CSA standard

# Attachment 8-5-1(C) - 2026-2030 Bill Impacts Model

## (Refer to the attachment in Excel format)

# RATE MITIGATION

In accordance with Section 2.8.12 of OEB's *Chapter 2 Filing Requirements for Electricity Distribution Rate Applications - 2025 Edition for 2026 Rate Applications*, dated December 9, 2024, Hydro Ottawa's 2026-2030 proposed total bill impacts are under 10% for all rate classes. For the bill impacts presented in Schedule 8-5-1 - Bill Impacts and Tariff of Rates and Charges 2026-2030 to meet the 10% threshold, an inter-class revenue adjustment was required for the Sentinel Lighting class in 2026. Refer to Section 9.2 of Schedule 7-1-1 - Cost Allocation for further details.

To facilitate more levelized bill impacts for Street Lighting class, the rates have been designed to move them within the OEB-approved revenue-to-cost ratio over the five year rate period. Section 9.1 of Schedule 7-1-1 - Cost Allocation includes supplementary information.

In addition, Hydro Ottawa is proposing to dispose of the balance of Uniform System of Accounts 1568 for General Service 50-1,499 kW in 2027. Further details on this proposal are provided in Schedule 9-3-1 - Disposition of Deferral and Variance Accounts.