UPDATED COST OF CAPITAL AND CAPITAL STRUCTURE

1. INTRODUCTION

This Schedule provides an overview of Hydro Ottawa's capital structure, financing approach, costs associated with short-term and long-term debt, and the calculation of Return on Equity ("ROE") as required under section 2.5 of the *Chapter 2 Filing Requirements for Electricity Distribution Rate Applications*, as updated on July 12, 2018 and addended on July 15, 2019.

2. CAPITAL STRUCTURE

Hydro Ottawa's capital structure is set in accordance with the OEB guidelines provided in the *Report of the Board on the Cost of Capital for Ontario's Regulated Utilities* issued in 2009 (the "OEB Cost of Capital Report").[1] Hydro Ottawa targets a 60:40 debt to equity range, as evidenced by the utility's past and current practices. The 60% debt component is comprised of a targeted split between 56% long-term debt and 4% short-term debt.

UPDATED Attachment 5-1-1(A): Appendix 2-OA - Capital Structure and Cost of Capital outlines Hydro Ottawa's capital structure for both the OEB-approved years of 2016-2020 and the Test Years of 2021-2025.

3. FINANCING APPROACH

Hydro Ottawa continues to use a financing approach whereby funding is received through its parent company, Hydro Ottawa Holding Inc. ("Holding Company"). All external debt is managed by the Holding Company as it maintains a strong investment grade credit rating at the parent company level for financing purposes. This credit rating is required for the Holding Company to issue private debt issuances into the Canadian debt market to support its subsidiaries/affiliates' financing requirements. Hydro Ottawa receives all of its financing from the Holding Company via

[1] Ontario Energy Board, *Report of the Board on the Cost of Capital for Ontario's Regulated Utilities*, EB-2009-0084 (December 11, 2009).

intercompany loans on a "pass through" basis for the rates, terms, and conditions that the Holding Company receives from the external markets.

It is Hydro Ottawa's intention to provide regulatory efficiency and rate stability over the five-year term of this Application by committing to the cost of capital parameters shown for each year and to not make any updates to any component of the cost of capital for the period covered.

3.1. CREDIT RATING

The current credit rating for the Holding Company by Dominion Bond Rating Service ("DBRS") is "A" / Negative Trend and by Standard and Poor's Global ("S&P") "BBB+" / Stable.

The most recent credit rating reports are provided in Attachment 1-3-4(A): Ratings Report for Hydro Ottawa Holding Inc. issued by Dominion Bond Rating Service and Attachment 1-3-4(B): Ratings Report for Hydro Ottawa Holding Inc. issued by Standard and Poor's.

3.2. SHORT-TERM DEBT

The Holding Company maintains short-term credit facilities to support the liquidity needs of Hydro Ottawa. These facilities are used to cover periodic working capital deficiencies, bridge financing requirements until long-term debt is warranted, and post required prudentials with the Independent Electricity System Operator ("IESO").

The cost of short-term financing is passed onto Hydro Ottawa on the same terms and conditions that the Holding Company receives from external markets through its credit facilities. Terms and conditions of short-term borrowings are governed by the "Credit Agreement" dated January 1, 2009, which is appended to this Application as Attachment 5-1-1(C): Credit Agreement as Amended.

For the purpose of this Application, Hydro Ottawa has utilized the short-term debt rate of 2.75%, as provided in the OEB's 2020 Cost of Capital Parameters letter dated October 31, 2019, for the years 2021-2025.[2] This will provide regulatory efficiency and rate stability by leaving this rate in effect until December 31, 2025.

3.3. LONG-TERM DEBT

As required, the Holding Company issues long-term debt to support the financing requirements of Hydro Ottawa. Similar to short-term financing, the costs associated with long-term financing are also passed on to Hydro Ottawa on the same terms and conditions as the Holding Company receives from the external markets.

In the absence of associated external financing at the Holding Company level, long-term debt is charged to Hydro Ottawa at the deemed cost of debt as calculated at the time of the fund transfer, as per the methodology of the OEB Cost of Capital Report. All debt using a deemed rate accumulates until the next external long-term financing is conducted by the Holding Company, at which time the deemed rates are converted into the new rate, terms, and conditions as per the external bond issuance, which includes the actual cost of debt plus any incurred issuance costs. Any issuance costs are amortized over a five-year period which is consistent with the write-off for tax purposes.

By using this approach, Hydro Ottawa primarily relies on the embedded or actual cost of long-term debt and only uses the deemed long-term debt rate as a proxy to bridge the period between external financings.

The markets are not receptive to long-term debt issuances under $100M due to liquidity and listing requirements, and therefore smaller issuances, if attainable, would dictate premium pricing. As well, smaller and more frequent issuances will incur more costs than larger, less frequent issuances due to the fixed nature of most of the required issuance costs. The financing arrangement between Hydro Ottawa and the Holding Company is beneficial to both Hydro Ottawa and ratepayers, as it allows the utility to target the deemed capital structure and borrow

[2] Ontario Energy Board, Letter re: *2020 Cost of Capital Parameters* (October 31, 2019).

in smaller tranches (without paying premiums) than would otherwise be attainable in the financial markets.

If the Holding Company has not issued any new external debt when the aggregate of Hydro Ottawa's smaller debt issuances using the deemed long-term debt rate reach a quantum where an external bond issuance would otherwise be prudent and cost-effective (generally approximately \$150M-\$250M for Hydro Ottawa), the indicative borrowing rate for the Holding Company will be utilized to emulate an external issuance at that time.

Accordingly, on October 16, 2019, Hydro Ottawa issued two new promissory notes to the Holding Company comprised of tenures of 10 years and 30 years, for a combined aggregate principal of \$250M. The 10-year and 30-year promissory notes bear interest at a fixed rate of 2.66% and 3.21%, respectively. The rates for the promissory notes were based on the prevailing BMO Capital Markets weekly indicative rates for the Holding Company, with no allowance for issuance costs. With this issuance, Hydro Ottawa secured long-term financing at a time when the Government of Canada 10-year and 30-year bond yields were close to historical lows. The proceeds from this issuance were used to convert the \$180M of accumulated long-term debt using the deemed rate at a weighted average rate of 3.94%, as well as to reduce the short-term borrowings by \$70M in order to bring the short-term amount in line with the deemed capital structure of 4%. Hydro Ottawa has reflected these rates in the weighted average long-term debt rates for 2019-2025, as calculated in Attachment 5-1-1(B): OEB Appendix 2-OB - Debt Instruments.

As shown in Attachment 5-1-1(B): Appendix 2-OB - Debt Instruments, this issuance has reduced the weighted average cost of existing embedded long-term debt as of December 31, 2020 to 3.35%.

The financial strength of the Holding Company and this type of financing arrangement optimizes Hydro Ottawa's borrowing requirements on both short-term and long-term financing. It provides financing to Hydro Ottawa in tranches that meets its capital structure requirements using both actual and deemed rates in an objective and transparent manner. In turn, this minimizes borrowing costs for the utility and ratepayers, as can be seen by the weighted average long-term debt rate forecast range of 3.35% to 3.69% for the years 2021-2025 shown in Table 3 below.

The current long-term debt notes issued by Hydro Ottawa are included as the following Attachments to this Schedule:

- Attachment 5-1-1(D): Grid Promissory Note
- Attachment 5-1-1(E): Hydro Ottawa Limited $138.667M Promissory Note
- Attachment 5-1-1(F): Hydro Ottawa Limited $121.333M Promissory Note
- Attachment 5-1-1(G): Hydro Ottawa Limited $107.185M Promissory Note
- Attachment 5-1-1(H): Hydro Ottawa Limited $50M Promissory Note
- Attachment 5-1-1(I): Hydro Ottawa Limited $15.999M Promissory Note
- Attachment 5-1-1(J): Hydro Ottawa Limited $14.001M Promissory Note
- Attachment 5-1-1(K): Hydro Ottawa Limited $87.5M Promissory Note
- Attachment 5-1-1(L): Hydro Ottawa Limited $162.5M Promissory Note

There was no profit or loss on redemption of debt.

3.4. ANTICIPATED LONG-TERM DEBT

Hydro Ottawa plans to issue further long-term debt to support its ongoing capital expenditure requirements, as presented in this Application. The anticipated additional borrowing requirement for Hydro Ottawa from 2021-2025 is outlined in Table 1 below.

Table 1 – Anticipated Long-Term Borrowing Requirements ($'000,000s)

Year	Amount
2021	$80.0
2022	$0.0
2023	$60.0
2024	$0.0
2025	$0.0

3.5. COST OF LONG-TERM DEBT

The long-term debt rate is calculated as the weighted average rate of existing embedded debt and forecast debt planned to be issued from 2021-2025. The calculation to determine the anticipated long-term debt rate is comprised of three components:

- The forecast Government of Canada 10-year bond yield;
- The 30-year to 10-year Government of Canada bond yield spread; and
- The Hydro Ottawa credit risk spread.

The use of these three components emulates the calculation of the OEB Cost of Capital Report.

The underlying forecast for the Government of Canada 10-year yield is that which is presented in the October 2019 Consensus Long-Term Forecast (which is issued twice per year, in October and April).

Hydro Ottawa 10-year bonds are forecast by adding the Hydro Ottawa historical credit spread of 112 basis points ("bps") for 10-year bonds to the forecast Government of Canada 10-year yield.

The 30-year Government of Canada bond yield is calculated using the Consensus Long-Term Forecast 10-year bond yield plus 44 bps, which as of October 2019 is the historical five-year average spread of the 30-year over 10-year Government of Canada bond yield, as calculated per the OEB Cost of Capital Report.

Hydro Ottawa 30-year bonds are then forecast by adding the Hydro Ottawa historical credit spread of 148 bps for 30-year bonds to the forecast 30-year Government of Canada yields.

The Hydro Ottawa historical credit spreads used for 10-year and 30-year bonds are as of October 2019 and are based on the average Bank of Montreal ("BMO") Capital Markets indicative spreads over the past two-and-a-half years for the Holding Company. Table 2 summarizes the forecasted Hydro Ottawa long-term debt rates for 10-year and 30-year debt issuances for 2021-2025.

Table 2 – Forecast Yield for Long-Term Debt Issuances (2021-2025)

Year	Govt. of Canada 10-Year Yield (based on October 2019 Consensus Forecast)[3]	Hydro Ottawa Historical 10-Year Spread	Forecast Hydro Ottawa Yield 10-Year Bonds	Historical Spread (30-Year Govt. Yield over 10-Year Govt. Yield)	Govt. of Canada 30-Year Yield	Hydro Ottawa Historical 30-Year Spread	Forecast Hydro Ottawa Yield 30-Year Bonds
2021	1.95%	112 bps	**3.07%**	44 bps	2.39%	148 bps	**3.87%**
2022	2.45%	112 bps	**3.57%**	44 bps	2.89%	148 bps	**4.37%**
2023	2.80%	112 bps	**3.92%**	44 bps	3.24%	148 bps	**4.72%**
2024	3.00%	112 bps	**4.12%**	44 bps	3.44%	148 bps	**4.92%**
2025	3.10%	112 bps	**4.22%**	44 bps	3.54%	148 bps	**5.02%**

Hydro Ottawa has used the forecasted weighted average long-term debt rates for calculating the revenue requirement for 2021-2025, as shown in Table 3 below.

[3] This is the average percentage for mid-year issuance.

Table 3 – Forecast Weighted Average Long-Term Debt Rate

Year	Rate
2021	3.35%
2022	3.36%
2023	3.40%
2024	3.44%
2025	3.69%

The weighted average long-term debt rate reflects the Hydro Ottawa historical and prospective allocation of debt issuances between 10-year and 30-year tenures of 35% and 65%, respectively.

Attachment 5-1-1(B): Appendix 2-OB - Debt Instruments outlines the amounts and associated interest rates for all of the utility's long-term debt instruments as well as the weighted average long-term debt rate for the Historical, Bridge, and Test Years.

4. RETURN ON EQUITY

Hydro Ottawa has used a forecast ROE for the full five-year period covered by this Application. This is in line with the guidance set forth in the *Handbook for Utility Rate Applications*, which states that "the OEB expects there to be no further rate applications for annual updates within the five-year term" and "the OEB does not expect to address annual rate applications for updates for cost of capital."[4] Hydro Ottawa has followed this guidance and has proposed an ROE that balances Hydro Ottawa's expectation of a reasonable return with customers' needs for investment in the system, while providing regulatory efficiency. Hydro Ottawa has utilized the OEB's formulaic calculation in determining the forward-looking ROE.

[4] Ontario Energy Board, *Handbook for Utility Rate Applications* (October 13, 2016), page 26.

The ROE calculation utilizes three components:

- The Consensus Forecast Government of Canada 10-year bond yield;
- The 30-year to 10-year Government of Canada bond yield spread; and
- Change in A-rated Utility Bond Yield Spread from September 2009.

The ROE calculation in the model utilizes Consensus Forecast forward-looking rates for 10-year bonds on a three-month and 12-month basis. To forecast the ROE over the five-year period of 2021-2025, the October 2019 Consensus Long-Term Forecast was utilized using the average annual yield for 10-year bonds.

Similar to long-term debt, the 30-year Government of Canada bond yield is then calculated using the forecast 10-year bond yield plus 44 bps, which is the five-year historical average spread of the 30-year over 10-year Government of Canada bond yield as calculated per the OEB Cost of Capital Report.

To determine the change in A-rated 30-year Utility Bond Yield spreads, the five-year historical average spread as utilized in the Cost of Capital calculations up to October 2019 was used. This five-year historical average equals 154 bps.

The calculations for the ROE forecast using the three components for the OEB's formulaic calculation for ROE are shown in Table 4 below.

Table 4 – 2021-2025 Forecast ROE

	2021	2022	2023	2024	2025
Long Canada Bond Forecast ("LCBF")					
Consensus Forecast (@ December 31)	2.20%	2.70%	2.90%	3.10%	3.10%
Average for Year	1.95%	2.45%	2.80%	3.00%	3.10%
30-Year over 10-Year Govt. Spread	0.44%	0.44%	0.44%	0.44%	0.44%
LCBF	**2.39%**	**2.89%**	**3.24%**	**3.44%**	**3.54%**
ROE Forecast					
Initial ROE (A)	**9.75%**	**9.75%**	**9.75%**	**9.75%**	**9.75%**
Change in LCBF from September 2009					
LCBF	2.39%	2.89%	3.24%	3.44%	3.54%
Base LCBF (as per OEB Cost of Capital Report)	4.25%	4.25%	4.25%	4.25%	4.25%
Difference	(1.86)%	(1.36)%	(1.01)%	(0.81)%	(0.71)%
Difference X 0.5 (B)	**(0.93)%**	**(0.68)%**	**(0.50)%**	**(0.40)%**	**(0.35)%**
Change in A-rated Utility Bond Yield Spread from September 2009					
A-rated Utility Bond Yield Spread	1.54%	1.54%	1.54%	1.54%	1.54%
Base A-rated Utility Bond Yield Spread (as per OEB Cost of Capital Report)	1.42%	1.42%	1.42%	1.42%	1.42%
Difference	0.12%	0.12%	0.12%	0.12%	0.12%
Difference X 0.5 (C)	**0.06%**	**0.06%**	**0.06%**	**0.06%**	**0.06%**
FORECAST ROE (A+B+C)	**8.88%**	**9.13%**	**9.31%**	**9.41%**	**9.46%**

5. PREFERRED SHARES

Hydro Ottawa does not currently have any preferred shares issued nor has the utility forecasted for any issuance of preferred shares for the Bridge or Test Years.

UPDATED - Appendix 2-OA
Capital Structure and Cost of Capital

This table must be completed for the last OEB-approved year and the test year.

OEB-approved year: 2016

Line No.	Particulars	Capitalization Ratio (%)		Capitalization Ratio ($)	Cost Rate (%)	Return ($)
	Debt					
1	Long-term Debt	56.00%		$466,546,818	3.53%	$16,461,102
2	Short-term Debt	4.00%	(1)	$33,324,773	2.16%	$719,815
3	**Total Debt**	60.0%		$499,871,591	3.44%	$17,180,917
	Equity					
4	Common Equity	40.00%		$333,247,727	9.19%	$30,625,466
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$333,247,727	9.19%	$30,625,466
7	**Total**	100.0%		$833,119,318	5.74%	$47,806,383

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.

OEB-approved year: 2017

Line No.	Particulars	Capitalization Ratio (%)		Capitalization Ratio ($)	Cost Rate (%)	Return ($)
	Debt					
1	Long-term Debt	56.00%		$487,059,449	3.58%	$17,460,502
2	Short-term Debt	4.00%	(1)	$34,789,961	2.16%	$751,463
3	**Total Debt**	60.0%		$521,849,410	3.49%	$18,211,965
	Equity					
4	Common Equity	40.00%		$347,899,606	9.19%	$31,971,974
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$347,899,606	9.19%	$31,971,974
7	**Total**	100.0%		$869,749,016	5.77%	$50,183,939

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.

OEB-approved year: 2018

Line No.	Particulars	Capitalization Ratio			Cost Rate	Return
		(%)		($)	(%)	($)
	Debt					
1	Long-term Debt	56.00%		$511,195,528	3.65%	$18,653,109
2	Short-term Debt	4.00%	(1)	$36,513,966	2.16%	$788,702
3	**Total Debt**	60.0%		$547,709,495	3.55%	$19,441,810
	Equity					
4	Common Equity	40.00%		$365,139,663	9.19%	$33,556,335
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$365,139,663	9.19%	$33,556,335
7	**Total**	100.0%		$912,849,158	5.81%	$52,998,145

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.

OEB-approved year: 2019

Line No.	Particulars	Capitalization Ratio			Cost Rate	Return
		(%)		($)	(%)	($)
	Debt					
1	Long-term Debt	56.00%		$524,229,507	3.70%	$19,381,245
2	Short-term Debt	4.00%	(1)	$37,444,965	2.82%	$1,055,948
3	**Total Debt**	60.0%		$561,674,472	3.64%	$20,437,193
	Equity					
4	Common Equity	40.00%		$374,449,648	8.98%	$33,625,578
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$374,449,648	8.98%	$33,625,578
7	**Total**	100.0%		$936,124,120	5.78%	$54,062,771

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.

Last OEB-approved year: 2020 (Bridge Year)

Line No.	Particulars	Capitalization Ratio			Cost Rate	Return
		(%)		($)	(%)	($)
	Debt					
1	Long-term Debt	56.00%		$545,328,692	3.69%	$20,135,291
2	Short-term Debt	4.00%	(1)	$38,952,049	2.82%	$1,098,448
3	**Total Debt**	60.0%		$584,280,741	3.63%	$21,233,739
	Equity					
4	Common Equity	40.00%		$389,520,494	8.98%	$34,978,940
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$389,520,494	8.98%	$34,978,940
7	**Total**	100.0%		$973,801,235	5.77%	$56,212,679

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.

Test Year: 2021

Line No.	Particulars	Capitalization Ratio			Cost Rate	Return
		(%)		($)	(%)	($)
	Debt					
1	Long-term Debt	56.00%		$689,212,278	3.35%	$23,088,611
2	Short-term Debt	4.00%	(1)	$49,229,448	2.75%	$1,353,810
3	**Total Debt**	60.0%		$738,441,727	3.31%	$24,442,421
	Equity					
4	Common Equity	40.00%		$492,294,484	8.88%	$43,715,750
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$492,294,484	8.88%	$43,715,750
7	**Total**	100.0%		$1,230,736,211	5.54%	$68,158,171

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.

Test Year: 2022

Line No.	Particulars	Capitalization Ratio (%)		Capitalization Ratio ($)	Cost Rate (%)	Return ($)
	Debt					
1	Long-term Debt	56.00%		$736,796,601	3.36%	$24,756,366
2	Short-term Debt	4.00%	(1)	$52,628,329	2.75%	$1,447,279
3	**Total Debt**	60.0%		$789,424,930	3.32%	$26,203,645
	Equity					
4	Common Equity	40.00%		$526,283,286	9.13%	$48,049,664
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$526,283,286	9.13%	$48,049,664
7	**Total**	100.0%		$1,315,708,216	5.64%	$74,253,309

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.

Test Year: 2023

Line No.	Particulars	Capitalization Ratio (%)		Capitalization Ratio ($)	Cost Rate (%)	Return ($)
	Debt					
1	Long-term Debt	56.00%		$763,605,809	3.40%	$25,962,598
2	Short-term Debt	4.00%	(1)	$54,543,272	2.75%	$1,499,940
3	**Total Debt**	60.0%		$818,149,081	3.36%	$27,462,537
	Equity					
4	Common Equity	40.00%		$545,432,721	9.31%	$50,779,786
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$545,432,721	9.31%	$50,779,786
7	**Total**	100.0%		$1,363,581,802	5.74%	$78,242,324

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.

Test Year: 2024

Line No.	Particulars	Capitalization Ratio			Cost Rate	Return
		(%)		($)	(%)	($)
	Debt					
1	Long-term Debt	56.00%		$778,898,234	3.44%	$26,794,099
2	Short-term Debt	4.00%	(1)	$55,635,588	2.75%	$1,529,979
3	**Total Debt**	60.0%		$834,533,822	3.39%	$28,324,078
	Equity					
4	Common Equity	40.00%		$556,355,882	9.41%	$52,353,088
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$556,355,882	9.41%	$52,353,088
7	**Total**	100.0%		$1,390,889,704	5.80%	$80,677,166

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.

Test Year: 2025

Line No.	Particulars	Capitalization Ratio			Cost Rate	Return
		(%)		($)	(%)	($)
	Debt					
1	Long-term Debt	56.00%		$803,024,257	3.69%	$29,631,595
2	Short-term Debt	4.00%	(1)	$57,358,876	2.75%	$1,577,369
3	**Total Debt**	60.0%		$860,383,133	3.63%	$31,208,964
	Equity					
4	Common Equity	40.00%		$573,588,755	9.46%	$54,261,496
5	Preferred Shares			$ -		$ -
6	**Total Equity**	40.0%		$573,588,755	9.46%	$54,261,496
7	**Total**	100.0%		$1,433,971,888	5.96%	$85,470,460

Notes

(1) 4.0% unless an applicant has proposed or been approved for a different amount.