



File Number: EB-2016-0091

Date Filed: August 26, 2016

EXHIBIT 5 - COST OF CAPITAL AND CAPITAL STRUCTURE



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Exhibit 5

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Capital Structure and Cost of Capital



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CAPITAL STRUCTURE AND COST OF CAPITAL

OVERVIEW

The purpose of this evidence is to summarize the method and cost of financing capital requirements for the 2017 Test Year

London Hydro Inc. ("London Hydro") recognizes the OEB Staff Report: Review of the Cost of Capital for Ontario's Regulated Utilities Board File Number EB-2009-0084 wherein OEB staff has concluded that the methodology adopted in late 2009 has worked as intended. Hence London Hydro has followed the Report of the Board on Cost of Capital for Ontario's Regulated Utilities (the "Cost of Capital Report") dated December 11, 2009, to determine its capital structure and relied on the Board's letter titled Cost of Capital Parameter Updates for 2016 Applications dated October 15, 2015 for the cost of capital parameters.

Cost of Capital Parameter Updates

Rates Effective	Return on Equity (ROE)	Deemed Long-term Debt Rate	Deemed Short-term Debt Rate	Weighted Average Cost of Capital (WACC)*	Letter (issuance date)
Jan 1, 2016	9.19%	4.54%	1.65%	6.28%	Oct 15, 2015

London Hydro acknowledges these rates are subject to update at such time as the 2017 Cost of Capital parameters are issued by the Board.

London Hydro has prepared this Application with a deemed capital structure of 56% Long Term Debt, 4% Short Term Debt and 40% Equity to comply with the Cost of Capital Report. For the purpose of setting distribution rates for the 2017 Test Year, London Hydro adheres to Board policy where it has been determined that a split of 60% debt and, 40% equity is appropriate for all electricity distributors. London Hydro's approach for the 2017 EDR is consistent with the Board's Decision in the 2013 EDR.



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Copies of the Board's Appendices 2-OA and 2-OB provide further details on London Hydro's cost of capital since the last 2013 EDR and are provided in Exhibit 5 Tab 1 Schedule 1 Attachment 1.1 and Exhibit 5 Tab 1 Schedule 1 Attachment 2.1, respectively.

Overall, London Hydro is requesting a deemed short term interest expense of \$199,153, a deemed long term interest expense of \$4,852,246 and a deemed return on equity of \$11,902,198 for a total regulated return on capital of \$15,873,597 for its 2017 Test Year.

2.5.1 CAPITAL STRUCTURE

London Hydro was incorporated November 7, 2000 in accordance with the requirements of the Electricity Act, 1998, S.O. 1998, c.15, Sched. A.

London Hydro is a wholly-owned subsidiary of the Corporation of the City of London, providing electrical distribution services to the inhabitants of the City of London.

In our 2013 Cost of Service the Public Utility Commission of the City of London held an unsecured promissory note from London Hydro in the amount of \$70,000,000 bearing interest at 6% per annum commencing July 1, 2003, payable on demand with 367 days' notice, and maturing on October 31, 2015. In addition London Hydro had entered into a four year interest rate swap agreement with the Royal Bank of Canada for an unsecured loan of \$23.5 million to fund its Smart Meter capital expenditure program. Principal repayments on this loan commenced in October 2010 and are being amortized over a 10 year period ending March 31, 2020. In June 2012, London Hydro extended the agreement so that the interest rate swap also matures on March 31, 2020 which effectively converts variable interest rates on unsecured Bankers Acceptances to an effective interest rate of 2.43% plus a stamping fee of 0.9% for an all-in rate of 3.33%.

In November 2014 London Hydro converted the unsecured promissory note into an interest rate swap agreement with the Royal Bank of Canada for an unsecured loan in the amount of \$85 million maturing in June 2022.



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London Hydro has an uncommitted operating revolving line of credit facility of \$40.0 million with the Toronto Dominion Bank. As of December 31, 2015, the amount drawn by the Company under this line of credit was \$ nil (2014 - \$nil). The line of credit is unsecured and interest is at bank prime rate less 0.5%, or at Bankers Acceptances (B/A) rates plus a 0.75% stamping fee on B/A based borrowings.

Share capital consists of 1,001 common shares issued to the Corporation of the City of London in the amount of \$96,116,000.

Since the time of the last application, there have been no additional issuances or redemption of any type of shares (common or preferred) and as such, there has been no profit or loss associated with the redemption of shares.

2.5.2 COST OF CAPITAL

Cost of Debt - Short Term

London Hydro has an uncommitted operating revolving line of credit facility of \$30.0 million with the Toronto Dominion Bank. As of December 31, 2015, the amount drawn by the Company under this line of credit was \$ nil (2014 - \$nil). The line of credit is unsecured and interest is at bank prime rate less 0.5%, or at Bankers Acceptances (B/A) rates plus a 0.75% stamping fee on B/A based borrowings.

For the purposes of preparing this Application, London Hydro has utilized the Deemed Short-Term Debt Rate of 1.65% issued by the Board on October 15, 2015 for rates effective January 1, 2016.

London Hydro acknowledges this rate is subject to update at such time as the 2016 Cost of Capital parameters are issued by the Board.

Cost of Debt - Long Term

London Hydro has an interest rate swap agreement with the Royal Bank of Canada for an unsecured loan in the amount of \$85 million. Interest only payments are due quarterly and



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commenced December 2014. The principal is due at maturity. The agreement is a fixed rate swap and matures June 2022, which effectively converts variable interest rates on unsecured Bankers' Acceptances to an effective interest rate of 2.46%, plus a stamping fee of 0.19%, for an all-in rate of 2.65%.

London Hydro also has an interest rate swap agreement with the Royal Bank of Canada for an unsecured loan in the original amount of \$20.5 million to fund its Smart Meter capital expenditure program. Principal repayments on this loan commenced October 2010 and are being amortized over a 9 year period ending August 2019. The agreement is a fixed rate swap and matures August 2019 which effectively converts variable interest rates on unsecured Bankers' Acceptances to an effective interest rate of 2.43%, plus a stamping fee of 0.9%, for an all-in rate of 3.33%.

Future Debt

London Hydro expects to acquire approximately \$20 million in additional debt during 2017 to fund its capital expenditures and current operations. The expectation is that based on current market conditions, the interest rate for this type of facility will be approximately 3%.

The last loan entered into by London Hydro for the \$85 million balance had an extremely low stamping fee of 0.19% which London Hydro expects is from the magnitude of the loan (\$85 million) and therefore the administrative costs associated with the loan could be reduced in proportion to a lower dollar loan such as the \$20 million. Therefore the \$85 million dollar loan was not considered to be a true representation of the actual borrowing costs which would be incurred in future debt placements.

The future debt placement is expected to be \$20 million. This is the approximate amount of the initial smart meter loan which was entered in the spring of 2010. When the agreement was signed in March 2010, the locked in rate was 3.63% (2.73% rate + 0.9% stamping fee). At that point in time, the prime rate was 2.25%. As of June 2016, the Prime rate is 2.70% which using the same relationship would mean that the expected interest rate would be 4.08% (previous rate of 3.63% + [the change in the prime rate since the 2010] 0.45%).



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Although the calculation above at current prime rates indicates that 4.08% would be the applicable rate, London Hydro estimates that the all in rate would be lower than 4.08%, and therefore estimated that the loan would fall between the last loan (2.65%) and the 4.03%. Therefore London Hydro has estimated that the 3% interest rate would be a realistic estimate for the loan agreement.

As conditions in the marketplace change, London Hydro will take advantage of any opportunities that present themselves in order to provide the most value of its customers and shareholder, but in the near future London Hydro does not expect to modify any existing debt. London Hydro is requesting a return on long term debt for the 2017 Test Year of 2.71% as shown in Table 5.1.1.1 below.

London Hydro acknowledges the rate may subject to update at such time as the 2017 Cost of Capital parameters are issued by the Board.

Table 5.1.1.1 DEBT INSTRUMENTS

**Appendix 2-OB
Debt Instruments**

This table must be completed for all required historical years, the bridge year and the test year.

Year

Row	Description	Lender	Affiliated or Third-Party Debt?	Fixed or Variable-Rate?	Start Date	Term (years)	Principal (\$)	Rate (%) ²	Days O/S	Average Balance	Interest (\$) ¹	Additional Comments, if any
1	Unsecured, non-revolving term instalment loan bearing interest at the 7.58 year Bankers' Acceptance rate of 2.46% plus a stamping fee of 0.19%, interest only payments due June 2022	Royal Bank	Third-Party	Fixed Rate	29-Nov-14	8	\$ 85,000,000	2.650%	365	\$ 85,000,000	\$ 2,252,500	
2	Unsecured, non-revolving term instalment loan bearing interest at the 7.75 year Bankers' Acceptance rate of 2.43% plus a stamping fee of 0.9%, payable in monthly instalments of \$192 principal plus interest due August 2019	Royal Bank	Third-Party	Fixed Rate	1-Oct-10	9	\$ 3,826,000	3.330%	365	\$ 3,826,000	\$ 127,406	
3	Unsecured Long Term Debt	Unknown	Third-Party	Fixed Rate	1-Jul-17		\$ 20,000,000	3.000%	183	\$ 10,000,000	\$ 300,000	
4											\$ -	
Total							\$ 108,826,000	2.71%		\$ 98,826,000	\$ 2,679,906	

Return on Equity

Common Equity

As noted previously, London Hydro adheres to the Board's Cost of Capital policy. For rate making purposes, London Hydro proposes to recover an amount of \$11,092,198 for the Return on Equity through distribution rates in the 2017 Test Year. This amount is computed based on



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the Board's 2016 default rate of return on equity of 9.19% which will be updated when a new rate is made available by the Board prior to the 2017 EDR decision.

Preference Shares

London Hydro does not propose to include any preference share component in its capital structure for the 2017 Test Year. London Hydro notes that the Board's approved policy on capital structure does not require that a preference share component be included in the capital structure

Profit or Loss on Redemption of Debt and/or Preference Shares

This filing requirement is not applicable as London Hydro does not have any preference shares, nor did it redeem any debt.

Notional Debt

London Hydro's deemed and actual long term debt amounts are significantly dissimilar. For 2017, the amount of actual long term debt of \$108,826,000 (see Table 5.1.1.1 above) exceeds the deemed long term debt amount of \$168,977,986 (see Table 5.1.1.2 below) by \$60,151,986. Hence London Hydro's notional debt is negative. In accordance with the 2017 Minimum Filing requirements, London Hydro is applying the weighted average cost of actual long-term debt.

WEIGHTED AVERAGE COST OF CAPITAL

Consistent with Board Appendix 2-OA, Table 5.1.1.2 below demonstrates the elements of the Capital Structure and Cost of Capital for the 2013 Board Approved Proxy and 2017 Test Year. A copy of Board Appendix 2-OA can be found in Exhibit 5 Tab 1 Schedule 1 Attachment 1.1. For 2017, the Weighted Average Cost of Capital of 5.26% will be applied to the Rate Base of \$301,746,404, which is explained in Exhibit 2, to determine a Return on Rate Base of \$15,873,597.



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Table 5.1.1.2 CAPITAL STRUCTURE AND COST OF CAPITAL

Year: 2013

Line No.	Particulars	Capitalization Ratio		Cost Rate	Return
		(%)	(\$)	(%)	(\$)
	Debt				
1	Long-term Debt	56.00%	\$150,367,466	4.58%	\$6,886,830
2	Short-term Debt	4.00% (1)	\$10,740,533	2.07%	\$222,329
3	Total Debt	60.0%	\$161,108,000	4.41%	\$7,109,159
	Equity				
4	Common Equity	40.00%	\$107,405,333	8.98%	\$9,644,999
5	Preferred Shares		\$ -		\$ -
6	Total Equity	40.0%	\$107,405,333	8.98%	\$9,644,999
7	Total	100.0%	\$268,513,333	6.24%	\$16,754,158

Year: 2017

Line No.	Particulars	Capitalization Ratio		Cost Rate	Return
		(%)	(\$)	(%)	(\$)
	Debt				
1	Long-term Debt	56.00%	\$168,977,986	2.71%	\$4,582,246
2	Short-term Debt	4.00% (1)	\$12,069,856	1.65%	\$199,153
3	Total Debt	60.0%	\$181,047,842	2.64%	\$4,781,399
	Equity				
4	Common Equity	40.00%	\$120,698,561	9.19%	\$11,092,198
5	Preferred Shares		\$ -		\$ -
6	Total Equity	40.0%	\$120,698,561	9.19%	\$11,092,198
7	Total	100.0%	\$301,746,404	5.26%	\$15,873,597

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3 2.5.3 NOT FOR PROFIT CORPORATIONS

4 This filing requirement is not applicable as London Hydro is a for profit corporation.



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ATTACHMENT 1 OF 2 OEB APPENDIX 2-OA CAPITAL STRUCTURE AND COST OF CAPITAL

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Appendix 2-OA Capital Structure and Cost of Capital

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

Year: 2013

Line No.	Particulars	Capitalization Ratio		Cost Rate	Return
		(%)	(\$)	(%)	(\$)
	Debt				
1	Long-term Debt	56.00%	\$150,367,466	4.58%	\$6,886,830
2	Short-term Debt	4.00% (1)	\$10,740,533	2.07%	\$222,329
3	Total Debt	60.0%	\$161,108,000	4.41%	\$7,109,159
	Equity				
4	Common Equity	40.00%	\$107,405,333	8.98%	\$9,644,999
5	Preferred Shares		\$ -		\$ -
6	Total Equity	40.0%	\$107,405,333	8.98%	\$9,644,999
7	Total	100.0%	\$268,513,333	6.24%	\$16,754,158

Notes (1)

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

Appendix 2-OA Capital Structure and Cost of Capital

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

Year: 2017

Line No.	Particulars	Capitalization Ratio		Cost Rate	Return
		(%)	(\$)	(%)	(\$)
	Debt				
1	Long-term Debt	56.00%	\$168,977,986	2.71%	\$4,582,246
2	Short-term Debt	4.00% (1)	\$12,069,856	1.65%	\$199,153
3	Total Debt	60.0%	\$181,047,842	2.64%	\$4,781,399
	Equity				
4	Common Equity	40.00%	\$120,698,561	9.19%	\$11,092,198
5	Preferred Shares		\$ -		\$ -
6	Total Equity	40.0%	\$120,698,561	9.19%	\$11,092,198
7	Total	100.0%	\$301,746,404	5.26%	\$15,873,597

Notes (1)

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



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OEB APPENDIX 2-OB DEBT INSTRUMENTS

Appendix 2-OB
Debt Instruments

This table must be completed for all required historical years, the bridge year and the test year.

Year2013

Row	Description	Lender	Affiliated or Third-Party Debt?	Fixed or Variable Rate?	Start Date	Term (years)	Principal (\$)	Rate (%) ²	Days O/S	Average Balance	Interest (\$) ¹	Additional Comments, if any
1	Promissary Note	City of London	Affiliated	Fixed Rate	30-Sep-09	6	\$ 70,000,000	6.000%	365	\$ 70,000,000	\$ 4,200,000	
	Unsecured, non-revolving term instalment loan bearing interest at the 7.75 year Bankers' Acceptance rate of 2.43% plus a stamping fee of 0.9%, payable in monthly instalments of \$192											
2	principal plus interest due August 2019	Royal Bank	Third-Party	Fixed Rate	1-Oct-10	9	\$ 13,042,000	3.330%	365	\$ 13,042,000	\$ 434,299	
3												
4											\$ -	
Total							\$ 83,042,000	5.58%		\$ 83,042,000	\$ 4,634,299	

Notes

- 1 If financing is in place only part of the year, separately calculate the pro-rated interest in the year and input in the cell.
- 2 Input actual or deemed long-term debt rate in accordance with the guidelines in *The Report of the Board on the Cost of Capital for Ontario's Regulated Utilities*, issued December 11, 2009, or with any subsequent update issued by the Board.
- 3 Add more lines above row 12 if necessary.

Appendix 2-OB
Debt Instruments

This table must be completed for all required historical years, the bridge year and the test year.

Year2014

Row	Description	Lender	Affiliated or Third-Party Debt?	Fixed or Variable Rate?	Start Date	Term (years)	Principal (\$)	Rate (%) ²	Days O/S	Average Balance	Interest (\$) ¹	Additional Comments, if any
1	Promissary Note	City of London	Affiliated	Fixed Rate	30-Sep-09	6	\$ 70,000,000	6.000%	331	\$ 63,479,452	\$ 3,453,978	
	Unsecured, non-revolving term instalment loan bearing interest at the 7.58 year Bankers' Acceptance rate of 2.46% plus a stamping fee of 0.19%, interest only											
2	payments due June 2022	Royal Bank	Third-Party	Fixed Rate	29-Nov-14	8	\$ 85,000,000	2.650%	34	\$ 7,917,808	\$ 19,545	
	Unsecured, non-revolving term instalment loan bearing interest at the 7.75 year Bankers' Acceptance rate of 2.43% plus a stamping fee of 0.9%, payable in monthly instalments of \$192											
3	principal plus interest due August 2019	Royal Bank	Third-Party	Fixed Rate	1-Oct-10	9	\$ 10,738,000	3.330%	365	\$ 10,738,000	\$ 357,575	
4											\$ -	
Total							\$ 165,738,000	4.66%		\$ 82,135,260	\$ 3,831,098	

Notes

- 1 If financing is in place only part of the year, separately calculate the pro-rated interest in the year and input in the cell.
- 2 Input actual or deemed long-term debt rate in accordance with the guidelines in *The Report of the Board on the Cost of Capital for Ontario's Regulated Utilities*, issued December 11, 2009, or with any subsequent update issued by the Board.
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This table must be completed for all required historical years, the bridge year and the test year.

Year2015

Row	Description	Lender	Affiliated or Third-Party Debt?	Fixed or Variable Rate?	Start Date	Term (years)	Principal (\$)	Rate (%) ²	Days O/S	Average Balance	Interest (\$) ¹	Additional Comments, if any
	Unsecured, non-revolving term instalment loan bearing interest at the 7.58 year Bankers' Acceptance rate of 2.46% plus a stamping fee of 0.19%, interest only											
1	payments due June 2022	Royal Bank	Third-Party	Fixed Rate	29-Nov-14	8	\$ 85,000,000	2.650%	365	\$ 85,000,000	\$ 2,252,500	
	Unsecured, non-revolving term instalment loan bearing interest at the 7.75 year Bankers' Acceptance rate of 2.43% plus a stamping fee of 0.9%, payable in monthly instalments of \$192											
2	principal plus interest due August 2019	Royal Bank	Third-Party	Fixed Rate	1-Oct-10	9	\$ 8,434,000	3.330%	365	\$ 8,434,000	\$ 280,852	
3											\$ -	
Total							\$ 93,434,000	2.71%		\$ 93,434,000	\$ 2,533,352	

Notes

- 1 If financing is in place only part of the year, separately calculate the pro-rated interest in the year and input in the cell.
- 2 Input actual or deemed long-term debt rate in accordance with the guidelines in *The Report of the Board on the Cost of Capital for Ontario's Regulated Utilities*, issued December 11, 2009, or with any subsequent update issued by the Board.
- 3 Add more lines above row 12 if necessary.

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Debt Instruments

This table must be completed for all required historical years, the bridge year and the test year.

Year 2016

Row	Description	Lender	Affiliated or Third-Party Debt?	Fixed or Variable Rate?	Start Date	Term (years)	Principal (\$)	Rate (%) ²	Days O/S	Average Balance	Interest (\$) ¹	Additional Comments, if any
1	Unsecured, non-revolving term instalment loan bearing interest at the 7.58 year Bankers' Acceptance rate of 2.46% plus a stamping fee of 0.19%, interest only payments due June 2022	Royal Bank	Third-Party	Fixed Rate	29-Nov-14	8	\$ 85,000,000	2.650%	365	\$ 85,000,000	\$ 2,252,500	
2	Unsecured, non-revolving term instalment loan bearing interest at the 7.75 year Bankers' Acceptance rate of 2.43% plus a stamping fee of 0.9%, payable in monthly instalments of \$192 principal plus interest due August 2019	Royal Bank	Third-Party	Fixed Rate	1-Oct-10	9	\$ 6,130,000	3.330%	365	\$ 6,130,000	\$ 204,129	
3											\$ -	
Total							\$ 91,130,000	2.70%		\$ 91,130,000	\$ 2,456,629	

Notes

- 1 If financing is in place only part of the year, separately calculate the pro-rated interest in the year and input in the cell.
- 2 Input actual or deemed long-term debt rate in accordance with the guidelines in *The Report of the Board on the Cost of Capital for Ontario's Regulated Utilities*, issued December 11, 2009, or with any subsequent update issued by the Board.
- 3 Add more lines above row 12 if necessary.

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Debt Instruments

This table must be completed for all required historical years, the bridge year and the test year.

Year 2017

Row	Description	Lender	Affiliated or Third-Party Debt?	Fixed or Variable Rate?	Start Date	Term (years)	Principal (\$)	Rate (%) ²	Days O/S	Average Balance	Interest (\$) ¹	Additional Comments, if any
1	Unsecured, non-revolving term instalment loan bearing interest at the 7.58 year Bankers' Acceptance rate of 2.46% plus a stamping fee of 0.19%, interest only payments due June 2022	Royal Bank	Third-Party	Fixed Rate	29-Nov-14	8	\$ 85,000,000	2.650%	365	\$ 85,000,000	\$ 2,252,500	
2	Unsecured, non-revolving term instalment loan bearing interest at the 7.75 year Bankers' Acceptance rate of 2.43% plus a stamping fee of 0.9%, payable in monthly instalments of \$192 principal plus interest due August 2019	Royal Bank	Third-Party	Fixed Rate	1-Oct-10	9	\$ 3,826,000	3.330%	365	\$ 3,826,000	\$ 127,406	
3	Unsecured Long Term Debt	Unknown	Third-Party	Fixed Rate	1-Jul-17		\$ 20,000,000	3.000%	183	\$ 10,000,000	\$ 300,000	
4											\$ -	
Total							\$ 108,826,000	2.71%		\$ 98,826,000	\$ 2,679,906	

Notes

- 1 If financing is in place only part of the year, separately calculate the pro-rated interest in the year and input in the cell.
- 2 Input actual or deemed long-term debt rate in accordance with the guidelines in *The Report of the Board on the Cost of Capital for Ontario's Regulated Utilities*, issued December 11, 2009, or with any subsequent update issued by the Board.
- 3 Add more lines above row 12 if necessary.