

McCarthy Tétrault LLP
PO Box 48, Suite 5300
Toronto-Dominion Bank Tower
Toronto ON M5K 1E6
Canada
Tel: 416-362-1812
Fax: 416-868-0673

Gordon M. Nettleton
Partner
Email: gnettleton@mccarthy.ca

**mccarthy
tétrault**

December 2, 2016

VIA RESS AND COURIER

Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, Ontario M4P 1E4

Dear Ms. Walli:

RE: EB-2016-0160 Hydro One Networks Inc. ("Hydro One") Transmission Rates Application – Updated Exhibits for Cost of Capital

I am writing on behalf of Hydro One with respect to the above. This letter is in response to an informal request from Board Staff to provide updates to the attached exhibits in order to reflect recent changes affecting the cost of capital evidence.


These changes arise from two factors (1) the Ontario Energy Board's latest approved return on equity as set out in the "Cost of Capital Parameter Updates for 2017 Cost of Service and Custom Incentive Rate-setting Applications" dated October 27, 2016; and (2) updates to Hydro One's long term debt cost to take into account new issuances and updates to the test period.

Yours truly,

McCarthy Tétrault LLP

Per:



 Gordon M. Nettleton

GMN

1 The estimated increase of the total bill for Hydro One general service energy (2000
2 kWh/month) customers is 0.1% in 2017 and 0.2% in 2018. For Hydro One medium
3 density residential (750 kWh/month) customers, the estimated increase is 0.1% in 2017
4 and 0.2% in 2018. The estimated bill impact for transmission connected-customers is
5 0.2% in 2017 and 0.4 % in 2018, assuming that transmission represents 8.3% of the
6 average transmission-connected customer's total bill.

7 8 **2. OVERVIEW OF HYDRO ONE'S INVESTMENT PLAN**

9 10 **2.1 Strategic Goals, Values and Objectives**

11
12 Hydro One aspires to be a best-in-class, customer-centric, commercial utility. Consistent
13 with its past performance and its new status as a commercial entity, Hydro One remains
14 committed to delivering safe, reliable power, and supporting the sustainable development
15 of the Ontario economy. The company's core values remain unchanged:

- 16
- 17 • Maintaining a safe workplace;
- 18 • Caring for customers;
- 19 • Operating as one company;
- 20 • Being people-powered; and
- 21 • Executing with excellence.

22 Hydro One's new executive leadership and Board of Directors are committed to building
23 a stronger performance management culture and are focused on achieving excellence in
24 execution in all aspects of the company's work. The ability to measure and track
25 performance is essential to this vision, as set out in Exhibit B2, Tab 1, Schedule 1 of this
26 Application and Section 6 of this Exhibit. Hydro One's commitment to productivity and
27 cost efficiency is further illustrated in Section 7 of this Exhibit, as OM&A expenses are

1

Table 1: Hydro One’s Values and Business Objectives

Customer Focus	Customer Satisfaction	<ul style="list-style-type: none"> Improve current levels of customer satisfaction
	Customer Focus	<ul style="list-style-type: none"> Engage with our customers consistently and proactively Ensure our investment plan reflects our customers’ needs and desired outcomes
Operational Effectiveness	Cost Control	<ul style="list-style-type: none"> Actively control and lower costs through OM&A and capital efficiencies
	Safety	<ul style="list-style-type: none"> Drive towards achieving an injury-free workplace
	Employee Engagement	<ul style="list-style-type: none"> Achieve and maintain employee engagement
Public Policy Responsiveness	System Reliability	<ul style="list-style-type: none"> Maintain top quartile reliability relative to transmission peers
	Public Policy Responsiveness	<ul style="list-style-type: none"> Ensure compliance with all codes, standards, and regulations Partner in the economic success of Ontario
	Environment	<ul style="list-style-type: none"> Sustainably manage our environmental footprint
Financial Performance	Financial Performance	<ul style="list-style-type: none"> Achieve the ROE allowed by the OEB

2

3

4 Hydro One submits that the forecasted expenditures and associated timing described in
 5 this Application are necessary if these objectives are to be achieved.

6

7 **2.2 Customer Engagement and Needs Assessment**

8

9 Hydro One's goal is to engage with customers consistently and proactively to better
 10 understand the customer and enhance the company’s ability to provide services that meet
 11 their needs and improve customers’ overall satisfaction with the service they receive.
 12 One critical element of achieving this goal is the development of an investment plan that
 13 is outcome-focused and designed to meet customers' needs and preferences.

14

15 In preparing this Application, Hydro One has engaged in an intense and focused level of
 16 customer engagement, which is detailed in Exhibit B1, Tab 2, Schedule 2. The company

Witness: Oded Hubert

1 found the feedback from these sessions to be critical in understanding customer
2 preferences and being better able to identify customer needs. Customers indicated that the
3 consultations were valuable to them in understanding Hydro One's operations and
4 investment process.

5
6 Hydro One expects to continue to engage customers in the future, not only to receive
7 input to consider in the development of future investment plans, but also to receive
8 feedback and communicate key information about the system and investments that have
9 or are likely to impact transmission system reliability risk and actual system performance.

10
11 Based on Hydro One's customer engagement process, the company believes that any
12 deterioration in current service levels is unacceptable to customers and that the
13 maintenance of current reliability levels is a customer priority.

14 15 **2.3 Asset Needs Assessment**

16
17 Based on Hydro One's assessment of its transmission system, a significant portion of its
18 assets have deteriorated to the point where they pose a risk to its business objectives of
19 maintaining current levels of reliability and improving customer satisfaction. Detailed
20 information on Hydro One's asset needs is provided in Exhibit B1, Tab 2, Schedules 4 to
21 6.

22
23 Hydro One continues to strike a careful balance between: (a) developing the transmission
24 system and building new infrastructure; (b) sustaining existing assets and maintaining the
25 health of the system; and (c) rate impacts on customers. Between 2009 and 2012, Hydro
26 One invested heavily in system development, in order to comply with government
27 policies related to the connection and integration of renewable energy generation and the
28 retirement of coal-fired generation. Since then, system development needs have declined

Witness: Oded Hubert

1 while system renewal needs have increased to the point of creating risk to current
2 reliability levels.

3
4 As described in Exhibit B1, Tab 2, Schedule 4, Hydro One has modified its asset
5 management approach to include reliability risk as a leading indicator of future
6 transmission system performance. Hydro One's approach has been informed by the
7 development of this approach in other jurisdictions. This approach is new for Hydro
8 One, and the company intends to develop the reliability risk approach and refine its
9 application.

10
11 Reliability risk is a metric that is derived using a probabilistic calculation based on asset
12 demographics and the historical relationship between asset age and the occurrence of
13 failure or replacement. Reliability risk is used by Hydro One in its asset management
14 process to gauge the impact of its investments on future transmission system reliability.
15 It also provides a directional indicator to inform the appropriate level and pacing of
16 sustainment investments. The reliability risk model is not used to identify specific asset
17 needs and investments. Instead, these are determined by condition assessments and other
18 asset-specific information, as described in Exhibit B1, Tab 2, Schedule 5.

19
20 Table 2 below reflects the relative change in risk for each critical asset class and for the
21 system as a whole, as a result of 2017 and 2018 investments. With the planned
22 investments, overall reliability risk would improve (i.e. decline) by 2% by 2019. Without
23 the applied-for investments that are reflected in the 2017 and 2018 test years, overall
24 reliability risk would deteriorate by 10%.

1

Table 2: Relative Change in Reliability Risk

	Relative Change in Risk from Jan. 1, 2017 to Dec. 31, 2018, as per proposed investment	Relative Change in Risk from Jan. 1, 2017 to Dec. 31, 2018, <u>without</u> investment	% of Interruption Duration*
Lines	-2%	11%	69%
Transformers	-9%	14%	9%
Breakers	1%	17%	6%
Other ¹	-	-	16%
Total*	-2%	10%	

2

* Total is calculated by weighting the change in risk by the asset class' contribution to interruption duration.

3

4

In addition to incorporating customer feedback and new information on system reliability risk, Hydro One also considered and incorporated the results of a total cost benchmarking study into the development of its Transmission System Plan (Exhibit B1, Tabs 1 to 4 of this Application). The study found that Hydro One's historical capital spending levels were significantly below median in its peer group. For the purposes of developing its investment plan, Hydro One used the total cost benchmarking study as a reference tool to further validate the proposed increases in spending associated with its Transmission System Plan. Based on the results of the report and Hydro One's investment proposal, the 2017 and 2018 total expenses (capital expenditures and OM&A) will still remain at or below median levels relative to the company's peer group.

13

¹ Represents all other assets; risk is assumed to be flat over the investment planning horizon for these assets

14

Witness: Oded Hubert

1 **3. FINANCIAL SUMMARY**

2

3 **3.1 Revenue Requirement**

4

5 A comparative profile of the annual rates revenue requirement build-up from 2016, the
 6 last Board-approved rate year, to 2018 is provided in Table 3, along with references to
 7 the Exhibits in the Application that discuss each cost component.

8

9

Table 3: Revenue Requirement (\$ Millions)

Comparison of Rates Revenue Requirement	Board - approved 2016	2017	2018	Exhibit Reference
OM&A	436.7	412.7	409.3	C2-1-1
Depreciation	397.3	435.7	470.7	C2-3-1
Income Taxes	72.2	81.9	89.6	C2-4-1
Cost of Capital*	661.5	658.5	690.7	D2-4-1
Total Revenue Requirement	1,567.6	1,588.8	1,660.3	E2-1-1
Deduct External Revenues	(32.2)	(28.2)	(28.5)	E1-2-1
Revenue Requirement less External Revenues	1,535.4	1,560.6	1,631.8	
Deduct Export Revenue Credit	(31.7)	(39.2)	(40.1)	H1-4-1
Deduct Regulatory Accounts Disposition	(36.1)	(47.8)	(47.8)	F1-1-3
Add Low Voltage Switch Gear	13.0	13.8	14.5	G1-3-1
Rates Revenue Requirement	1,480.7	1,487.4	1,558.4	
Rate Increase Required, excl. Load		0.5%	4.8%	
Estimated Load Impact		2.1%	0.0%	E1-3-1
Rate Increase Required		2.6%	4.8%	

10 *Includes AFUDC return on Niagara Reinforcement Project of \$4.6M in 2017 and \$4.5M in 2018.

11

12 The increase in total rates revenue requirement is largely attributable to the impact of rate
 13 base growth, as reflected in the increase in depreciation and the return on capital. Higher
 14 income taxes and lower external revenues also contribute to the difference. These are
 15 partially offset by a lower cost of debt, lower OM&A costs, increased regulatory account

Witness: Oded Hubert

1 disposition, and a higher export revenue credit as described in Exhibit E1, Tab 1,
 2 Schedule 1.

3 **3.2 Budgeting Assumptions**

4
 5 In developing its investment plan, Hydro One assumed 2.0% annual inflation and cost
 6 escalators for construction and OM&A expense growth of 2.3% and 1.3%, respectively,
 7 in 2017 and of 2.5% and 1.6% in 2018. These assumptions are explained in further detail
 8 in Exhibit B1, Tab 2, Schedule 7.

9
 10 **3.3 Load Forecast Summary**

11
 12 Table 4 sets out Hydro One’s 2017-2018 transmission system load forecast, which
 13 includes the impact of conservation and demand management and embedded generation.

14
 15 **Table 4: Hydro One’s 2017-2018 Load Forecast (12-Month Average Peak in MW)**

	Ontario Demand	Hydro One Rate Categories (Charge Determinants)		
		Network Connection	Line Connection	Transformation Connection
2017	20,373	20,405	19,741	16,872
2018	20,378	20,410	19,746	16,876
Comparison to Board-approved Forecast for 2016				
2017	-2.6%	-1.9%	-2.1%	-2.6%
2018	-2.6%	-1.9%	-2.1%	-2.6%

16
 17 The forecast was developed using the econometric and end-use approaches described in
 18 Exhibit E1, Tab 3, Schedule 1. The forecast base year was corrected for abnormal
 19 weather conditions, and growth rates were applied to the normalized base year value.
 20 Consistent with the IESO’s approach, normal weather data is based on the average
 21 weather conditions experienced over the last 31 years.

22
 Witness: Oded Hubert

1 **4. TRANSMISSION SYSTEM PLAN**

2
3 Hydro One's Transmission System Plan is set out in Exhibit B1, Tabs 1 to 4.

4
5 The proposed five-year capital plan reflects Hydro One's understanding of the
6 investments required to meet the reliability needs, risk tolerance, and power quality needs
7 of its customers. Hydro One expects the plan to result in several key outcomes for Hydro
8 One and its customers:

- 9
- 10 • Mitigation of risk arising from aging and deteriorating assets;
 - 11 • Creation of conditions that enable Hydro One to continue to provide first quartile
12 reliability in a safe manner to its customers;
 - 13 • Avoidance of larger capital replacement costs by extending asset life, where feasible;
 - 14 • Ensured compliance with regulatory, environmental and reliability standards; and
 - 15 • Drive towards an injury-free workplace.
- 16

17 To achieve these outcomes, Hydro One has shifted the balance of capital investment
18 towards sustainment capital, with a focus on lines investments. The company has also
19 approached the timing and pacing of investments with a long-term view. In its previous
20 transmission revenue requirement application for the 2015-2016 period, the company had
21 put forth a sustainment capital program that began to address the need for higher
22 sustainment investments, by focusing on stations assets in poor condition that were a
23 significant driver of reliability performance. Since its last filing, Hydro One has focused
24 on developing an improved understanding and knowledge of the condition of its
25 transmission system.

26
27 The company has gained additional knowledge through the ongoing testing of critical
28 assets and expansion of the scope of condition assessments, combined with information

Witness: Oded Hubert

1 collected about the actual performance (including failures) of individual assets. Hydro
2 One has also been developing a greater understanding of how equipment unavailability,
3 due to condition and demographics, is a leading indicator of future reliability issues,
4 contributing to higher reliability risk. As a result of these efforts, Hydro One is
5 continuing to prioritize asset replacements with a goal of maintaining top quartile
6 reliability and reducing reliability risk on the system.

7

8 Hydro One has relied on maintenance programs to extend the lifespan of assets by
9 addressing asset condition deficiencies, where practical, as a means of deferring large
10 capital expenditures. As a result, many assets are being operated beyond their expected
11 service life.² Although this approach defers capital investments, it increases maintenance
12 costs and the risk that assets will fail, deteriorate significantly, or become obsolete as
13 spare parts and manufacturer support become unavailable. Recent examples of this
14 manifest risk include equipment failures in 2015 and 2016 at Elgin TS, Horning TS,
15 Bridgman TS, and Frontenac TS.

16

17 As a result of its recent efforts to invest in the sustainment of stations assets, Hydro One
18 has made significant strides in stabilizing the reliability risk from its stations assets.
19 However, lines assets have continued to deteriorate and are now contributing to a larger
20 proportion of the system's reliability risk. Hydro One expects to transition to placing a
21 greater emphasis on lines-related sustainment investments (beginning in 2018) while
22 maintaining a prudent level of stations investment in order to continue to mitigate risk.

23

² Expected service life: the average time in years that an asset can be expected to operate under normal system conditions

Witness: Oded Hubert

1 In developing its Transmission System Plan, Hydro One was aware that execution of the
2 plan will take place in the context of the broader Ontario power system. In determining
3 the timing and pacing of its investments, Hydro One considered both its own ability to
4 execute capital work efficiently and the ability to secure planned outage time to minimize
5 impacts on customers and other stakeholders in Ontario. Due to the planned
6 refurbishment of large nuclear power plants in 2021 and beyond, Hydro One expects to
7 face greater constraints to outage scheduling in the future. As a result, it has planned the
8 pace of sustainment work so that critical work to reduce risk on the system could be
9 completed in the next five years to ensure that transmission assets are in service before
10 expected outage constraints make work more difficult to complete.

11
12 Hydro One is sensitive to the impacts of the investment plan on its customers, and thus
13 has taken steps to ensure a prudent approach to investment and continued alignment with
14 principles of RRFE by:

- 15
- 16 • ensuring that the investment plan reflects customer needs and preferences identified
17 in the customer engagement process, is consistent with the feedback obtained from
18 the various other customer consultations undertaken by the company, and is aligned
19 with the company's responsibility to provide effective stewardship of its transmission
20 system assets;
 - 21 • identifying specific opportunities (e.g., steel tower coating) where the company can
22 extend the useful life of its assets and mitigate higher capital spending requirements
23 for asset replacements in the future;
 - 24 • actively driving cost reduction and improved productivity to help offset the customer
25 rate impacts of the proposed investment plan; and
 - 26 • implementing an improved performance management system to provide greater
27 transparency to the Board, customers, and Hydro One's management, and to create

Witness: Oded Hubert

1 confidence that targeted work is completed in an efficient manner, while delivering
 2 the promised outcomes for Hydro One’s customers.

3

4 As further described in Exhibit B1, Tab 3, Schedule 1, Hydro One’s capital expenditure
 5 forecast for 2017 is \$1,076 million for 2017 and \$1,122 million for 2018. Table 5
 6 summarizes the capital investment plan.

7

8 **Table 5: Summary of Transmission Capital Budget (\$ Millions)**

Including Capitalized Overheads and Interest Capitalized*	Historic				Bridge Year	Test Years		Forecast		
	2012	2013	2014	2015		2016	2017	2018	2019	2020
Description	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Sustaining	389.3	480.0	621.3	694.3	724.3	776.8	842.1	825.7	915.2	1118.1
Development	329.4	171.7	131.6	166.0	166.0	196.4	170.2	244.0	254.0	258.3
Operations	15.2	17.7	28.4	15.6	30.1	25.4	30.8	58.8	21.1	24.7
Common Corporate Costs Capital	42.1	49.1	63.4	67.1	83.5	77.6	79.1	79.1	78.2	73.8
Total	776.0	718.5	844.6	943.0	1003.8	1076.1	1122.2	1207.5	1268.6	1474.9

9 *Includes Allowed Funds Used During Construction.

10

11 A key area of focus for the Transmission System Plan is ensuring that transmission
 12 services and capital work execution are more efficient and effective. This is discussed in
 13 Exhibit B1, Tab 4, Schedule 1.

14

15 **5. RATE BASE**

16

17 Exhibit D1, Tab 1, Schedule 1 provides the details of the derivation of the requested rate
 18 base figures for the test years. Table 6 summarizes this request.

Witness: Oded Hubert

1

Table 6: Transmission Rate Base* (\$ Millions)

Description	2017	2018
Gross Plant	16,641.1	17,616.4
Less: Accumulated Depreciation	(6,113.4)	(6,418.7)
Net plant in service	10,527.8	11,197.7
Working Capital	26.6	27.8
Total Rate Base	10,554.4	11,225.5

2

3

4

5

6

7

8

Table 7 compares 2016 forecast rate base to the 2016 rate base approved by the Board in its Decision on Hydro One's previous transmission application EB-2014-0140.

Table 7: 2016 Board-approved versus 2016 Bridge Year Forecast Rate Base (\$M)

Rate Base Component	2016 Bridge Year (Forecast)	2016 Board-approved	Variance
Gross Plant	15,794.8	15,805.2	(10.4)
Less: Accumulated Depreciation	(5,802.8)	(5,787.7)	15.1
Net Utility Plant	9,992.0	10,017.5	(25.5)
Cash Working Capital*	8.5	8.5	0.0
Materials & Supplies Inventory	11.7	14.0	(2.3)
Total Rate Base	10,012.2	10,040.0	(27.8)

9

10

11

12

13

*Hydro One does not calculate actual cash working capital, thus the 2016 approved amount was used for illustrative purposes.

Total rate base is expected to be \$27.8 million below the Board-approved amount, a variance of 0.3%.

Witness: Oded Hubert

1 **6. PERFORMANCE AND REPORTING**

2
3 Hydro One’s new executive leadership and Board of Directors are committed to building
4 a stronger performance management culture and are focused on achieving excellence in
5 execution in all aspects of the company’s work. The ability to measure and track
6 performance is essential to this vision.

7
8 Two critical elements of the journey towards stronger performance culture are: (i) the
9 development of a scorecard; and (ii) the selection of key performance indicators that
10 measure the drivers of the company’s performance and track productivity improvements.

11
12 Exhibit B2, Tab 1, Schedule 1 discusses the cost efficiencies, productivity improvements
13 and key performance indicators (“KPIs”) that Hydro One is implementing to ensure that
14 its business objectives are aligned with the principles of the RRFE.

15
16 In Exhibit B2, Tab 1, Schedule 1, Hydro One has provided a performance scorecard that
17 will track its performance in areas directly tied to its own business objectives, which are
18 aligned with those of the RRFE. The metrics contained in the scorecard will provide the
19 Board and stakeholders visibility into how the company performs in a variety of areas,
20 including cost control. The proposed scorecard is replicated in Table 8.

1

Table 8: Proposed Transmission Scorecard

RRFE Principle	Category	Metric	Definition
Customer Focus	Service Quality	Satisfaction with Outage Planning Procedures	<i>% satisfied in OGCC survey</i>
		Customer Delivery Point Performance Standards Outliers (as % of total delivery points)	<i>% of total delivery points designated as outliers</i>
	Customer Satisfaction	Overall % satisfied in corporate survey	<i>Transmission customers (Industrial, Generators, LDC) only</i>
Operational Effectiveness	Safety	# of recordable incidents per 200,000 hours	<i>Average # of incidents per 200K hours</i>
	System Reliability	Average # of sustained interruptions per delivery point	<i>T-SAIFI-S</i>
		Average # of momentary interruptions per delivery point	<i>T-SAIFI-M</i>
		Average minutes that power to a delivery point is interrupted	<i>T-SAIDI</i>
		System unavailability (%)	<i>% of system not available for use</i>
		Unsupplied energy (minutes)	<i>Unsupplied MW-minutes/Peak MW</i>
	Asset Management	In-service additions as % of OEB-approved plan	<i>\$ ISA as percentage of Planned \$ Amounts</i>
		Capital expenditures as % of Budget	<i>\$ Capital expenditures as % of Budgeted \$ Capital expenditures</i>
	Cost Control	Total OM&A and Capital expenditures/Gross fixed asset value	<i>OM&A and Capital expenditures/ Gross fixed assets</i>
Sustainment capital /Gross fixed asset value		<i>Sustainment Capital expenditures/ Gross fixed assets</i>	
		OM&A/Gross fixed asset value	<i>OM&A/ Gross fixed assets</i>
Policy Response	Renewables	% of new connection impact assessments completed on time	<i>Total assessments completed within expected time/Total connections requested</i>

Witness: Oded Hubert

	Regulatory Compliance	NERC & NPCC Standards Compliance – High impact issues	<i># of high impact compliance violations as defined by NERC/NPCC</i>
		NERC & NPCC Standards Compliance – Medium/low impact issues	<i># of medium/low impact compliance violations as defined by NERC/NPCC</i>
	Regional Infrastructure	Regional Infrastructure Planning progress - % Deliverables met	<i>Total deliverables met/Total deliverables expected</i>
Financial Performance	Leverage	Debt to Equity Ratio	<i>Debt (including Short & Long Term)/ Equity</i>
	Liquidity	Current Ratio (Current Assets/Current Liabilities)	<i>Current Assets/Current Liabilities</i>
	Profitability	Return on Equity (deemed)	<i>Included in rates</i>
		Return on Equity (achieved)	<i>Actual return on equity</i>

1 Exhibit B1, Tab 1, Schedule 3 provides Hydro One’s performance data relating to three
 2 of its business objectives: safety, customer satisfaction and reliability.

3

4 **7. OPERATIONS, MAINTENANCE AND ADMINISTRATION (OM&A)**
 5 **EXPENSE**

6

7 A summary of forecast operations, maintenance and administration (“OM&A”) expenses
 8 for the test years are provided at Exhibit C1, Tab 2, Schedule 1. Forecast OM&A
 9 expenses are expected to demonstrate a declining trend in the 2016 bridge year and in the
 10 2017 and 2018 test years, despite upwards pressure from inflation of approximately 2%
 11 per year, a growing asset base, and increasing compliance costs arising from new
 12 regulatory standards, such as the North American Electric Reliability Corporation’s
 13 (“NERC”) Critical Infrastructure Protection (“CIP”) Cyber Security reliability standards.

14 Table 9 provides a summary of forecast OM&A expenditures.

15 **Table 9: Summary of Transmission OM&A Budget (\$ Millions)**

Description	Historic				Bridge	Test	
	2012	2013	2014	2015	2016	2017	2018
Sustaining	204.7	221.0	228.6	233.6	227.5	241.2	238.5
Development	8.5	8.6	7.5	6.1	5.3	4.8	5.0
Operations	54.8	56.7	56.6	59.0	60.0	61.3	62.1
Customer Care	4.4	5.3	5.4	5.1	4.1	4.0	3.9
Common Corporate and Other OM&A	80.7	75.8	37.2	73.9	72.3	49.9	47.5
Taxes Other Than Income Taxes	62.1	21.2	64.1	63.9	62.9	63.6	64.3
Pension Adjustment*	-	-	-	-	-	-11.4	-9.9
B2M LP Adjustment*	-	-	-	-	-	-0.8	-2.1
Total	415.2	388.4	399.5	441.6	432.1	412.7	409.3

16 *See Exhibit C1, Tab 2, Schedule 1 for further details.

17

18 Total OM&A expenditures for test year 2017 are forecast to be \$412.7 million, which is a
 19 decrease of \$19.4 million or 4.5% from the 2016 bridge year. Total OM&A expenditures
 20 for test year 2018 are forecast to further decrease by \$3.4 million or 0.8% versus 2017.

Witness: Oded Hubert

1 The test year expenditures are required to address the increasing maintenance
 2 requirements of a deteriorating, but expanding transmission system.

3
 4 Table 10 compares 2016 projected costs to the 2016 OM&A expenditures approved by
 5 the Board in its Decision on Hydro One's previous transmission application in EB-2014-
 6 0140.

7
 8 **Table 10: 2016 Board-approved versus 2016 Projected OM&A Expenditures**

OM&A Categories	2016 Board-approved (\$ Millions)	2016 Projected (\$ Millions)	Variance (\$ Millions)*
Sustaining	241.1	227.5	-13.6
Development	13.4	5.3	-8.1
Operations	59.1	60.0	0.9
Customer Care	5.5	4.1	-1.4
Common Corporate & Other Costs	71.3	72.3	1.0
Taxes Other Than Income Taxes	67.0	62.9	-4.1
Less settlement reduction	-20.0		
Exclusion of B2M	-0.7		
Total OM&A	436.7	432.1	-4.6

9 *Total Variance is not the sum of changes noted.

10
 11 Hydro One's projected 2016 OM&A costs are \$4.6 million lower or 1.1% below Board-
 12 approved levels. The Board-approved amounts include the \$20.0 million reduction
 13 negotiated in the EB-2014-0140 settlement agreement. Most areas were meaningfully
 14 below target including Sustaining, Development and Taxes Other Than Income Taxes.

15
 16 Details of Hydro One's corporate staffing and compensation are provided at Exhibit C1,
 17 Tab 4, Schedule 1. As noted at Exhibit C1, Tab 4, Schedule 2, Hydro One engaged Willis
 18 Towers Watson to prepare an actuarial valuation report relating to Hydro One's

Witness: Oded Hubert

1 defined benefit pension plan as at December 31, 2015. The revenue requirement
2 presented as part of this updated exhibit reflects the lower pension valuation which
3 resulted in lower revenue requirement.

4
5 **8. COST OF CAPITAL**

6
7 Table 11 summarizes the cost of capital parameters reflected in the Application, details of
8 which can be found at Exhibit D1, Tab 4, Schedule 1.

9
10 **Table 11: Cost of Capital**

Comparison of Cost of Capital and Rate Base	Board-approved 2016	2017	2018	Exhibit Reference
Cost of Debt	4.77%	4.47%	4.33%	D2-4-2
Cost of Equity	9.19%	8.78%	8.78%	D2-4-1
Total Debt (\$Millions)	6,024.0	6,332.6	6,735.3	
Total Equity (\$Millions)	4,016.0	4,221.7	4,490.2	
Rate Base (\$ Millions)	10,040.0	10,554.3	11,225.5	D2-1-1
Weighted Average Cost of Capital		6.20%	6.11%	

11
12 Hydro One's deemed capital structure for transmission ratemaking purposes is 60% debt
13 and 40% common equity. The 60% deemed debt component is comprised of 4% short-
14 term debt and 56% long-term debt. Hydro One will continue to use the Board's cost of
15 capital parameters for its deemed short-term debt rate and return on equity, consistent
16 with the Board's report on cost of capital.

1 Hydro One's Application reflects a return on equity of 8.78% for each of the 2017 and
2 2018 test years, based on the cost of capital parameters released by the Board on October
3 27, 2016, for rates effective January 1, 2017. Hydro One will update the return on equity
4 and the cost of short-term debt in accordance with the Board's formulaic approach for the
5 purpose of establishing the final revenue requirement for 2018.

6
7 Hydro One has updated its own actual forecast weighted average long-term debt rate,
8 which is market-determined, consistent with its past Board-approved practice (EB-2012-
9 0031, EB-2014-0140) for the purpose of establishing the revenue requirement for 2017.
10 Hydro One proposes to update the actual forecast weighted average long-term debt rate
11 for the purpose of establishing the final revenue requirement for the 2018 test year at the
12 time it updates revenue requirement for the 2018 cost of capital parameters.

13
14 **9. COST ALLOCATION AND RATE DESIGN**

15
16 Hydro One continues to follow the Board-approved methodology (EB-2014-0140), for
17 allocating its transmission rates revenue requirement into three rate pools, Network, Line
18 Connection, Transformation Connection, as set out in in Exhibits G1, Tab 1, Schedule 1
19 through Exhibit G1, Tab 3, Schedule 1 and summarized in Table 12.

20
21 The rate pools are based on functional categories of assets and their associated costs.
22 Rates revenue requirement is apportioned amongst the rate pools using direct assignment,
23 to the extent possible.

Table 12: Summary of Rates Revenue Requirement by Rate Pool (\$ Millions)

Revenue Requirement (Year)	Network	Line Connection	Transformation Connection	Total
2017	843.0	211.7	432.4	1,487.1
2018	883.0	222.5	452.7	1,558.1

10. DEFERRAL AND VARIANCE ACCOUNTS

Hydro One requests the continuation over the test years of the following regulatory accounts, as described in Exhibit F1, Tab 1, Schedule 1:

- Excess Export Service Revenue;
- External Secondary Land Use Revenue;
- External Station Maintenance, E&CS Revenue and Other Revenue;
- Tax Rate Changes;
- Rights Payments;
- Pension Cost Differential;
- East West Tie Deferral Account – Incumbent Transmitter;
- Long-Term Transmission Future Corridor Acquisition and Development Account;
- North West Bulk Transmission Line Account;
- Supply to Essex County Transmission Reinforcement Account;
- External Revenue – Partnership Transmission Projects Account; and
- In-Service Capital Additions Variance Account.

Hydro One requests the discontinuation of the Local Distribution Company Conservation and Demand Management and Demand Response Variance Account, which was established pursuant to a settlement agreement approved by the Board in proceeding EB-2012-0031, as Hydro One has fulfilled its related obligations.

Witness: Oded Hubert

1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16

Hydro One is requesting disposition of the actual audited regulatory account values as at December 31, 2015, plus forecast interest improvement accrued in 2016, on the principal balances as at December 31, 2015 less any amounts approved for disposition in 2016 by the Board in the EB-2014-0140 rate filing for transmission rate years 2015 and 2016 as described in Exhibit F1, Tab 1, Schedule 3.

It is expected that new transmission rates will be effective and implemented on January 1, 2017 and that disposition of the accounts requested will commence on that date.

Hydro One's requested reduction to the revenue requirement of \$95.6 million over 2017 and 2018 is detailed in Table 13.

Table 13: Transmission Disposition of Regulatory Account Balances (\$ Millions)

Description	Forecast Balance as at Dec 31, 2016 (\$ Millions)
Excess Export Service Revenue	(18.5)
External Secondary Land Use Revenue	(26.7)
External Station Maintenance and E&CS Revenue	0.7
Tax Rate Changes	0.1
Rights Payments	(3.0)
Pension Cost Differential	6.0
Long-Term Transmission Future Corridor Acquisition and Development	0.6
CDM Variance Account	(54.0)
External Revenue – Partnership Transmission Projects Account	(0.9)
Total Regulatory Accounts for Approval	(95.6)

Witness: Oded Hubert

1 **10.1 Bill Impacts**

2
 3 Exhibit H1, Tab 5, Schedule 1 provides the bill impacts that would result from approval
 4 of this Application. Table 14 shows the average bill impacts of the proposed changes in
 5 transmission revenue requirement and load forecast in 2017 and 2018.

6
 7 **Table 14: Average Bill Impacts on Transmission and**
 8 **Distribution-Connected Customers**

	2016	2017	2018
Rates Revenue Requirement (\$ millions)*	1,480.5	1,487.1	1,558.1
% Increase in Rates RR over prior year		0.5%	4.8%
% Impact of load forecast change		2.1%	0.0%
Net Impact on Average Transmission Rates		2.6%	4.8%
Transmission as a % of Tx-connected customer's total bill		8.3%	8.3%
<i>Estimated Average Bill impact</i>		<i>0.2%</i>	<i>0.4%</i>
Transmission as a % of Dx -connected customer's total bill		6.8%	6.8%
<i>Estimated Average Bill Impact</i>		<i>0.2%</i>	<i>0.3 %</i>

9 * This amount is net of the \$0.3 million in wholesale meter service revenue which accounts for the difference when
 10 comparing to the total rates revenue requirement shown in Exhibit E1, Tab 1, Schedule 1.
 11

12 The total bill impact for Hydro One medium density residential (R1) customers
 13 consuming 350 kWh, 750 kWh and 1800 kWh monthly is determined based on the
 14 forecast increase in the customer's Retail Transmission Service Rates ("RTSR") as
 15 detailed below in Table 15.
 16

1 **Table 15: Medium Density (R1) Residential Customer Bill Impacts**

	Typical R1 Residential Customer		
	350 kWh	750 kWh	1800 kWh
Total Bill as of Jan 1, 2016*	\$ 102.95	\$ 179.37	\$ 379.98
RTSR included in 2016 R1 Customer's Bill	\$ 4.37	\$ 9.36	\$ 22.47
Estimated 2017 Monthly RTSR**	\$ 4.47	\$ 9.59	\$ 23.01
2017 Increase in Monthly Bill	\$ 0.11	\$ 0.23	\$ 0.54
<i>2017 increase as a % of total bill</i>	<i>0.1 %</i>	<i>0.1 %</i>	<i>0.1 %</i>
Estimated 2018 Monthly RTSR**	\$ 4.68	\$ 10.02	\$ 24.05
2018 Increase in Monthly Bill	\$ 0.20	\$ 0.43	\$ 1.04
<i>2018 increase as a % of total bill</i>	<i>0.2%</i>	<i>0.2 %</i>	<i>0.3%</i>

2 * Total bill including HST, based on time-of-use RPP commodity pricing and 2016 distribution rates approved per
 3 Distribution Rate Order EB-2015-0079.

4 ** The impact on RTSR is assumed to be the net impact on average transmission rates, adjusted for Hydro One's
 5 revenue disbursement allocator per approved 2016 UTRs per EB-2015-0311.

6

7 The total bill impact for a typical Hydro One general service energy less than 50 kW
 8 (“GSe < 50 kW”) customer consuming 1000 kWh, 2000 kWh and 15,000 kWh monthly
 9 is determined based on the forecast increase in the customer’s RTSR as detailed below in
 10 Table 16.

11 **Table 16: Typical General Service Energy less than 50 kW**
 12 **(GSe < 50 kW) Customer Bill Impacts**

	GSe Customer Monthly Bill		
	1,000 kWh	2,000 kWh	15,000 kWh
Total Bill as of Jan 1, 2016*	\$ 262.79	\$ 492.00	\$ 3,471.80
RTSR included in 2016 GSe Customer's Bill	\$ 10.19	\$ 20.39	\$ 152.89
Estimated 2017 Monthly RTSR**	\$ 10.44	\$ 20.88	\$ 156.57
2017 increase in Monthly Bill	\$ 0.25 40	\$ 0.49	\$ 3.68
<i>2017 increase as a % of total bill</i>	<i>0.1%</i>	<i>0.1%</i>	<i>0.1 %</i>
Estimated 2018 Monthly RTSR**	\$ 10.91	\$ 21.82	\$ 163.65
2018 increase in Monthly Bill	\$ 0.47	\$ 0.94	\$ 7.08
<i>2018 increase as a % of total bill</i>	<i>0.2%</i>	<i>0.2%</i>	<i>0.2%</i>

13 * Total bill including HST, based on time-of-use RPP commodity pricing and 2016 distribution rates approved per
 14 Distribution Rate Order EB-2015-0079.

15 ** The impact on RTSR is assumed to be the net impact on average transmission rates, adjusted for Hydro One's
 16 revenue disbursement allocator per approved 2016 UTRs per EB-2015-0311.

Witness: Oded Hubert

COST OF CAPITAL

1. INTRODUCTION

The purpose of this evidence is to summarize the method and cost of financing Hydro One Transmission's capital requirements for the 2017 and 2018 test years.

2. CAPITAL STRUCTURE

Hydro One Transmission's deemed capital structure for rate making purposes is 60% debt and 40% common equity. This capital structure was approved by the Board as part of its December 23, 2010 Decision on Hydro One's Transmission Rate Application (EB-2010-0002). This is consistent with the Board's report on the cost of capital: see the Report of the Board on the Cost of Capital for Ontario's Regulated Utilities dated December 11, 2009 (EB-2009-0084). The 60% debt component is comprised of 4% deemed short term debt and 56% long term debt.

3. RETURN ON COMMON EQUITY

Hydro One Transmission's evidence reflects a return of 8.78% for the test year 2017 and 2018, based on the Cost of Capital Parameters released by the OEB on October 27, 2016, for rates effective January 1, 2017. It is calculated as per the Board's formulaic approach in Appendix B of the Cost of Capital Report dated December 11, 2009.

Hydro One assumes that the return on equity for the 2018 test year will be updated in accordance with the Board's formulaic approach in Appendix B of the Cost of Capital Report dated December 11, 2009, upon the final decision in this case.

Witness: Samir Chhelavda

1 Specifically, the 2018 ROE would be updated to reflect the September 2017 Consensus
2 Forecasts and Bank of Canada data available in October 2017. The updated ROEs issued
3 by the Board will be used in the calculation of the revenue requirement for the rate order.
4

5 **4. DEEMED SHORT-TERM DEBT**

6
7 The Board has determined that the deemed amount of short-term debt that should be
8 factored into rate setting be fixed at 4% of rate base. The evidence reflects a deemed
9 short-term rate of 1.76 % for 2017 and 2018 based on the Cost of Capital Parameters
10 released by the OEB on October 27, 2016, for 2017 rates.
11

12 Hydro One assumes that the deemed short term debt rate for the 2018 test year will be
13 updated in accordance with the Cost of Capital Report. Specifically, for 2018, the
14 Board would determine the deemed short term debt rate for Hydro One Transmission
15 based on the September 2017 Bank of Canada data which would be available in October
16 2017 plus the average spread obtained by Board Staff in 2017.
17

18 **5. LONG-TERM DEBT**

19
20 The Board has determined that the deemed amount of long-term debt that should be
21 factored into rate setting be fixed at 56% of rate base. The long term debt rate is
22 calculated to be 4.67% for 2017 and 4.52% for 2018. The long term debt rate is
23 calculated as the weighted average rate on embedded debt, new debt and forecast debt
24 planned to be issued in 2016, 2017 and 2018 as discussed in Exhibit D1, Tab 5, Schedule
25 1. Details of Hydro One Transmission's long term debt rate calculation for the 2017 and
26 2018 test years are identified at Exhibit D2, Tab 4, Schedule 2, pages 5 and 6. A detailed
27 discussion of Hydro One Transmission's debt and forecast interest rate is provided at
28 Exhibit D1, Tab 5, Schedule 1.

Witness: Samir Chhelavda

Historical long-term debt cost information is filed at Exhibit D2, Tab 4, Schedule 2, pages 1 to 3.

As discussed in this exhibit, forecast interest rates will be updated consistent with the methodology used for the return on common equity and deemed short term interest rate. In addition, Hydro One assumes that long term debt rate will be updated to reflect and take into account the actual issuances of debt since the time of original application consistent with the OEB Decision on Hydro One Transmission 2015 and 2016 rate application in EB-2014-0140.

As Hydro One Transmission has a market determined cost of debt, the weighted average long term debt rate is also applied to any notional debt that is required to match the actual amount of long term debt to the deemed amount of long term debt consistent with the Board's Decision in EB-2014-0140.

6. COST OF CAPITAL SUMMARY

Hydro One Transmission's 2017 rate base is \$10,554.4 million which results in an after-tax required return of 6.20 %. The 2018 rate base is \$11,225.5 million, which results in an after-tax required return of 6.11 %, as shown in Table 1, below:

Table 1: 2017 and 2018 Cost of Capital

Amount of Deemed	2017				2018			
	(\$M)	%	Cost Rate (%)	Return (\$M)	(\$M)	%	Cost Rate (%)	Return (\$M)
Long-term debt	5,910.4	56.0%	4.67%	275.8	6,286.3	56.0%	4.52%	284.1
Short-term debt	422.2	4.0%	1.76%	7.4	449.0	4.0%	1.76%	7.9
Common equity	4,221.7	40.0%	8.78%	370.7	4,490.2	40.0%	8.78%	394.2
Total	10,554.4	100.0%	6.20%	653.9	11,225.5	100.0%	6.11%	686.2

Witness: Samir Chhelavda

Updated: 2016-12-02

EB-2016-0160

Exhibit D1

Tab 4

Schedule 1

Page 4 of 4

- 1 Historical, bridge and test year debt and equity summary schedules have been provided at
- 2 Exhibit D2, Tab 4, Schedule 1.

Witness: Samir Chhelavda

Table 1: Credit Ratings for Hydro One Inc.

Rating Agency	Short-term Debt	Debt
Dominion Bond Rating Service (DBRS)	R-1(low)	A(high)
Moody's Investors Service (Moody's)	Prime-2	A3
Standard & Poor's Rating Services (S&P)	A-1	A

The most recent rating agency reports are provided in Exhibit A, Tab 8, Schedule 4.

3. COST OF LONG-TERM DEBT

The long term debt rate is calculated as the weighted average rate on embedded debt, new debt and forecast debt planned to be issued in 2016, 2017 and 2018. The weighted average rate on long term debt rate is 4.67% for 2017 and 4.52% for 2018. Details of Hydro One Transmission's long term debt rate calculation for the 2016 bridge year and 2017 and 2018 test years are identified at Exhibit D2, Tab 4, Schedule 2, pages 4 to 6.

The amount of each Hydro One Networks Inc. debt issue that is mapped to the Transmission business is based on its most recent forecast of borrowing requirements. Borrowing requirements are driven mainly by debt retirement, capital expenditures net of internally generated funds, and the maintenance of its capital structure. For example, in February of 2016, Hydro One Inc. issued \$500 million of ten-year notes with a 2.77% coupon rate, of which \$245 million was mapped to Hydro One Transmission, as shown on line 34 of Exhibit D2, Tab 4, Schedule 2, page 4.

The interest rates of debt issues mapped to the Transmission business, as shown in Exhibit D2, Tab 4, Schedule 2, are equal to the actual interest rates on debt issued by Hydro One Networks Inc. to Hydro One Inc., and by Hydro One Inc. to third party public debt investors.

Witness: Samir Chhelavda

1 **3.1 Embedded Debt**

2
3 The Board has determined in its Cost of Capital Report that for embedded debt, the rate
4 approved in prior Board decisions shall be maintained for the life of each active
5 instrument, unless a new rate is negotiated, in which case it will be treated as new debt.
6 Hydro One Transmission's embedded long term debt, which was issued during the period
7 from 2000 to 2015, is shown on lines 1 to 33 of Exhibit D2, Tab 4, Schedule 2, page 3.
8 The rates on these embedded debt issues were approved by the Board as part of the
9 Board's 2015 Rate Order in EB-2014-0140, dated January 8, 2015.

10
11 **3.2 New Debt**

12
13 The Board has determined in its Cost of Capital Report that the rate for new debt that is
14 held by a third party will be the prudently negotiated contract rate. This would include
15 recognition of premiums and discounts. The following discusses new debt issued in
16 2016, which are shown on lines 33 to 37 of Exhibit D2, Tab 4, Schedule 2, page 4.

17
18 In February of 2016, Hydro One Inc. issued \$500 million of five-year notes with a 1.84%
19 coupon rate, of which \$250 million was mapped to Hydro One Transmission, as shown
20 on line 35 of Exhibit D2, Tab 4, Schedule 2, page 4.

1 In February of 2016, Hydro One Inc. also issued \$500 million of ten-year notes with a
2 2.77% coupon rate, of which \$245 million was mapped to Hydro One Transmission, as
3 shown on line 34 of Exhibit D2, Tab 4, Schedule 2, page 4.

4
5 In February of 2016, Hydro One Inc. also issued \$350 million of thirty-year notes with a
6 3.91% coupon rate, of which \$175 million was mapped to Hydro One Transmission, as
7 shown on line 33 of Exhibit D2, Tab 4, Schedule 2, page 4.

8
9 In November of 2016, Hydro One Inc. also issued \$450 million of thirty-year notes with
10 a 3.72% coupon rate, of which \$270 million was mapped to Hydro One Transmission, as
11 shown on line 34 of Exhibit D2, Tab 4, Schedule 2, page 4.

12
13 In November of 2016, Hydro One Inc. also issued \$500 million three-year notes, of
14 which \$300 million was mapped to Hydro One Transmission. At the time of the issue
15 Hydro One entered into a \$500 million notional principal amount fixed to floating
16 interest rate swap to convert this note into floating rate or short-term debt paying an
17 effective interest rate of three-month bankers' acceptance plus a spread. This short-term
18 debt is being used to finance the deemed short-term debt amount equal to 4% of rate base.

19 20 21 **3.3 Forecast Debt**

22
23 Hydro One Transmission's forecast borrowing requirements are \$657 million for 2017
24 and \$890 million for 2018. For planning purposes it is assumed that debt issuance will be
25 distributed over the standard terms in the area of five, ten and thirty years, which are
26 preferred by investors, while limiting total annual fixed rate debt maturities for Hydro
27 One Inc. to avoid undue refinancing risk.

1 Table 2 lists the fixed rate MTN's which Hydro One Networks Inc. plans to issue in 2017,
2 and 2018 will be mapped to the Transmission business, as shown on lines 33 to 39 of
3 Exhibit D2, Tab 4, Schedule 2, page 6.

4

5

Table 2: Forecast Debt Issues for 2017 and 2018

2017		
Principal Amount (\$Millions)	Term (Years)	Coupon
219.1	30	3.67%
109.6	10	2.61%
109.6	30	3.67%
219.1	10	2.61%
2018		
Principal Amount (\$Millions)	Term (Years)	Coupon
296.6	30	4.37%
296.6	10	3.31%
296.6	5	2.54%

6

7 **3.4 Interest Rates for 2017 and 2018 Forecast Debt Issues**

8

9 Transmission business borrowing will be financed at market rates applicable to Hydro
10 One Inc. Table 4 summarizes the derivation of the forecast Hydro One Inc. yield for each
11 of the planned issuance terms for 2017 and 2018.

Table 3: Forecast Yield for 2017-2018 Issuance Terms

	2017			2018		
	5- year	10- year	30- year	5- year	10- year	30- year
Government of Canada	0.98%	1.40%	2.04%	1.68%	2.10%	2.74%
<i>Hydro One Spread</i>	0.86%	1.21%	1.63%	0.86%	1.21%	1.63%
<i>Forecast Hydro One Yield</i>	1.84%	2.61%	3.67%	2.54%	3.31%	4.37%

Each rate is comprised of the forecast Canada bond yield plus the Hydro One Inc. credit spread applicable to that term. The ten-year Government of Canada bond yield forecast for 2017 is based on the average of the 3 month and 12 month forecast from the September 2016 Consensus Forecast. The ten-year Government of Canada bond yield forecast for 2018 is based on the October 2016 Long Term Consensus Forecast. The five- and 30-year Government of Canada bond yield forecasts are derived by adding the September, 2016 average spreads (five-year to ten-year for the five-year forecast and 30-year to ten-year for the 30-year forecast) to the ten-year Government of Canada bond yield forecast. Hydro One's credit spreads over the Government of Canada bonds are based on the average of indicative new issue spreads for September, 2016 obtained from the Company's MTN dealer group for each planned issuance term.

Hydro One assumes that forecast debt issuance interest rates for each test year will be updated consistent with the ROE methodology, upon the final decision in this case. For rates effective January 1, 2018, the forecast interest rate for Hydro One Transmission debt issues will be based on the September 2017 Consensus Forecasts and the average of indicative new issue spreads for September 2017 which will be obtained from the Company's MTN dealer group for each planned issuance term. In addition Hydro One assumes that long term debt rate will be updated to reflect and take into account the actual issuances of debt since the time of original application consistent with the OEB's

Witness: Samir Chhelavda

1 Decision on Hydro One Transmission's 2015 and 2016 rate application in EB-2014-0140
2 and changes in the interest rate forecast.

3 4 **3.5 Treasury OM&A Costs**

5
6 Treasury OM&A costs are incurred to:

- 7
- 8 • execute borrowing plans and issue commercial paper and long term debt;
 - 9 • ensure compliance with securities regulations, bank and debt covenants;
 - 10 • manage the company's daily liquidity position, control cash and manage the
11 company's bank accounts;
 - 12 • settle all transactions and manage the relationship with creditors; and
 - 13 • communicate with debt investors, banks and credit rating agencies.
- 14

15 These costs are \$1.8 million for 2017 and \$2.0 million for 2018 as shown on line 41, page
16 5 and line 42, page 6 of Exhibit D2, Tab 4, Schedule 2.

17 18 **3.6 Other Financing-Related Fees**

19
20 Column (e) of Exhibit D2, Tab 4, Schedule 2 ("Premium, Discount and Expenses")
21 represents the costs of issuing debt. These costs are specific to each debt issue and
22 include commissions, legal fees, debt discounts or premiums on issues or re-openings of
23 issues relative to par, and hedge gains or losses.

24
25 Other financing related fees, \$4.1 million in both 2017 and 2018, identified on line 42,
26 page 5 and line 43, page 6 of Exhibit D2, Tab 4, Schedule 2, include the Transmission
27 allocation of Hydro One Inc.'s standby credit facility, annual credit rating agency,
28 banking, custodial and trustee fees.

Witness: Samir Chhelavda

1
 2

DEBT AND EQUITY SUMMARY

HYDRO ONE NETWORKS INC.

TRANSMISSION

Debt and Equity Summary

Historical Years (2013, 2014, 2015) and Bridge Year (2016)

As at December 31

(\$ Millions)

Line No.	Particulars	Amount Outstanding 2013 Actual (a)	Amount Outstanding 2014 Actual (b)	Amount Outstanding 2015 Actual (c)	Amount Outstanding 2016 Projection (d)
1	Long-term debt *	4,916.1	4,969.1	4,819.1	5,489.1
2	Short-term debt	359.9	346.9	915.9	400.7
3	Preference shares	239.0	239.0	-	-
4	Common equity	4,286.0	4,133.0	4,125.0	4,006.9

* Includes debt payable within one year; excludes variable rate debt, unamortized debt premiums/discount, hedging gains/losses and marks to market

3

Witness: Samir Chhelavda

1

HYDRO ONE NETWORKS INC.
TRANSMISSION
 Summary of Cost of Capital
 Test Years (2017 and 2018)
 Utility Capital Structure

Line No.	Particulars	2017				2018			
		(\$M)	%	Cost Rate (%)	Return (\$M)	(\$M)	%	Cost Rate (%)	Return (\$M)
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Long-term debt	5,910.4	56.0%	4.67%	275.8	6,286.3	56.0%	4.52%	284.1
2	Short-term debt	422.2	4.0%	1.76%	7.4	449.0	4.0%	1.76%	7.9
4	Total debt	6,332.6	60.0%	4.47%	283.2	6,735.3	60.0%	4.33%	292.0
5	Common equity	4,221.7	40.0%	8.78%	370.7	4,490.2	40.0%	8.78%	394.2
6	Total rate base	<u>10,554.4</u>	<u>100.0%</u>	<u>6.20%</u>	<u>653.9</u>	<u>11,225.5</u>	<u>100.0%</u>	<u>6.11%</u>	<u>686.2</u>

2

HYDRO ONE NETWORKS INC.
TRANSMISSION
Cost of Long-Term Debt Capital
Historic Year (2013)
Year ending December 31

Line No.	Offering Date	Coupon Rate	Maturity Date	Principal Amount Offered (\$Millions)	Premium Discount and Expenses (\$Millions)	Net Capital Employed		Effective Cost Rate	Total Amount Outstanding		Avg. Monthly Averages (\$Millions)	Carrying Cost (\$Millions)	Projected Average Embedded Cost Rates
						Total Amount (\$Millions)	Per \$100 Principal Amount (Dollars)		at 12/31/12 (\$Millions)	at 12/31/13 (\$Millions)			
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
1	3-Jun-00	7.350%	3-Jun-30	278.4	4.5	273.9	98.4	7.49%	278.4	278.4	278.4	20.8	
2	22-Jun-01	6.930%	1-Jun-32	109.3	1.0	108.2	99.0	7.01%	109.3	109.3	109.3	7.7	
3	17-Sep-02	6.930%	1-Jun-32	58.0	(2.2)	60.2	103.7	6.64%	58.0	58.0	58.0	3.9	
4	31-Jan-03	6.350%	31-Jan-34	126.0	1.0	125.0	99.2	6.41%	126.0	126.0	126.0	8.1	
5	22-Apr-03	6.590%	22-Apr-43	145.0	1.1	143.9	99.3	6.64%	145.0	145.0	145.0	9.6	
6	25-Jun-04	6.350%	31-Jan-34	72.0	(0.2)	72.2	100.2	6.33%	72.0	72.0	72.0	4.6	
7	20-Aug-04	6.590%	22-Apr-43	39.0	(3.1)	42.1	107.9	6.06%	39.0	39.0	39.0	2.4	
8	24-Aug-04	6.350%	31-Jan-34	39.0	(1.4)	40.4	103.5	6.09%	39.0	39.0	39.0	2.4	
9	19-May-05	5.360%	20-May-36	228.9	8.7	220.2	96.2	5.62%	228.9	228.9	228.9	12.9	
10	3-Mar-06	4.640%	3-Mar-16	210.0	1.0	209.0	99.5	4.70%	210.0	210.0	210.0	9.9	
11	24-Apr-06	5.360%	20-May-36	187.5	2.5	185.0	98.7	5.45%	187.5	187.5	187.5	10.2	
12	22-Aug-06	4.640%	3-Mar-16	60.0	0.8	59.2	98.7	4.80%	60.0	60.0	60.0	2.9	
13	19-Oct-06	5.000%	19-Oct-46	30.0	0.2	29.8	99.3	5.04%	30.0	30.0	30.0	1.5	
14	13-Mar-07	4.890%	13-Mar-37	240.0	1.3	238.7	99.4	4.93%	240.0	240.0	240.0	11.8	
15	18-Oct-07	5.180%	18-Oct-17	225.0	0.8	224.2	99.6	5.23%	225.0	225.0	225.0	11.8	
16	3-Mar-08	5.180%	18-Oct-17	180.0	(3.1)	183.1	101.7	4.95%	180.0	180.0	180.0	8.9	
17	10-Nov-08	5.000%	12-Nov-13	240.0	1.1	238.9	99.5	5.11%	240.0	0.0	203.1	10.4	
18	14-Jan-09	5.000%	12-Nov-13	130.0	(3.7)	133.7	102.8	4.34%	130.0	0.0	110.0	4.8	
19	3-Mar-09	6.030%	3-Mar-39	195.0	1.2	193.8	99.4	6.07%	195.0	195.0	195.0	11.8	
20	16-Jul-09	5.490%	16-Jul-40	210.0	1.4	208.6	99.4	5.53%	210.0	210.0	210.0	11.6	
21	19-Nov-09	3.130%	19-Nov-14	175.0	0.7	174.3	99.6	3.21%	175.0	175.0	175.0	5.6	
22	15-Mar-10	5.490%	24-Jul-40	120.0	(0.7)	120.7	100.6	5.45%	120.0	120.0	120.0	6.5	
23	15-Mar-10	4.400%	4-Jun-20	180.0	0.8	179.2	99.5	4.46%	180.0	180.0	180.0	8.0	
24	13-Sep-10	2.950%	11-Sep-15	150.0	0.6	149.4	99.6	3.03%	150.0	150.0	150.0	4.5	
25	13-Sep-10	5.000%	19-Oct-46	150.0	(0.4)	150.4	100.2	4.98%	150.0	150.0	150.0	7.5	
26	26-Sep-11	4.390%	26-Sep-41	205.0	1.3	203.7	99.4	4.43%	205.0	205.0	205.0	9.1	
27	22-Dec-11	4.000%	22-Dec-51	70.0	0.4	69.6	99.5	4.03%	70.0	70.0	70.0	2.8	
28	13-Jan-12	3.200%	13-Jan-22	154.0	0.8	153.2	99.5	3.26%	154.0	154.0	154.0	5.0	
29	22-May-12	3.200%	13-Jan-22	165.0	(1.6)	166.6	101.0	3.08%	165.0	165.0	165.0	5.1	
30	22-May-12	4.000%	22-Dec-51	68.8	0.3	68.4	99.5	4.02%	68.8	68.8	68.8	2.8	
31	31-Jul-12	3.790%	31-Jul-62	52.5	0.3	52.2	99.5	3.81%	52.5	52.5	52.5	2.0	
32	16-Aug-12	3.790%	31-Jul-62	141.0	1.1	139.9	99.2	3.83%	141.0	141.0	141.0	5.4	
33	9-Oct-13	4.590%	9-Oct-43	239.3	1.4	237.9	99.4	4.63%	0.0	239.3	55.2	2.6	
34	9-Oct-13	2.780%	9-Oct-18	412.5	1.7	410.8	99.6	2.87%	0.0	412.5	95.2	2.7	
35		Subtotal							4634.3	4916.1	4727.8	237.5	
36		Treasury OM&A costs										1.4	
37		Other financing-related fees										3.7	
38		Total							4634.3	4916.1	4727.8	242.6	5.13%

HYDRO ONE NETWORKS INC.
 TRANSMISSION
 Cost of Long-Term Debt Capital
 Historic Year (2014)
 Year ending December 31

Line No.	Offering Date	Coupon Rate	Maturity Date	Principal Amount Offered (\$Millions)	Premium Discount and Expenses (\$Millions)	Net Capital Employed		Effective Cost Rate	Total Amount Outstanding		Avg. Monthly Averages (\$Millions)	Carrying Cost (\$Millions)	Projected Average Embedded Cost Rates
						Total Amount (\$Millions)	Per \$100 Principal (Dollars)		at 12/31/13 (\$Millions)	at 12/31/14 (\$Millions)			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	
1	3-Jun-00	7.350%	3-Jun-30	278.4	4.5	273.9	98.4	7.49%	278.4	278.4	278.4	20.8	
2	22-Jun-01	6.930%	1-Jun-32	109.3	1.3	107.9	98.8	7.03%	109.3	109.3	109.3	7.7	
3	17-Sep-02	6.930%	1-Jun-32	58.0	(2.1)	60.1	103.6	6.65%	58.0	58.0	58.0	3.9	
4	31-Jan-03	6.350%	31-Jan-34	126.0	1.0	125.0	99.2	6.41%	126.0	126.0	126.0	8.1	
5	22-Apr-03	6.590%	22-Apr-43	145.0	1.1	143.9	99.3	6.64%	145.0	145.0	145.0	9.6	
6	25-Jun-04	6.350%	31-Jan-34	72.0	(0.2)	72.2	100.2	6.33%	72.0	72.0	72.0	4.6	
7	20-Aug-04	6.590%	22-Apr-43	39.0	(3.1)	42.1	107.9	6.06%	39.0	39.0	39.0	2.4	
8	24-Aug-04	6.350%	31-Jan-34	39.0	(1.4)	40.4	103.5	6.09%	39.0	39.0	39.0	2.4	
9	19-May-05	5.360%	20-May-36	228.9	8.7	220.2	96.2	5.62%	228.9	228.9	228.9	12.9	
10	3-Mar-06	4.640%	3-Mar-16	210.0	1.0	209.0	99.5	4.70%	210.0	210.0	210.0	9.9	
11	24-Apr-06	5.360%	20-May-36	187.5	2.5	185.0	98.7	5.45%	187.5	187.5	187.5	10.2	
12	22-Aug-06	4.640%	3-Mar-16	60.0	0.8	59.2	98.7	4.80%	60.0	60.0	60.0	2.9	
13	19-Oct-06	5.000%	19-Oct-46	30.0	0.2	29.8	99.3	5.04%	30.0	30.0	30.0	1.5	
14	13-Mar-07	4.890%	13-Mar-37	240.0	1.3	238.7	99.4	4.93%	240.0	240.0	240.0	11.8	
15	18-Oct-07	5.180%	18-Oct-17	225.0	0.8	224.2	99.6	5.23%	225.0	225.0	225.0	11.8	
16	3-Mar-08	5.180%	18-Oct-17	180.0	(3.1)	183.1	101.7	4.95%	180.0	180.0	180.0	8.9	
17	3-Mar-09	6.030%	3-Mar-39	195.0	1.2	193.8	99.4	6.07%	195.0	195.0	195.0	11.8	
18	16-Jul-09	5.490%	16-Jul-40	210.0	1.4	208.6	99.4	5.53%	210.0	210.0	210.0	11.6	
19	19-Nov-09	3.130%	19-Nov-14	175.0	0.7	174.3	99.6	3.21%	175.0	0.0	148.1	4.8	
20	22-Jan-10	3.130%	20-Nov-14	150.0	(0.4)	150.4	100.2	3.08%	150.0	0.0	126.9	3.9	
21	15-Mar-10	5.490%	24-Jul-40	120.0	(0.7)	120.7	100.6	5.45%	120.0	120.0	120.0	6.5	
22	15-Mar-10	4.400%	4-Jun-20	180.0	0.8	179.2	99.5	4.46%	180.0	180.0	180.0	8.0	
23	13-Sep-10	2.950%	11-Sep-15	150.0	0.6	149.4	99.6	3.03%	150.0	150.0	150.0	4.5	
24	13-Sep-10	5.000%	19-Oct-46	150.0	(0.4)	150.4	100.2	4.98%	150.0	150.0	150.0	7.5	
25	26-Sep-11	4.390%	26-Sep-41	205.0	1.3	203.7	99.3	4.43%	205.0	205.0	205.0	9.1	
26	22-Dec-11	4.000%	22-Dec-51	70.0	0.4	69.6	99.5	4.03%	70.0	70.0	70.0	2.8	
27	13-Jan-12	3.200%	13-Jan-22	154.0	0.8	153.2	99.5	3.26%	154.0	154.0	154.0	5.0	
28	22-May-12	3.200%	13-Jan-22	165.0	(1.6)	166.6	101.0	3.08%	165.0	165.0	165.0	5.1	
29	22-May-12	4.000%	22-Dec-51	68.8	0.3	68.4	99.5	4.02%	68.8	68.8	68.8	2.8	
30	31-Jul-12	3.790%	31-Jul-62	52.5	0.3	52.2	99.5	3.81%	52.5	52.5	52.5	2.0	
31	16-Aug-12	3.790%	31-Jul-62	141.0	1.1	139.9	99.2	3.83%	141.0	141.0	141.0	5.4	
32	9-Oct-13	4.590%	9-Oct-43	239.3	1.4	237.9	99.4	4.63%	239.3	239.3	239.3	11.1	
33	9-Oct-13	2.780%	9-Oct-18	412.5	1.7	410.8	99.6	2.87%	412.5	412.5	412.5	11.8	
34	29-Jan-14	4.290%	29-Jan-64	30.0	0.2	29.8	99.4	4.32%	0.0	30.0	25.4	1.1	
35	3-Jun-14	4.170%	3-Jun-44	198.0	1.2	196.8	99.4	4.21%	0.0	198.0	106.6	4.5	
36		Subtotal							5066.1	4969.1	5148.1	248.6	
37		Treasury OM&A costs										1.3	
38		Other financing-related fees										3.1	
39		Total							5066.1	4969.1	5148.1	253.1	4.92%

HYDRO ONE NETWORKS INC.
TRANSMISSION
Cost of Long-Term Debt Capital
Historic Year (2015)
Year ending December 31

Line No.	Offering Date	Coupon Rate	Maturity Date	Principal Offered (\$Millions)	Premium Discount and Expenses (\$Millions)	Net Capital Employed		Effective Cost Rate	Total Amount Outstanding		Avg. Monthly Averages (\$Millions)	Carrying Cost (\$Millions)	Projected Average Embedded Cost Rates
						Total Amount (\$Millions)	Per \$100 Principal Amount (Dollars)		at 12/31/14 (\$Millions)	at 12/31/15 (\$Millions)			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	
1	3-Jun-00	7.350%	3-Jun-30	278.4	4.5	273.9	98.4	7.49%	278.4	278.4	278.4	20.8	
2	22-Jun-01	6.930%	1-Jun-32	109.3	1.3	107.9	98.8	7.03%	109.3	109.3	109.3	7.7	
3	17-Sep-02	6.930%	1-Jun-32	58.0	(2.1)	60.1	103.6	6.65%	58.0	58.0	58.0	3.9	
4	31-Jan-03	6.350%	31-Jan-34	126.0	1.0	125.0	99.2	6.41%	126.0	126.0	126.0	8.1	
5	22-Apr-03	6.590%	22-Apr-43	145.0	1.1	143.9	99.3	6.64%	145.0	145.0	145.0	9.6	
6	25-Jun-04	6.350%	31-Jan-34	72.0	(0.2)	72.2	100.2	6.33%	72.0	72.0	72.0	4.6	
7	20-Aug-04	6.590%	22-Apr-43	39.0	(3.1)	42.1	107.9	6.06%	39.0	39.0	39.0	2.4	
8	24-Aug-04	6.350%	31-Jan-34	39.0	(1.4)	40.4	103.5	6.09%	39.0	39.0	39.0	2.4	
9	19-May-05	5.360%	20-May-36	228.9	8.7	220.2	96.2	5.62%	228.9	228.9	228.9	12.9	
10	3-Mar-06	4.640%	3-Mar-16	210.0	1.0	209.0	99.5	4.70%	210.0	210.0	210.0	9.9	
11	24-Apr-06	5.360%	20-May-36	187.5	2.5	185.0	98.7	5.45%	187.5	187.5	187.5	10.2	
12	22-Aug-06	4.640%	3-Mar-16	60.0	0.8	59.2	98.7	4.80%	60.0	60.0	60.0	2.9	
13	19-Oct-06	5.000%	19-Oct-46	30.0	0.2	29.8	99.3	5.04%	30.0	30.0	30.0	1.5	
14	13-Mar-07	4.890%	13-Mar-37	240.0	1.3	238.7	99.4	4.93%	240.0	240.0	240.0	11.8	
15	18-Oct-07	5.180%	18-Oct-17	225.0	0.8	224.2	99.6	5.23%	225.0	225.0	225.0	11.8	
16	3-Mar-08	5.180%	18-Oct-17	180.0	(3.1)	183.1	101.7	4.95%	180.0	180.0	180.0	8.9	
17	3-Mar-09	6.030%	3-Mar-39	195.0	1.2	193.8	99.4	6.07%	195.0	195.0	195.0	11.8	
18	16-Jul-09	5.490%	16-Jul-40	210.0	1.4	208.6	99.4	5.53%	210.0	210.0	210.0	11.6	
19	15-Mar-10	5.490%	24-Jul-40	120.0	(0.7)	120.7	100.6	5.45%	120.0	120.0	120.0	6.5	
20	15-Mar-10	4.400%	4-Jun-20	180.0	0.8	179.2	99.5	4.46%	180.0	180.0	180.0	8.0	
21	13-Sep-10	2.950%	11-Sep-15	150.0	0.6	149.4	99.6	3.03%	150.0	0.0	103.8	3.1	
22	13-Sep-10	5.000%	19-Oct-46	150.0	(0.4)	150.4	100.2	4.98%	150.0	150.0	150.0	7.5	
23	26-Sep-11	4.390%	26-Sep-41	205.0	1.3	203.7	99.3	4.43%	205.0	205.0	205.0	9.1	
24	22-Dec-11	4.000%	22-Dec-51	70.0	0.4	69.6	99.5	4.03%	70.0	70.0	70.0	2.8	
25	13-Jan-12	3.200%	13-Jan-22	154.0	0.8	153.2	99.5	3.26%	154.0	154.0	154.0	5.0	
26	22-May-12	3.200%	13-Jan-22	165.0	(1.6)	166.6	101.0	3.08%	165.0	165.0	165.0	5.1	
27	22-May-12	4.000%	22-Dec-51	68.8	0.3	68.4	99.5	4.02%	68.8	68.8	68.8	2.8	
28	31-Jul-12	3.790%	31-Jul-62	52.5	0.3	52.2	99.5	3.81%	52.5	52.5	52.5	2.0	
29	16-Aug-12	3.790%	31-Jul-62	141.0	1.1	139.9	99.2	3.83%	141.0	141.0	141.0	5.4	
30	9-Oct-13	4.590%	9-Oct-43	239.3	1.4	237.9	99.4	4.63%	239.3	239.3	239.3	11.1	
31	9-Oct-13	2.780%	9-Oct-18	412.5	1.7	410.8	99.6	2.87%	412.5	412.5	412.5	11.8	
32	29-Jan-14	4.290%	29-Jan-64	30.0	0.2	29.8	99.4	4.32%	30.0	30.0	30.0	1.3	
33	3-Jun-14	4.170%	3-Jun-44	198.0	1.2	196.8	99.4	4.21%	198.0	198.0	198.0	8.3	
34		Subtotal							4999.1	4819.1	4922.9	242.6	
35		Treasury OM&A costs										1.4	
36		Other financing-related fees										3.5	
37		Total							4999.1	4819.1	4922.9	247.4	5.03%

HYDRO ONE NETWORKS INC.
 TRANSMISSION
 Cost of Long-Term Debt Capital
 Bridge Year (2016)
 Year ending December 31

Line No.	Offering Date (a)	Coupon Rate (b)	Maturity Date (c)	Principal Amount Offered (\$Millions) (d)	Premium Discount and Expenses (\$Millions) (e)	Net Capital Employed		Effective Cost Rate (h)	Total Amount Outstanding		Avg. Monthly Averages (\$Millions) (k)	Carrying Cost (\$Millions) (l)	Projected Average Embedded Cost Rates (m)
						Total Amount (\$Millions) (f)	Per \$100 Principal Amount (Dollars) (g)		at 12/31/15 (\$Millions) (i)	at 12/31/16 (\$Millions) (j)			
1	3-Jun-00	7.35%	3-Jun-30	278.4	4.5	273.9	98.4	7.49%	278.4	278.4	278.4	20.8	
2	22-Jun-01	6.93%	1-Jun-32	109.3	1.3	107.9	98.8	7.03%	109.3	109.3	109.3	7.7	
3	17-Sep-02	6.93%	1-Jun-32	58.0	(2.1)	60.1	103.6	6.65%	58.0	58.0	58.0	3.9	
4	31-Jan-03	6.35%	31-Jan-34	126.0	1.0	125.0	99.2	6.41%	126.0	126.0	126.0	8.1	
5	22-Apr-03	6.59%	22-Apr-43	145.0	1.1	143.9	99.3	6.64%	145.0	145.0	145.0	9.6	
6	25-Jun-04	6.35%	31-Jan-34	72.0	(0.2)	72.2	100.2	6.33%	72.0	72.0	72.0	4.6	
7	20-Aug-04	6.59%	22-Apr-43	39.0	(3.1)	42.1	107.9	6.06%	39.0	39.0	39.0	2.4	
8	24-Aug-04	6.35%	31-Jan-34	39.0	(1.4)	40.4	103.5	6.09%	39.0	39.0	39.0	2.4	
9	19-May-05	5.36%	20-May-36	228.9	8.7	220.2	96.2	5.62%	228.9	228.9	228.9	12.9	
10	3-Mar-06	4.64%	3-Mar-16	210.0	1.0	209.0	99.5	4.70%	210.0	0.0	48.5	2.3	
11	24-Apr-06	5.36%	20-May-36	187.5	2.5	185.0	98.7	5.45%	187.5	187.5	187.5	10.2	
12	22-Aug-06	4.64%	3-Mar-16	60.0	0.8	59.2	98.7	4.80%	60.0	0.0	13.8	0.7	
13	19-Oct-06	5.00%	19-Oct-46	30.0	0.2	29.8	99.3	5.04%	30.0	30.0	30.0	1.5	
14	13-Mar-07	4.89%	13-Mar-37	240.0	1.3	238.7	99.4	4.93%	240.0	240.0	240.0	11.8	
15	18-Oct-07	5.18%	18-Oct-17	225.0	0.8	224.2	99.6	5.23%	225.0	225.0	225.0	11.8	
16	3-Mar-08	5.18%	18-Oct-17	180.0	(3.1)	183.1	101.7	4.95%	180.0	180.0	180.0	8.9	
17	3-Mar-09	6.03%	3-Mar-39	195.0	1.2	193.8	99.4	6.07%	195.0	195.0	195.0	11.8	
18	16-Jul-09	5.49%	16-Jul-40	210.0	1.4	208.6	99.4	5.53%	210.0	210.0	210.0	11.6	
19	15-Mar-10	5.49%	24-Jul-40	120.0	(0.7)	120.7	100.6	5.45%	120.0	120.0	120.0	6.5	
20	15-Mar-10	4.40%	4-Jun-20	180.0	0.8	179.2	99.5	4.46%	180.0	180.0	180.0	8.0	
21	13-Sep-10	5.00%	19-Oct-46	150.0	(0.4)	150.4	100.2	4.98%	150.0	150.0	150.0	7.5	
22	26-Sep-11	4.39%	26-Sep-41	205.0	1.3	203.7	99.3	4.43%	205.0	205.0	205.0	9.1	
23	22-Dec-11	4.00%	22-Dec-51	70.0	0.4	69.6	99.5	4.03%	70.0	70.0	70.0	2.8	
24	13-Jan-12	3.20%	13-Jan-22	154.0	0.8	153.2	99.5	3.26%	154.0	154.0	154.0	5.0	
25	22-May-12	3.20%	13-Jan-22	165.0	(1.6)	166.6	101.0	3.08%	165.0	165.0	165.0	5.1	
26	22-May-12	4.00%	22-Dec-51	68.8	0.3	68.4	99.5	4.02%	68.8	68.8	68.8	2.8	
27	31-Jul-12	3.79%	31-Jul-62	52.5	0.3	52.2	99.5	3.81%	52.5	52.5	52.5	2.0	
28	16-Aug-12	3.79%	31-Jul-62	141.0	1.1	139.9	99.2	3.83%	141.0	141.0	141.0	5.4	
29	9-Oct-13	4.59%	9-Oct-43	239.3	1.4	237.9	99.4	4.63%	239.3	239.3	239.3	11.1	
30	9-Oct-13	2.78%	9-Oct-18	412.5	1.7	410.8	99.6	2.87%	412.5	412.5	412.5	11.8	
31	29-Jan-14	4.29%	29-Jan-64	30.0	0.2	29.8	99.4	4.32%	30.0	30.0	30.0	1.3	
32	3-Jun-14	4.17%	3-Jun-44	198.0	1.2	196.8	99.4	4.21%	198.0	198.0	198.0	8.3	
33	24-Feb-16	3.91%	23-Feb-46	175.0	1.1	173.9	99.4	3.95%		175.0	148.1	5.8	
34	24-Feb-16	2.77%	24-Feb-26	245.0	1.1	243.9	99.6	2.82%		245.0	207.3	5.8	
35	24-Feb-16	1.84%	24-Feb-21	250.0	0.9	249.1	99.6	1.92%		250.0	211.5	4.1	
36	18-Nov-16	3.72%	18-Nov-47	270.0	1.4	268.7	99.5	3.75%		270.0	41.5	1.6	
37		Subtotal							<u>4819.1</u>	<u>5489.1</u>	<u>5219.8</u>	<u>246.9</u>	
38		Treasury OM&A costs										1.6	
39		Other financing-related fees										3.8	
40		Total							<u>4819.1</u>	<u>5489.1</u>	<u>5219.8</u>	<u>252.4</u>	<u>4.83%</u>

HYDRO ONE NETWORKS INC.
TRANSMISSION
Cost of Long-Term Debt Capital
Test Year (2017)
Year ending December 31

Line No.	Offering Date (a)	Coupon Rate (b)	Maturity Date (c)	Principal Amount Offered (\$Millions) (d)	Premium Discount and Expenses (\$Millions) (e)	Net Capital Employed		Effective Cost Rate (h)	Total Amount Outstanding		Avg. Monthly Averages (\$Millions) (k)	Carrying Cost (\$Millions) (l)	Projected Average Embedded Cost Rates (m)	
						Total Amount (\$Millions) (f)	Per \$100 Principal (Dollars) (g)		at 12/31/16 (\$Millions) (i)	at 12/31/17 (\$Millions) (j)				
1	3-Jun-00	7.350%	3-Jun-30	278.4	4.5	273.9	98.4	7.49%	278.4	278.4	278.4	20.8		
2	22-Jun-01	6.930%	1-Jun-32	109.3	1.3	107.9	98.8	7.03%	109.3	109.3	109.3	7.7		
3	17-Sep-02	6.930%	1-Jun-32	58.0	(2.1)	60.1	103.6	6.65%	58.0	58.0	58.0	3.9		
4	31-Jan-03	6.350%	31-Jan-34	126.0	1.0	125.0	99.2	6.41%	126.0	126.0	126.0	8.1		
5	22-Apr-03	6.590%	22-Apr-43	145.0	1.1	143.9	99.3	6.64%	145.0	145.0	145.0	9.6		
6	25-Jun-04	6.350%	31-Jan-34	72.0	(0.2)	72.2	100.2	6.33%	72.0	72.0	72.0	4.6		
7	20-Aug-04	6.590%	22-Apr-43	39.0	(3.1)	42.1	107.9	6.06%	39.0	39.0	39.0	2.4		
8	24-Aug-04	6.350%	31-Jan-34	39.0	(1.4)	40.4	103.5	6.09%	39.0	39.0	39.0	2.4		
9	19-May-05	5.360%	20-May-36	228.9	8.7	220.2	96.2	5.62%	228.9	228.9	228.9	12.9		
10	24-Apr-06	5.360%	20-May-36	187.5	2.5	185.0	98.7	5.45%	187.5	187.5	187.5	10.2		
11	19-Oct-06	5.000%	19-Oct-46	30.0	0.2	29.8	99.3	5.04%	30.0	30.0	30.0	1.5		
12	13-Mar-07	4.890%	13-Mar-37	240.0	1.3	238.7	99.4	4.93%	240.0	240.0	240.0	11.8		
13	18-Oct-07	5.180%	18-Oct-17	225.0	0.8	224.2	99.6	5.23%	225.0	0.0	173.1	9.0		
14	3-Mar-08	5.180%	18-Oct-17	180.0	(3.1)	183.1	101.7	4.95%	180.0	0.0	138.5	6.9		
15	3-Mar-09	6.030%	3-Mar-39	195.0	1.2	193.8	99.4	6.07%	195.0	195.0	195.0	11.8		
16	16-Jul-09	5.490%	16-Jul-40	210.0	1.4	208.6	99.4	5.53%	210.0	210.0	210.0	11.6		
17	15-Mar-10	5.490%	24-Jul-40	120.0	(0.7)	120.7	100.6	5.45%	120.0	120.0	120.0	6.5		
18	15-Mar-10	4.400%	4-Jun-20	180.0	0.8	179.2	99.5	4.46%	180.0	180.0	180.0	8.0		
19	13-Sep-10	5.000%	19-Oct-46	150.0	(0.4)	150.4	100.2	4.98%	150.0	150.0	150.0	7.5		
20	26-Sep-11	4.390%	26-Sep-41	205.0	1.3	203.7	99.3	4.43%	205.0	205.0	205.0	9.1		
21	22-Dec-11	4.000%	22-Dec-51	70.0	0.4	69.6	99.5	4.03%	70.0	70.0	70.0	2.8		
22	13-Jan-12	3.200%	13-Jan-22	154.0	0.8	153.2	99.5	3.26%	154.0	154.0	154.0	5.0		
23	22-May-12	3.200%	13-Jan-22	165.0	(1.6)	166.6	101.0	3.08%	165.0	165.0	165.0	5.1		
24	22-May-12	4.000%	22-Dec-51	68.8	0.3	68.4	99.5	4.02%	68.8	68.8	68.8	2.8		
25	31-Jul-12	3.790%	31-Jul-62	52.5	0.3	52.2	99.5	3.81%	52.5	52.5	52.5	2.0		
26	16-Aug-12	3.790%	31-Jul-62	141.0	1.1	139.9	99.2	3.83%	141.0	141.0	141.0	5.4		
27	9-Oct-13	4.590%	9-Oct-43	239.3	1.4	237.9	99.4	4.63%	239.3	239.3	239.3	11.1		
28	9-Oct-13	2.780%	9-Oct-18	412.5	1.7	410.8	99.6	2.87%	412.5	412.5	412.5	11.8		
29	29-Jan-14	4.290%	29-Jan-64	30.0	0.2	29.8	99.4	4.32%	30.0	30.0	30.0	1.3		
30	3-Jun-14	4.170%	3-Jun-44	198.0	1.2	196.8	99.4	4.21%	198.0	198.0	198.0	8.3		
31	24-Feb-16	3.910%	23-Feb-46	175.0	1.1	173.9	99.4	3.95%	175.0	175.0	175.0	6.9		
32	24-Feb-16	2.770%	24-Feb-26	245.0	1.1	243.9	99.6	2.82%	245.0	245.0	245.0	6.9		
33	24-Feb-16	1.840%	24-Feb-21	250.0	0.9	249.1	99.6	1.92%	250.0	250.0	250.0	4.8		
34	18-Nov-16	3.720%	18-Nov-47	270.0	1.4	268.7	99.5	3.75%	270.0	270.0	270.0	10.1		
35	15-Mar-17	3.670%	15-Mar-47	219.1	1.1	218.0	99.5	3.70%	0.0	219.1	168.5	6.2		
36	15-Jun-17	2.606%	15-Jun-27	109.6	0.5	109.0	99.5	2.66%	0.0	109.6	59.0	1.6		
37	15-Jun-17	3.670%	15-Jun-47	109.6	0.5	109.0	99.5	3.70%	0.0	109.6	59.0	2.2		
38	15-Sep-17	2.606%	15-Sep-27	219.1	1.1	218.0	99.5	2.66%	0.0	219.1	67.4	1.8		
39	Subtotal									5489.1	5741.4	5749.5	262.4	
40	Treasury OM&A costs												1.8	
41	Other financing-related fees												4.1	
42	Total									5489.1	5741.4	5749.5	268.3	4.67%

HYDRO ONE NETWORKS INC.
TRANSMISSION
Cost of Long-Term Debt Capital
Test Year (2018)
Year ending December 31

Line No.	Offering Date	Coupon Rate	Maturity Date	Principal Amount Offered (\$Millions)	Premium Discount and Expenses (\$Millions)	Net Capital Employed		Effective Cost Rate	Total Amount Outstanding		Avg. Monthly Averages (\$Millions)	Carrying Cost (\$Millions)	Projected Average Embedded Cost Rates (m)
						Total Amount (\$Millions)	Per \$100 Principal Amount (Dollars)		at 12/31/17 (\$Millions)	at 12/31/18 (\$Millions)			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	
1	3-Jun-00	7.350%	3-Jun-30	278.4	4.5	273.9	98.37	7.49%	278.4	278.4	278.4	20.8	
2	22-Jun-01	6.930%	1-Jun-32	109.3	1.3	107.9	98.78	7.03%	109.3	109.3	109.3	7.7	
3	17-Sep-02	6.930%	1-Jun-32	58.0	(2.1)	60.1	103.57	6.65%	58.0	58.0	58.0	3.9	
4	31-Jan-03	6.350%	31-Jan-34	126.0	1.0	125.0	99.21	6.41%	126.0	126.0	126.0	8.1	
5	22-Apr-03	6.590%	22-Apr-43	145.0	1.1	143.9	99.26	6.64%	145.0	145.0	145.0	9.6	
6	25-Jun-04	6.350%	31-Jan-34	72.0	(0.2)	72.2	100.22	6.33%	72.0	72.0	72.0	4.6	
7	20-Aug-04	6.590%	22-Apr-43	39.0	(3.1)	42.1	107.89	6.06%	39.0	39.0	39.0	2.4	
8	24-Aug-04	6.350%	31-Jan-34	39.0	(1.4)	40.4	103.48	6.09%	39.0	39.0	39.0	2.4	
9	19-May-05	5.360%	20-May-36	228.9	8.7	220.2	96.19	5.62%	228.9	228.9	228.9	12.9	
10	24-Apr-06	5.360%	20-May-36	187.5	2.5	185.0	98.68	5.45%	187.5	187.5	187.5	10.2	
11	19-Oct-06	5.000%	19-Oct-46	30.0	0.2	29.8	99.29	5.04%	30.0	30.0	30.0	1.5	
12	13-Mar-07	4.890%	13-Mar-37	240.0	1.3	238.7	99.45	4.93%	240.0	240.0	240.0	11.8	
13	3-Mar-09	6.030%	3-Mar-39	195.0	1.2	193.8	99.41	6.07%	195.0	195.0	195.0	11.8	
14	16-Jul-09	5.490%	16-Jul-40	210.0	1.4	208.6	99.36	5.53%	210.0	210.0	210.0	11.6	
15	15-Mar-10	5.490%	24-Jul-40	120.0	(0.7)	120.7	100.58	5.45%	120.0	120.0	120.0	6.5	
16	15-Mar-10	4.400%	4-Jun-20	180.0	0.8	179.2	99.55	4.46%	180.0	180.0	180.0	8.0	
17	13-Sep-10	5.000%	19-Oct-46	150.0	(0.4)	150.4	100.25	4.98%	150.0	150.0	150.0	7.5	
18	26-Sep-11	4.390%	26-Sep-41	205.0	1.3	203.7	99.35	4.43%	205.0	205.0	205.0	9.1	
19	22-Dec-11	4.000%	22-Dec-51	70.0	0.4	69.6	99.47	4.03%	70.0	70.0	70.0	2.8	
20	13-Jan-12	3.200%	13-Jan-22	154.0	0.8	153.2	99.47	3.26%	154.0	154.0	154.0	5.0	
21	22-May-12	3.200%	13-Jan-22	165.0	(1.6)	166.6	100.97	3.08%	165.0	165.0	165.0	5.1	
22	22-May-12	4.000%	22-Dec-51	68.8	0.3	68.4	99.51	4.02%	68.8	68.8	68.8	2.8	
23	31-Jul-12	3.790%	31-Jul-62	52.5	0.3	52.2	99.47	3.81%	52.5	52.5	52.5	2.0	
24	16-Aug-12	3.790%	31-Jul-62	141.0	1.1	139.9	99.20	3.83%	141.0	141.0	141.0	5.4	
25	9-Oct-13	4.590%	9-Oct-43	239.3	1.4	237.9	99.42	4.63%	239.3	239.3	239.3	11.1	
26	9-Oct-13	2.780%	9-Oct-18	412.5	1.7	410.8	99.59	2.87%	412.5	0.0	317.3	9.1	
27	29-Jan-14	4.290%	29-Jan-64	30.0	0.2	29.8	99.44	4.32%	30.0	30.0	30.0	1.3	
28	3-Jun-14	4.170%	3-Jun-44	198.0	1.2	196.8	99.40	4.21%	198.0	198.0	198.0	8.3	
29	24-Feb-16	3.910%	23-Feb-46	175.0	1.1	173.9	99.4	3.95%	175.0	175.0	175.0	6.9	
30	24-Feb-16	2.770%	24-Feb-26	245.0	1.1	243.9	99.6	2.82%	245.0	245.0	245.0	6.9	
31	24-Feb-16	1.840%	24-Feb-21	250.0	0.9	249.1	99.6	1.92%	250.0	250.0	250.0	4.8	
32	18-Nov-16	3.720%	18-Nov-47	270.0	1.4	268.7	99.5	3.75%	270.0	270.0	270.0	10.1	
33	15-Mar-17	3.670%	15-Mar-47	219.1	1.1	218.0	99.5	3.70%	219.1	219.1	219.1	8.1	
34	15-Jun-17	2.606%	15-Jun-27	109.6	0.5	109.0	99.5	2.66%	109.6	109.6	109.6	2.9	
35	15-Jun-17	3.670%	15-Jun-47	109.6	0.5	109.0	99.5	3.70%	109.6	109.6	109.6	4.1	
36	15-Sep-17	2.606%	15-Sep-27	219.1	1.1	218.0	99.5	2.66%	219.1	219.1	219.1	5.8	
37	15-Mar-18	4.370%	15-Mar-48	296.6	1.5	295.2	99.50	4.40%	0.0	296.6	228.2	10.0	
38	15-Jun-18	3.306%	15-Jun-28	296.6	1.5	295.2	99.50	3.37%	0.0	296.6	159.7	5.4	
39	15-Sep-18	2.545%	15-Sep-23	296.6	1.5	295.2	99.50	2.65%	0.0	296.6	91.3	2.4	
40		Subtotal							<u>5741.4</u>	<u>6218.8</u>	<u>6125.4</u>	<u>270.7</u>	
41		Treasury OM&A costs										2.0	
42		Other financing-related fees										4.1	
43		Total							<u>5741.4</u>	<u>6218.8</u>	<u>6125.4</u>	<u>276.8</u>	<u>4.52%</u>