



1 Table 1 provides a summary of Hydro One’s OM&A expenditures for the historical,  
2 bridge, and test years. In Table 1, the “plan” values at the category level reflect the  
3 funding levels proposed by Hydro One in its prior applications to the Ontario Energy  
4 Board (“OEB” or the “Board”). The plan values at the category level have not been  
5 adjusted to reflect the Board’s subsequent decisions on the applications, as those Board  
6 decisions established reductions to the overall OM&A expenditure levels rather than to  
7 particular OM&A categories. Reductions to the overall OM&A expenditure levels  
8 resulted from pension adjustments, expenses related to B2M LP, as well as OEB-  
9 approved settlements or decisions. These reductions are itemized in the “adjustments”  
10 section of Table 1, and are captured in the total plan values for each applicable year. As  
11 such, the “total transmission OM&A” plan values include the effect of the adjustments  
12 and represent the final plan or OEB-approved OM&A envelope for the year.

13

14 This approach allows for comparisons between Hydro One’s actual OM&A expenditures  
15 and the OEB-approved OM&A envelopes for the 2015 to 2018 historical years and the  
16 2019 bridge year and also between these amounts and the planned OM&A expenditures  
17 for the 2020 test year. In addition, at the individual category level, Table 1 allows for  
18 comparisons between Hydro One’s actual OM&A expenditures and the OM&A  
19 expenditures that it proposed in its prior rate applications, and between those amounts  
20 and the planned OM&A expenditures for the 2020 test year.



1 **Table 1: Summary of Transmission OM&A Expenditures (\$ millions)**

	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
<b>Category Level</b>										
Sustainment	233.6	238.7	215.1	241.1	218.1	241.2	229.4	238.5	200.6	214.2
Development	6.1	12.9	4.6	13.4	5.1	4.8	5.2	5.0	6.0	6.9
Operations	59.0	58.5	62.5	59.1	61.1	61.3	53.4	62.1	46.1	48.9
Customer Care	5.1	5.5	4.5	5.5	8.5	4.0	11.0	3.9	7.3	7.5
Common Corporate Costs and Other Costs <sup>1</sup>	73.9	70.2	60.1	71.3	41.5	49.9	54.9	47.5	29.4	30.3
Property Taxes & Rights Payments	63.9	66.3	61.3	67.0	50.7	63.6	65.3	64.3	67.2	68.1
<b>Adjustments</b>										
EB-2014-0140 Settlement Reduction		-20.0		-20.0						
EB-2016-0160 Decision Reduction						-15.0		-15.0		
Removal of B2M Expense		-0.9		-0.7		-0.8		-2.1		
Pension Adjustment						-11.4		-9.9		
Directive *									-0.1	-0.1
<b>Envelope Level</b>										
<b>Total Transmission OM&amp;A</b>	<b>441.6</b>	<b>431.2</b>	<b>408.1</b>	<b>436.8</b>	<b>385.0</b>	<b>397.7</b>	<b>419.2</b>	<b>394.3</b>	<b>356.5</b>	<b>375.8</b>
% Change Year over Year			-7.6%		-5.6%		8.9%		-9.6%	5.4%
Variance to Plan	10.4		-28.7		-12.7		24.9			

\*Directive refers to the Government Directive as detailed and defined in Exhibit F, Tab 4, Schedule 1.

2 Hydro One's 2019 OM&A expenses are expected to be \$38 million or 9.6 percent lower  
 3 than the 2018 plan funding envelope. This OM&A reduction will be achieved largely  
 4 through sustained productivity gains, a one-time extension of Hydro One's planned asset  
 5 maintenance cycles, and corporate cost reductions, which are described further within  
 6 Section 6 of this Exhibit. Hydro One plans to increase its 2020 OM&A expenditures by 5  
 7 percent from 2019 levels while still remaining 4.7 percent below the 2018 plan funding

<sup>1</sup> Common Corporate Costs and Other Costs includes Planning, (exhibit F-02-03), CCF&S (exhibit F-02-02), Information Technology (exhibit F-02-04), Cost of External Revenue (exhibit F-02-05), and Other OM&A (exhibit F-02-01).

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1 envelope. The investment plan was designed to utilize the approved funding to improve  
2 reliability and maintain asset condition over the planning period. In this manner, the  
3 investment plan appropriately balances the need to minimize customer rate impacts with  
4 the requirements of the system for supporting the delivery of safe and reliable  
5 transmission service.

6  
7 **2. SUSTAINMENT**

8  
9 The Sustainment OM&A budget is comprised of the investments required for ongoing  
10 maintenance to existing transmission lines and stations facilities to ensure their  
11 functionality, as originally designed, is maintained. The investments proposed in this  
12 category are also intended to sustain the overall reliability of the transmission system,  
13 fulfill customer commitments, and enable Hydro One to comply with applicable  
14 legislative, regulatory, environmental, and safety requirements. Further details are  
15 provided in Exhibit F, Tab 1, Schedule 3, however a high level summary is provided  
16 below.

17  
18 The proposed budget in the 2020 test year is \$13.6 million more compared to the 2019  
19 bridge year, but it is in-line with average historical levels. This increase is necessary to  
20 meet the legislated deadlines associated with the PCB program, fund planned transformer  
21 overhauls, support previously deferred preventative maintenance for station assets, and to  
22 address the backlog in overhead lines and component inspections and assessments. As  
23 highlighted earlier, the 2019 bridge year forecast for Sustainment OM&A is lower than  
24 historical levels partially as a result of a one-time extension of Hydro One's planned asset  
25 maintenance cycles. This includes fewer planned demand and corrective expenditures,  
26 extension of the PCB testing and retrofill program, deferral of overhead transmission line  
27 preventive maintenance and deferral of vegetation management on select 115kV circuits.

Witness: Joel Jodoin

1 For Hydro One to meet its customer needs and priorities, to maintain safe and reliable  
2 performance, and to sustain its asset condition over the planning period, the company  
3 requires funding that is, at a minimum, in-line with average historical levels. Sustained  
4 funding at the 2019 bridge year level, or a reduction below the 2020 forecast amount, will  
5 pose unreasonable safety and reliability risks and will adversely affect Hydro One's  
6 ability to meet its customer needs and priorities.

7  
8 Hydro One's actual expenditures for 2018 are higher than 2017 actuals primarily due to  
9 higher vegetation management spending, corrective maintenance, and increased spending  
10 on PCB retirement activities associated with legislative requirements.

11  
12 Over the 2015 to 2017 historical period, Hydro One's OM&A expenditures trended  
13 downward due to the reallocation of a support function into the Information Solutions  
14 Division, a decrease in Engineering and Environmental support spending, sustained  
15 decreases in Stations corrective maintenance and refurbishment expenditures, and  
16 deferral of maintenance on power system telecom equipment.

17  
18 **3. DEVELOPMENT**

19  
20 Development OM&A expenditures consist of costs associated with developing technical  
21 standards, technical approaches and solutions, participating in industry research  
22 collaborations and subscriptions, and customer power quality. Development OM&A  
23 activities are described in additional detail in Exhibit F, Tab 1, Schedule 4.

24  
25 Relative to the 2019 bridge year forecast, Hydro One proposes to spend an additional  
26 \$0.9 million in the 2020 test year. This increase is attributable to Hydro One's Research,  
27 Development and Demonstration ("RD&D") program to assess applications and impacts  
28 of emerging technologies, and to address any transmission related initiatives arising from

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1 innovation and policy initiatives (for example: the OEB's Advisory Committee on  
2 Innovation, and the IESO's Innovation Roadmap and Market Renewal). Additional  
3 funding has also been allocated to the Transmission Standards Program to revise existing  
4 standards and maintenance procedures, to account for new equipment and technologies,  
5 and to address compliance requirements.

6  
7 The 2019 bridge year forecast is slightly higher than 2018 historical year forecast and  
8 planned expenditures mainly due to the Transmission Standards Program which will  
9 facilitate the review and revision of standards based on an established revision cycle.

10  
11 The 2018 actual expenditures were \$0.2 million higher than the 2018 plan and \$0.1  
12 million higher than 2017 actual expenditures, mainly due to increases in the Customer  
13 Power Quality ("PQ") program to address higher volumes of customer enrollment in the  
14 PQ meter integration program, an increase in third party PQ audit activities, and the need  
15 for advanced PQ software.

16  
17 The 2017 actual expenditures were slightly more than planned due to an increase in the  
18 RD&D program, partially offset by delays in the revision of standards. Over the 2015 to  
19 2016 period, actual expenditures trended downward, reflecting the transition from the  
20 multi-year renewable generation and smart grid programs into the newly integrated  
21 RD&D program.

#### 22 23 **4. OPERATIONS**

24  
25 Operations OM&A expenditures reflect the costs of performing the central transmission  
26 operations function at Hydro One's Ontario Grid Control Centre. The Operations  
27 function manages the real-time operation of Hydro One's transmission system equipment  
28 including: monitoring and controlling transmission assets, coordinating and scheduling

1 planned outages, reacting to system contingencies, provisioning for customer  
2 notifications, and reporting on the performance of the transmission system. Operations  
3 OM&A activities are described in additional detail in Exhibit F, Tab 1, Schedule 5.

4  
5 Relative to the 2019 bridge year forecast, Hydro One proposes to spend an additional  
6 \$2.8 million in the 2020 test year. This increase is necessary to reinstate the Operations  
7 Support work programs that were part of the unsustainable reduction in 2019 to align  
8 with the OM&A envelope in the inflation application<sup>2</sup>. However, the 2020 test year  
9 proposed expenditures still remain below previous plan amounts.

10  
11 The 2019 bridge year forecast is lower than 2018 actual and plan expenditures. The  
12 decrease is mainly due to the disallowance of the recovery of executive compensation  
13 through rates brought forth in Bill 2 legislation, and a decrease in Operations  
14 expenditures resulting from the corporate costing initiative conducted by management.  
15 There is also a decrease to the Operation Support expenditures due to a single year  
16 reduction made by reprioritizing and deferring certain work programs to align the OM&A  
17 envelope in the 2019 inflation application, which is reinstated in the 2020 test year, as  
18 noted above.

19  
20 2018 actuals are lower than the 2018 plan and 2017 actual expenditure, mainly due lower  
21 Operations staff costs (i.e., lower pension burdens, adjustments based on average vacancy  
22 rates, and applied recoveries).

23  

---

  
<sup>2</sup> Hydro One's 2019 Transmission Revenue Requirement Application, EB-2018-0130.

- 1 Over the 2015 to 2017 historical period, actual expenditures remained relatively stable,
- 2 with an average spending of approximately \$60 million annually. The actual
- 3 expenditures were generally in-line with the plan amounts over that period, with the

1 exception of 2016 which was slightly more than the plan amount due to an increase  
2 associated with additional governance and oversight expenditures.

3 **5. CUSTOMER CARE AND CORPORATE AFFAIRS OM&A**

4  
5 This category of OM&A expenditures is associated with the delivery of customer care  
6 functions to Hydro One's transmission customers. Customer care functions include:  
7 responding to customer inquiries, account executives, meter data aggregation, and billing  
8 and settlement activities. In an effort to improve customer service, Hydro One has placed  
9 considerable focus on a renewed commitment to customer advocacy, and operational  
10 excellence. Details of the expenditures under this program and customer outcomes are  
11 provided in Exhibit F, Tab 1, Schedule 6.

12  
13 Relative to the 2019 bridge year forecast, Hydro One plans to spend an additional \$0.2  
14 million in Customer Care OM&A in the 2020 test year. This will allow the department to  
15 meet its commitments and to strike an appropriate balance between delivering improved  
16 customer service and maintaining operational expenditures. As such, OM&A cost levels  
17 are forecasted to remain relatively constant over the planning period.

18  
19 Forecast costs in the 2019 bridge year are \$3.4 million higher than 2018 plan primarily  
20 due to an increased focus on large transmission customers, which assists Hydro One in  
21 functioning and presenting itself to customers as a single, cohesive company. As a result  
22 of this increased focus, the department will be better positioned to address customer  
23 needs as they relate to providing reliable power, being cost competitive and identifying  
24 more opportunities for commercial industry to expand and locate in Ontario.

25  
26 Over the 2015 to 2017 period, Customer Care OM&A expenditures trended upwards  
27 mainly due to the increased focus on large transmission customers, as well as increased

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1 costs related to detailed customer surveys which were centralized and included in this  
2 category level.

3 **6. COMMON CORPORATE COSTS AND OTHER OM&A**

4  
5 The Common Corporate and Other OM&A expenditures include costs associated with  
6 common corporate functions and services (“CCF&S”), asset management planning,  
7 information technology, and cost of sales for external work. A summary of these  
8 expenditures is provided in Exhibit F, Tab 2, Schedule 1.

9  
10 CCF&S includes the following functions and services that are shared by, and allocated  
11 among Hydro One’s businesses: corporate management, finance, human resources,  
12 corporate relations, general counsel and corporate secretariat, regulatory affairs, security  
13 management, internal audit, and real estate and facilities. Other OM&A expenses include  
14 an environmental provision, indirect depreciation and other costs. Planning services  
15 include system investment and asset stewardship functions. IT activities include  
16 providing and managing computer systems, such as hardware and software, and IT  
17 infrastructure.

18  
19 In its 2019-2024 business plan, Hydro One’s business units undertook a significant  
20 commitment to reduce corporate costs across the organization. This is evident from the  
21 lower expenditure levels in the 2019 bridge year and the 2020 test year, relative to both  
22 actual and planned historical expenditures. These reductions were achieved primarily  
23 through a reduction in vacancies and by limiting consulting and contract engagements to  
24 critical functions, which also assist in strengthening and building internal capabilities.  
25 Additionally, beginning in 2018, the Information Technology line of business was able to  
26 recognize sustained cost reductions resulting from renegotiating the Inergi outsourcing  
27 agreement and from savings from productivity initiatives, as detailed in Exhibit F, Tab 2,  
28 Schedule 4 and in TSP Section 1.6.

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1 The 2017 expenditures were \$8.4 million lower relative to plan, primarily resulting from  
2 lower spend in the Indigenous Relations, Corporate Affairs, and Government Relations  
3 groups under the Corporate Relations department. Also contributing to the variance is  
4 under spend within the Planning division. This variance is further explored within Exhibit  
5 F, Tab 2, Schedule 3.

6  
7 The 2017 actuals were \$18.6 million lower than 2016 actual spend primarily resulting  
8 from an increased recovery of overheads due to the nature of the work program.  
9 Additional details on the allocation of common costs and the overhead recovery is  
10 discussed in Exhibit F, Tab 2, Schedule 6.

11  
12 The 2016 expenditures were lower than plan primarily resulting from decreases in the  
13 Finance and Information Technology lines of business spend resulting from prior  
14 outsourcing contract negotiations and a higher allocation to the distribution business for  
15 facilities and real estate costs.

16  
17 The bridge year, test year, and planned funding levels reflect the updated Black and  
18 Veatch corporate cost allocation methodology, as described in Exhibit F, Tab 2, Schedule  
19 6, Attachment 1.

20  
21 **7. PROPERTY TAXES & RIGHTS PAYMENTS**

22  
23 These expenses consist of property and proxy taxes and indemnity payments to the  
24 province. Hydro One anticipates that these costs will remain relatively flat in the 2020  
25 test year. Forecast expenditures for the 2019 bridge year are materially consistent with  
26 historical planned levels. 2017 actuals are lower than Plan due to a \$12.1 million  
27 provision adjustment to First Nations for payment in lieu of taxes with respect to

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1 transmission assets on reserves. Additional details on property taxes and rights payments  
2 are provided in Exhibit F, Tab 7, Schedule 4.

3  
4 **8. ADJUSTMENTS**

5  
6 Adjustments shown in Table 1 above include the result of the EB-2014-0140 OEB-  
7 approved Settlement, the EB-2016-0160 OEB decision, the removal of the B2M LP  
8 expenses, and the pension adjustment due to the pension plan's operating expense  
9 reduction as described in Exhibit F, Tab 5, Schedule 1.

10  
11 **9. COMPARISON OF TOTAL ACTUAL OM&A COSTS TO BOARD-**  
12 **APPROVED**

13  
14 Hydro One's 2018 actuals are higher than 2018 plan levels primarily as a result of higher  
15 spend in customer service (\$7.1 million), lower spend relating to environmental provision  
16 (\$3.2 million), lower recovered overheads (\$10.2 million) and corporate level  
17 adjustments which include co-op and apprenticeship reductions and transfers to  
18 subsidiaries (\$4.9 million). Forecasted expenditures in 2019 are significantly lower than  
19 2018 plan levels. These variances have been previously explored within this exhibit, and  
20 are further expanded upon within each of the individual OM&A exhibits noted above.

1                                   **OM&A SUMMARY AND COST DRIVER TABLES**

2  
3           **1. INTRODUCTION**

4  
5           Hydro One’s OM&A costs for each investment category are discussed in Exhibit F, Tab  
6           1, Schedules 3 through 6. The tables in Exhibit F, Tab 1, Schedule 2, Attachment 1  
7           present Hydro One’s OM&A costs for the 2015 to 2018 historical period, the 2019 bridge  
8           year and the 2020 test year.

9  
10           **1.1 SUMMARY OF RECOVERABLE OM&A EXPENSES (APPENDIX 2-JA)**

11  
12           Appendix 2-JA presents a summary of Hydro One’s recoverable OM&A expenses  
13           broken down by major category. The overall OM&A envelope requested for recovery is  
14           \$375.8 million in the 2020 test year.

15  
16           2019 OM&A expenses are expected to be \$38 million lower (9.6%) than the 2018 OEB-  
17           approved (planned) funding envelope. This OM&A reduction will be achieved partially  
18           through sustained productivity gains, and a one-time extension of asset planned  
19           maintenance cycles. 2020 OM&A expenditures are anticipated to increase by 5% from  
20           2019 levels while still remaining 4.7% below the 2018 funding envelope.

21  
22           **1.2 RECOVERABLE OM&A COST DRIVERS (APPENDIX 2-JB)**

23  
24           Appendix 2-JB shows the year over year changes for the major cost drivers underlying  
25           Hydro One’s OM&A expenses. Line items in Appendix 2-JB include all programs from  
26           Appendix 2-JC. Line items shown are program based as programs drive costs at Hydro  
27           One. The values in this table compare actuals from year to year, and forecast to previous  
28           year actuals for the 2019 bridge year and the 2020 test year. The largest changes between

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1 2019 and 2020 are in the Asset Management and Common Functions and Services  
2 categories.

3

4 **1.3 OM&A PROGRAMS (APPENDIX 2-JC)**

5

6 Appendix 2-JC provides detailed values for OM&A expenses and variance analysis on a  
7 program basis.

8

9 **1.4 RECOVERABLE OM&A COSTS PER DELIVERY POINT AND PER**  
10 **FULL TIME EMPLOYEE (FTE 1) (APPENDIX 2-L)**

11

12 Appendix 2-L shows the calculated OM&A cost per delivery point and per FTE. The  
13 OM&A cost per delivery point of \$563,466 in 2020 represents a compound average  
14 growth rate (CAGR) of -2.6% since 2015. The OM&A cost per FTE of \$41,092 in 2020  
15 represents a CAGR of -4.6% since 2015.

**Appendix 2-JA  
 Summary of Recoverable OM&A Expenses**

	2015 Actuals	2016 Actuals	2017 Actual	2017 Board-Approved	2018 Actual	2018 Board-Approved	2019 Bridge Year	2020 Test Year
<b>Reporting Basis</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>
Sustainment	\$ 233.6	\$ 215.1	\$ 218.1	\$ 241.2	\$ 229.4	\$ 238.5	\$ 200.6	\$ 214.2
Development	\$ 6.1	\$ 4.6	\$ 5.1	\$ 4.8	\$ 5.2	\$ 5.0	\$ 6.0	\$ 6.9
Operating	\$ 59.0	\$ 62.5	\$ 61.1	\$ 61.3	\$ 61.3	\$ 62.1	\$ 46.1	\$ 48.9
Planning / Asset Management	\$ 31.0	\$ 32.9	\$ 32.0	\$ 31.0	\$ 31.0	\$ 35.8	\$ 25.5	\$ 25.0
<b>SubTotal</b>	<b>\$ 329.7</b>	<b>\$ 315.1</b>	<b>\$ 316.3</b>	<b>\$ 363.3</b>	<b>\$ 349.0</b>	<b>\$ 341.3</b>	<b>\$ 278.2</b>	<b>\$ 295.0</b>
%Change (year over year)		-4.4%	0.4%	8.7%	-7.2%	7.0%	-18.5%	-13.6%
%Change (Test Year vs Last Rebasing Year - Actual)								-7.6%
Customer Service (Billing, Collecting, Bad Debt, Misc)	\$ 5.1	\$ 4.5	\$ 4.0	\$ 4.0	\$ 11.0	\$ 3.9	\$ 7.3	\$ 7.5
Corporate Affairs	\$ 7.7	\$ 7.6	\$ 4.1	\$ 8.7	\$ 4.6	\$ 9.9	\$ 5.3	\$ 5.3
Common Functions and Services (excluding Corporate Affairs)	\$ 88.0	\$ 85.3	\$ 85.5	\$ 89.6	\$ 91.4	\$ 87.7	\$ 82.7	\$ 87.5
Information Technology (including Cornerstone)	\$ 55.1	\$ 56.8	\$ 58.5	\$ 59.8	\$ 50.4	\$ 57.6	\$ 45.6	\$ 46.7
Miscellaneous (Other OM&A, Recovery)	-\$ 44.1	-\$ 61.2	-\$ 86.1	-\$ 88.5	-\$ 57.3	-\$ 106.1	-\$ 62.6	-\$ 66.2
<b>SubTotal</b>	<b>\$ 111.9</b>	<b>\$ 93.0</b>	<b>\$ 68.7</b>	<b>\$ 53.8</b>	<b>\$ 53.0</b>	<b>\$ 53.0</b>	<b>\$ 78.3</b>	<b>\$ 80.8</b>
%Change (year over year)		-16.9%	-26.1%	-40.3	-21.7%	10.6	-47.1%	47.8%
%Change (Test Year vs Last Rebasing Year - Actual)								-27.7%
<b>Total</b>	<b>\$ 441.6</b>	<b>\$ 408.1</b>	<b>\$ 385.0</b>	<b>\$ 397.7</b>	<b>\$ 419.2</b>	<b>\$ 394.3</b>	<b>\$ 356.5</b>	<b>\$ 375.8</b>
%Change (year over year)		-7.6%	-5.7%	3.3%	5.4%	-5.9%	-9.6%	5.4%

	2015 Actuals	2016 Actuals	2017 Actual	2017 Board-Approved	2018 Actual	2018 Board-Approved	2019 Bridge Year	2020 Test Year
Sustainment	\$ 233.6	\$ 215.1	\$ 218.1	\$ 241.2	\$ 229.4	\$ 238.5	\$ 200.6	\$ 214.2
Development	\$ 6.1	\$ 4.6	\$ 5.1	\$ 4.8	\$ 5.2	\$ 5.0	\$ 6.0	\$ 6.9
Operating	\$ 59.0	\$ 62.5	\$ 61.1	\$ 61.3	\$ 61.3	\$ 62.1	\$ 46.1	\$ 48.9
Planning / Asset Management	\$ 31.0	\$ 32.9	\$ 32.0	\$ 31.0	\$ 31.0	\$ 35.8	\$ 25.5	\$ 25.0
Customer Service (Billing, Collecting, Bad Debt, Misc)	\$ 5.1	\$ 4.5	\$ 4.0	\$ 4.0	\$ 11.0	\$ 3.9	\$ 7.3	\$ 7.5
Corporate Affairs	\$ 7.7	\$ 7.6	\$ 4.1	\$ 8.7	\$ 4.6	\$ 9.9	\$ 5.3	\$ 5.3
Common Functions and Services (excluding Corporate Affairs)	\$ 88.0	\$ 85.3	\$ 85.5	\$ 89.6	\$ 91.4	\$ 87.7	\$ 82.7	\$ 87.5
Information Technology (including Cornerstone)	\$ 55.1	\$ 56.8	\$ 58.5	\$ 59.8	\$ 50.4	\$ 57.6	\$ 45.6	\$ 46.7
Miscellaneous (Other OM&A, Recovery)	-\$ 44.1	-\$ 61.2	-\$ 86.1	-\$ 88.5	-\$ 57.3	-\$ 106.1	-\$ 62.6	-\$ 66.2
<b>Total</b>	<b>\$ 441.6</b>	<b>\$ 408.1</b>	<b>\$ 385.0</b>	<b>\$ 397.7</b>	<b>\$ 419.2</b>	<b>\$ 394.3</b>	<b>\$ 356.5</b>	<b>\$ 375.8</b>
%Change (year over year)		-7.6%	-5.7%	3.3%	5.4%	-0.9%	-14.9%	-4.7%

	2015 Actuals	2016 Actuals	2017 Actual	2017 Board-Approved	2018 Actual	Variance 2017 Actuals vs 2017 Board Approved	2018 Board-Approved	2019 Bridge Year	Variance 2018 Bridge vs. 2017 Actual	2020 Test Year	Variance 2019 Test vs. 2018 Bridge
<b>Sustainment</b>	\$ 233.6	\$ 215.1	\$ 218.1	\$ 241.2	\$ 229.4	\$ 3.1	\$ 238.5	\$ 200.6	\$ 2.8	\$ 214.2	-\$ 24.3
<b>Development</b>	\$ 6.1	\$ 4.6	\$ 5.1	\$ 4.8	\$ 5.2	-\$ 1.0	\$ 5.0	\$ 6.0	\$ 0.2	\$ 6.9	\$ 1.9
<b>Operating</b>	\$ 59.0	\$ 62.5	\$ 61.1	\$ 61.3	\$ 61.3	\$ 2.1	\$ 62.1	\$ 46.1	\$ 0.8	\$ 48.9	-\$ 13.2
<b>Planning / Asset Management</b>	\$ 31.0	\$ 32.9	\$ 32.0	\$ 31.0	\$ 31.0	\$ 1.0	\$ 35.8	\$ 25.5	\$ 0.7	\$ 25.0	-\$ 10.8
<b>Customer Service (Billing, Collecting, Bad Debt, Misc)</b>	\$ 5.1	\$ 4.5	\$ 4.0	\$ 4.0	\$ 11.0	\$ 3.4	\$ 3.9	\$ 7.3	-\$ 0.1	\$ 7.5	\$ 3.6
<b>Corporate Affairs</b>	\$ 7.7	\$ 7.6	\$ 4.1	\$ 8.7	\$ 4.6	-\$ 3.6	\$ 9.9	\$ 5.3	\$ 1.2	\$ 5.3	-\$ 4.6
<b>Common Functions and Services (excluding Corporate Affairs)</b>	\$ 88.0	\$ 85.3	\$ 86.1	\$ 89.6	\$ 11.0	-\$ 1.9	\$ 87.7	\$ 82.7	-\$ 1.9	\$ 87.5	-\$ 0.1
<b>Information Technology (including Cornerstone)</b>	\$ 55.1	\$ 56.8	\$ 58.5	\$ 59.8	\$ 50.4	\$ 3.4	\$ 57.6	\$ 45.6	-\$ 2.2	\$ 46.7	-\$ 11.0
<b>Miscellaneous (Other OM&amp;A, Recovery)</b>	-\$ 44.1	-\$ 61.2	-\$ 88.5	-\$ 108.3	-\$ 57.3	-\$ 44.4	-\$ 106.1	-\$ 62.6	\$ 2.1	\$ 66.2	\$ 39.9
<b>Total OM&amp;A Expenses</b>	\$ 441.6	\$ 408.1	\$ 385.0	\$ 397.7	\$ 419.2	\$ 38.0	\$ 394.3	\$ 356.5	-\$ 3.4	\$ 375.8	-\$ 18.5
<b>Adjustments for Total non-recoverable Items (from Appendices 2-JA and 2-JB)</b>											
<b>Total Recoverable OM&amp;A Expenses</b>	\$ 441.6	\$ 408.1	\$ 385.0	\$ 397.7	\$ 419.2		\$ 394.3	\$ 356.5		\$ 375.8	
<b>Variance from previous year</b>		-\$ 33	-\$ 23	13			-\$ 3				
<b>Percent change (year over year)</b>		-8%	-6%	3%			-1%				
<b>Percent Change: Test year vs. Most Current Actual</b>											
<b>Simple average of % variance for all years</b>										18	
<b>Compound Annual Growth Rate for all years</b>											-3.2%
<b>Compound Growth Rate (2015 Actuals vs. 2013 Actuals)</b>											

**Note:**

- 1 "BA" = Board-Approved
- 2 If it has been more than three years since the applicant last filed a cost of service application, additional years of historical actuals should be incorporated into the table, as necessary, to go back to the last cost of service application. If the applicant last filed a cost of service application less than three years ago, a minimum of three years of actual information is required.
- 3 Recoverable OM&A that is included on these tables should be identical to the recoverable OM&A that is shown for the corresponding periods on Appendix 2-JB.

**Appendix 2-JB  
Recoverable OM&A Cost Driver Table**

OM&A	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actual	2019 Bridge Year	2020 Test Year
	USGAAP		USGAAP	USGAAP	USGAAP	USGAAP
<b>Reporting Basis</b>						
<b>Opening Balance</b>	\$ -	\$ 441.6	\$ 408.1	\$ 385.0	\$ 419.2	\$ 356.5
Land Assessment and Remediation		-\$ 0.7	-\$ 1.1	-\$ 0.5	-\$ 0.3	\$ 0.5
Environment Management		-\$ 0.5	\$ 7.4	-\$ 2.8	\$ 0.9	\$ 7.3
Power Equipment		-\$ 9.2	\$ 1.3	\$ 3.5	-\$ 12.9	\$ 3.5
Ancillary System Maintenance		\$ 0.0	-\$ 0.7	-\$ 0.2	\$ 0.3	\$ 0.3
Protection, Control, Monitoring, Metering and Telecommunications		-\$ 3.9	-\$ 3.6	-\$ 1.4	-\$ 0.8	-\$ 3.3
Site Infrastructure Maintenance		-\$ 1.4	\$ 0.1	\$ 0.1	-\$ 2.8	\$ 1.4
Rights of Way		-\$ 1.5	-\$ 1.8	\$ 7.9	-\$ 7.6	\$ 2.2
Overhead Lines		\$ 0.6	\$ 0.9	\$ 1.6	-\$ 4.9	\$ 3.2
Underground Cables		-\$ 0.3	\$ 1.0	\$ 2.8	-\$ 3.5	\$ 0.3
Engineering & Environmental Support		-\$ 1.6	-\$ 0.5	\$ 0.2	\$ 3.1	-\$ 1.9
Transmission Standards Program		-\$ 0.5	-\$ 0.7	\$ 1.2	\$ 0.6	\$ 0.3
Research Development and Demonstration		\$ 2.3	\$ 1.0	-\$ 1.2	-\$ 0.0	\$ 0.5
Customer Power Quality Program		\$ -	\$ 0.1	\$ 0.1	\$ 0.2	\$ 0.0
Technology Program		-\$ 3.0	\$ -	\$ -	\$ -	\$ -
Smart Grid–Studies		-\$ 0.3	\$ -	\$ -	\$ -	\$ -
Operations Contracts		\$ 0.8	-\$ 2.2	-\$ 1.5	\$ 0.7	\$ 2.6
Environmental, Health and Safety		\$ 0.1	\$ 0.5	-\$ 0.2	-\$ 0.1	\$ 0.0
Operators		\$ 2.6	\$ 0.3	-\$ 6.0	-\$ 8.0	\$ 0.3
Customer Service OM&A		-\$ 0.6	\$ 4.0	\$ 2.5	-\$ 3.7	\$ 0.2
Corporate Management		\$ 1.2	\$ 2.2	-\$ 2.2	-\$ 1.5	\$ 0.0
Finance		-\$ 1.4	-\$ 1.5	\$ 2.2	-\$ 3.5	\$ 0.6
Human Resources		\$ 1.5	\$ 0.8	\$ 1.9	\$ 0.8	\$ 0.2
Corporate Affairs		-\$ 0.2	-\$ 3.5	\$ 0.5	\$ 0.7	\$ 0.0
General Counsel and Secretariat		\$ 0.7	-\$ 0.9	\$ 1.1	-\$ 1.6	\$ 0.0
Regulatory Affairs		-\$ 1.2	-\$ 0.6	\$ 0.8	-\$ 0.7	\$ 0.2
Security Management		\$ 0.2	\$ 0.2	\$ 0.5	-\$ 0.4	\$ 0.1
Internal Audit		\$ 0.1	\$ 1.0	-\$ 0.5	-\$ 0.2	\$ 0.2
Real Estate and Facilities		-\$ 3.9	-\$ 0.5	\$ 1.5	-\$ 1.6	\$ 3.5
System Investment		\$ 2.7	\$ 1.7	-\$ 0.5	-\$ 9.2	-\$ 0.1
Asset Stewardship & Strategies		-\$ 0.8	-\$ 2.6	-\$ 0.5	\$ 3.7	-\$ 0.4
Information Technology (including Cornerstone)		\$ 1.7	\$ 1.8	-\$ 8.1	-\$ 4.8	\$ 1.0
Cost of Sales		-\$ 4.0	-\$ 1.2	\$ 4.8	-\$ 4.5	\$ -
Other Recovery		-\$ 10.5	-\$ 15.5	\$ 11.9	-\$ 2.6	-\$ 4.6
Property Taxes & Rights Payments		-\$ 2.5	-\$ 10.6	\$ 14.6	\$ 1.9	\$ 0.9
Government Directive on Compensation					-\$ 0.1	
<b>Closing Balance</b>	\$ 441.6	\$ 408.1	\$ 385.0	\$ 419.2	\$ 356.5	\$ 375.8
check	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.0

**Notes:**

- <sup>1</sup> For each year, a detailed explanation for each cost driver and associated amount is required in Exhibit 4.
- <sup>2</sup> For purposes of assessing incremental cost drivers, the closing balance for each year becomes the opening balance for the next year.
- <sup>3</sup> If it has been more than three years since the applicant last filed a cost of service application, additional years of historical actuals should be incorporated into the table, as necessary, to go back to the last cost of service application. If the applicant last filed a cost of service application less than three years ago, a minimum of three years of actual information is required.

<sup>4</sup> Opening Balance for "Last Rebasing Year" (cell B15) should be equal to the Board-Approved amount.

**Appendix 2-JC  
OM&A Programs Table**

<b>Programs</b>	<b>2015 Actuals</b>	<b>2016 Actuals</b>	<b>2017 Actual</b>	<b>2017 Board-Approved</b>	<b>2018 Actual</b>	<b>2018 Board-Approved</b>	<b>2019 Bridge Year</b>	<b>2020 Test Year</b>	<b>Variance (Test Year vs. 2018 Forecast)</b>	<b>Variance (Test Year vs. 2018 Board Approved)</b>
<i>Reporting Basis</i>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>
<b>Sustainment</b>										
Land Assessment and Remediation	3.6	2.9	1.8	2.2	1.3	1.2	1.0	1.4	0.1	0.2
Environment Management	9.8	9.3	16.7	18.4	13.9	18.0	14.8	22.1	8.2	4.1
Power Equipment	64.5	55.3	56.5	60.0	60.1	57.0	47.1	50.7	-9.4	-6.3
Ancillary System Maintenance	9.2	9.2	8.5	11.2	8.3	11.2	8.6	8.8	0.5	-2.4
Protection, Control, Monitoring, Metering and	63.9	60.0	56.5	60.9	55.1	62.0	54.3	51.0	-4.1	-11.0
Site Infrastructure Maintenance	24.0	22.6	22.6	25.7	22.7	25.3	19.9	21.3	-1.4	-4.0
Rights of Way	32.6	31.2	29.4	33.8	37.3	34.8	29.7	31.9	-5.4	-2.9
Overhead Lines	15.9	16.4	17.3	20.9	18.9	20.8	14.0	17.2	-1.7	-3.6
Underground Cables	4.1	3.8	4.8	5.1	7.6	5.2	4.1	4.4	-3.2	-0.8
Engineering & Environmental Support	6.0	4.4	4.0	2.9	4.1	2.9	7.2	5.3	1.2	2.4
<b>Sub-Total</b>	<b>233.6</b>	<b>215.1</b>	<b>218.1</b>	<b>241.2</b>	<b>229.4</b>	<b>238.5</b>	<b>200.6</b>	<b>214.2</b>	<b>-15.2</b>	<b>-24.3</b>
<b>Development</b>									<b>0.0</b>	<b>0.0</b>
Transmission Standards Program	2.8	2.3	1.6	2.5	2.8	2.6	3.4	3.7	1.0	1.1
Research Development and Demonstration	0.0	2.3	3.3	2.1	2.2	2.2	2.2	2.7	0.5	0.5
Customer Power Quality Program	0.0	0.0	0.1	0.2	0.2	0.2	0.5	0.5	0.2	0.3
Technology Program	3.0								0.0	0.0
Smart Grid--Studies	0.3								0.0	0.0
<b>Sub-Total</b>	<b>6.1</b>	<b>4.6</b>	<b>5.1</b>	<b>4.8</b>	<b>5.2</b>	<b>5.0</b>	<b>6.0</b>	<b>6.9</b>	<b>1.7</b>	<b>1.9</b>
<b>Operating</b>									<b>0.0</b>	<b>0.0</b>
Operations Contracts	22.4	23.2	21.0	23.6	19.5	24.3	20.2	22.8	3.2	-1.5
Environmental, Health and Safety	1.1	1.2	1.6	1.9	1.4	1.8	1.4	1.4	-0.1	-0.4
Operators	35.5	38.2	38.4	35.9	32.5	36.1	24.5	24.8	-7.7	-11.3
<b>Sub-Total</b>	<b>59.0</b>	<b>62.5</b>	<b>61.1</b>	<b>61.3</b>	<b>53.4</b>	<b>62.1</b>	<b>46.1</b>	<b>48.9</b>	<b>-4.5</b>	<b>-13.2</b>
<b>Customer</b>									<b>0.0</b>	<b>0.0</b>
Customer Service OM&A	5.1	4.5	8.5	4.0	11.0	3.9	7.3	7.5	-3.5	3.6
<b>Sub-Total</b>	<b>5.1</b>	<b>4.5</b>	<b>8.5</b>	<b>4.0</b>	<b>11.0</b>	<b>3.9</b>	<b>7.3</b>	<b>7.5</b>	<b>-3.5</b>	<b>3.6</b>
<b>Common Functions and Services</b>									<b>0.0</b>	<b>0.0</b>
Corporate Management	2.8	3.9	6.2	7.2	3.9	7.1	2.4	2.4	-1.5	-4.7
Finance	22.9	21.5	20.0	21.9	22.3	19.4	18.8	19.4	-2.9	-0.1
Human Resources	6.8	8.3	9.2	7.6	11.1	7.3	11.9	12.2	1.1	4.8
Corporate Affairs	7.7	7.6	4.1	8.7	4.6	9.9	5.3	5.3	0.7	-4.6
General Counsel and Secretariat	5.0	5.6	4.8	5.5	5.9	5.6	4.3	4.3	-1.6	-1.3
Regulatory Affairs	10.5	9.4	8.7	9.6	9.5	9.8	8.8	9.0	-0.5	-0.9
Security Management	2.0	2.2	2.4	2.2	2.9	2.3	2.4	2.5	-0.3	0.3
Internal Audit	2.6	2.7	3.7	3.3	3.2	3.4	3.0	3.1	0.0	-0.2
Real Estate and Facilities	35.5	31.7	31.2	32.2	32.7	32.7	31.1	34.6	1.9	1.9
<b>Sub-Total</b>	<b>95.7</b>	<b>92.9</b>	<b>90.2</b>	<b>98.3</b>	<b>96.0</b>	<b>97.5</b>	<b>87.9</b>	<b>92.8</b>	<b>-3.2</b>	<b>-4.7</b>
<b>Asset Management (Planning)</b>									<b>0.0</b>	<b>0.0</b>
System Investment	21.1	23.8	25.4	25.6	24.9	24.9	15.8	15.7	-9.3	-9.2
Asset Stewardship & Strategies	9.9	9.1	6.6	10.9	6.1	10.9	9.8	9.3	3.2	-1.6

Programs	2015 Actuals	2016 Actuals	2017 Actual	2017 Board-Approved	2018 Actual	2018 Board-Approved	2019 Bridge Year	2020 Test Year	Variance (Test Year vs. 2018 Forecast)	Variance (Test Year vs. 2018 Board Approved)
<i>Reporting Basis</i>	USGAAP	USGAAP	USGAAP	USGAAP	USGAAP	USGAAP	USGAAP	USGAAP	USGAAP	USGAAP
<b>Sub-Total</b>	31.0	32.9	32.0	36.5	31.0	35.8	25.5	25.0	-6.0	-10.8
<b>Information Technology (including Cornerstone)</b>									0.0	0.0
Information Technology (including Cornerstone)	55.1	56.8	58.5	59.8	50.4	57.6	45.6	46.7	-3.8	-11.0
<b>Sub-Total</b>	55.1	56.8	58.5	59.8	50.4	57.6	45.6	46.7	-3.8	-11.0
<b>Miscellaneous</b>									0.0	0.0
Cost of Sales	8.8	4.8	3.6	5.0	8.4	5.0	3.9	3.9	-4.5	-1.1
Other Recovery	-116.8	-127.3	-142.8	-149.7	-130.9	-148.5	-133.6	-138.1	-7.2	10.3
Property Taxes & Rights Payments	63.9	61.3	50.7	63.6	65.3	64.3	67.2	68.1	3.4	3.8
EB-2016-0160 Decision Reduction				-15.0		-15.0				
Pension Adjustment				-11.4		-9.9				
Removal of B2M Expense				-0.8		-2.1				
Government Directive on Compensation							-0.1	-0.1		
<b>Sub-Total</b>	-44.1	-61.2	-88.5	-108.3	-57.3	-106.1	-62.6	-66.2	-8.9	39.9
<b>Total</b>	<b>441.6</b>	<b>408.1</b>	<b>385.0</b>	<b>397.7</b>	<b>419.2</b>	<b>394.3</b>	<b>356.5</b>	<b>375.8</b>	<b>-43.3</b>	<b>-18.5</b>

**Notes:**

<sup>1</sup> Please provide a breakdown of the major components of each OM&A Program undertaken in each year. Please ensure that all Programs below the materiality threshold are included in the miscellaneous line. Add more Programs as required.

<sup>2</sup> The applicant should group projects appropriately and avoid presentations that result in classification of significant components of the OM&A budget in the miscellaneous category

\* Shift from Smart Grid Pilot to Smart Grid Sustainment



**Appendix 2-L**  
**Recoverable OM&A Cost per Customer and per FTE 1**

	2015 Actual	2016 Actuals	2017 Actual	2017 Board Approved	2018 Actual	2018 Board Approved	2019 Bridge Year	2020 Test Year
<b>Reporting Basis</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>	<b>USGAAP</b>
<b>OM&amp;A Costs</b>								
	\$ 345,825,164	\$ 315,164,734	\$ 294,867,835	\$ 299,441,726	\$ 323,163,750	\$ 296,782,572	\$ 268,582,022	\$ 282,991,054
<b>O&amp;M</b>	\$ 95,749,052	\$ 92,925,028	\$ 90,164,051	\$ 98,271,466	\$ 96,008,960	\$ 97,547,317	\$ 87,948,458	\$ 92,840,875
<b>Total Recoverable (COFS) from Appendix 2-JB 5</b>	\$ 441,574,216	\$ 408,089,761	\$ 385,038,648	\$ 397,713,192	\$ 419,172,711	\$ 394,329,890	\$ 356,530,480	\$ 375,831,929
<b>Number of Delivery Points 2,4</b>	669	669	667	667	668	667	667	667
<b>Number of FTEs 3,4</b>	8077	8364	8146	N/A	8429	N/A	9216	9146
<b>Customers/FTEs</b>	0.08	0.08	0.08	-	0.08	-	0.07	0.07
<b>OM&amp;A cost per customer</b>								
	\$ 516,928	\$ 471,098	\$ 442,081	\$ 448,938	\$ 483,778	\$ 444,951	\$ 402,672	\$ 424,274
<b>O&amp;M per customer</b>	\$ 143,123	\$ 138,901	\$ 135,178	\$ 147,334	\$ 143,726	\$ 146,248	\$ 131,857	\$ 139,192
<b>Admin per customer</b>	\$ 660,051	\$ 610,000	\$ 577,269	\$ 596,272	\$ 627,504	\$ 591,199	\$ 534,528	\$ 563,466
<b>OM&amp;A per FTE</b>								
	\$ 42,816	\$ 37,681	\$ 36,198	-	\$ 38,340	-	\$ 29,143	\$ 30,942
<b>O&amp;M per FTE</b>	\$ 11,855	\$ 11,110	\$ 11,069	-	\$ 11,390	-	\$ 9,543	\$ 10,151
<b>Admin per FTE</b>	\$ 54,671	\$ 48,791	\$ 47,267	-	\$ 49,730	-	\$ 38,686	\$ 41,092

**Total OM&A per FTE**

**Notes:**

- 1 If it has been more than three years since the applicant last filed a cost of service application, additional years of historical actuals should be incorporated into the table, as necessary, to go back to the last cost of service application. If the applicant last filed a cost of service application less than three years ago, a minimum of three years of actual information is required.
- 2 The method of calculating the number of customers must be identified. Should correspond with data provided in Appendix 2-IB
- 3 The method of calculating the number of FTEs must be identified. See also Appendix 2-K
- 4 The number of delivery points is used instead of number of customers for Transmission Application. Number of delivery points as of December each year.
- 5 For the test year, the applicant should take into account the system O&M (line 22 of Appendix 2-AB) in developing its forecasted OM&A.

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**SUSTAINMENT OM&A**

**1. SUMMARY OF SUSTAINMENT OM&A**

Sustainment OM&A consists of expenditures required to maintain existing transmission system equipment and facilities so that they continue to function as originally designed. The Sustainment OM&A expenditures allow Hydro One to maintain reliability and service quality, while satisfying applicable legislative, regulatory, environmental and safety requirements.

The proposed Sustainment OM&A budget for the 2020 test year is in line with the prior five-year average spending (2015-2019) and strikes an appropriate balance between the needs of customers, system reliability and the overall stewardship of Hydro One’s assets. The resulting investment plan represents the minimum level of investment needed to ensure this balance is achieved.

Hydro One manages its Sustainment OM&A program by dividing the program expenditures into the following three categories:

- Stations, which funds the work required to maintain existing assets located within transmission stations, including existing protection, control, and telecommunication facilities;
- Lines, which funds the work required to maintain overhead transmission lines and underground cables, including vegetation management on transmission line rights-of-way; and

- 1 • Engineering and Environmental Support, which funds the specialized and  
 2 administrative support needed to assist with decision making processes in  
 3 managing the transmission assets.

4  
 5 A summary of Hydro One’s Sustainment OM&A expenditures for (i) the 2020 Test Year;  
 6 (ii) the 2019 Bridge Year; and (iii) the 2015-2018 historical period is provided in Table 1  
 7 below.

8  
 9 **Table 1: Summary of Sustainment OM&A (\$ Millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Stations	175.0	169.0	159.3	171.6	162.7	178.5	161.4	174.8	145.7	155.4
Lines	52.6	57.8	51.4	58.8	51.5	59.8	63.8	60.8	47.7	53.4
Engineering and Environmental Support	6.0	11.9	4.4	10.8	4.0	2.9	4.1	2.9	7.2	5.3
<b>Total Sustainment</b>	<b>233.6</b>	<b>238.7</b>	<b>215.1</b>	<b>241.1</b>	<b>218.1</b>	<b>241.2</b>	<b>229.4</b>	<b>238.5</b>	<b>200.6</b>	<b>214.2</b>

10

11 **2. VARIANCE EXPLANATION FOR SUSTAINMENT OM&A**

12

13 The “Plan” values shown in Table 1 above reflect the funding levels previously proposed  
 14 by Hydro One in its rate applications to the OEB for the applicable years. As explained  
 15 in Exhibit F, Tab 1, Schedule 1, for the historical years these values have not been  
 16 adjusted or revised to reflect the OEB’s final rate decisions.

1 **Historical Years**

2 Expenditures for 2017 and 2018 are lower than the Plan expenditures as a result of  
3 reductions to the operating budget for these years in response to the OEB's decision  
4 requiring Hydro One to manage within the approved OM&A envelope.

5  
6 Actual expenditures over the 2015 to 2017 period trended downwards primarily due to  
7 the Computer Aided Design and Drafting support function being reallocated to the  
8 Information Solutions Division, as well as lowered Engineering and Environmental  
9 support spending in 2016 and 2017. In comparison to 2015, corrective maintenance and  
10 refurbishment expenditures also decreased in 2016 and 2017, due to the replacement of  
11 equipment that repeatedly required corrective action. Maintenance on power system  
12 telecom equipment was reduced and reprioritized to address only regulatory compliance  
13 work from 2016 to 2017.

14  
15 Actual 2018 expenditures increased by \$11.3 million relative to 2017 actuals, primarily  
16 due to higher spending in Lines due to Overhead Lines (Demand Maintenance),  
17 Vegetation Management and Underground Cable Maintenance (Corrective Maintenance),  
18 and higher spending in Stations in the Power Equipment category (Corrective  
19 Maintenance, Transformer and Breaker Refurbishment). Hydro One increased spending  
20 relative to its 2018 Forecast to address loose tower bolts on critical 500 kV transmission  
21 lines (Overhead Lines), to reduce the brush control maintenance backlog (Vegetation  
22 Management) and to address unplanned failures and refurbishment projects (Corrective  
23 Maintenance, Transformer and Breaker Refurbishment). These costs were offset by lower  
24 spending in Stations due to a reduction in other Environment Management activities such  
25 as PCB Retirement, Transformer Oil Leak Reduction, Preventive and Corrective

1 Maintenance and Environmental Compliance, and Protection, Automation and Telecom  
2 Maintenance activities. Actual expenditures for 2018 are \$9.1 million lower than the  
3 2018 Plan expenditures as a result of the OEB's decision.<sup>1</sup> In light of the reduced OM&A  
4 envelope, Hydro One reprioritized and deferred, among other things, its PCB retirement  
5 activities and Protection, Automation and Telecom Maintenance activities.

6  
7 **2019 Bridge Year**

8 Expenditures for the 2019 Bridge Year reflect a one year reduction compared to historical  
9 expenditures as a result of a one-time extension of planned asset maintenance cycles.  
10 Hydro One assessed its Sustainment OM&A work programs to determine where  
11 reductions could be made, and reprioritized and deferred certain work programs within  
12 the 2019 OM&A envelope. This decision was based on the work programs that posed the  
13 lowest risk to system reliability and customer expectations and resulted in a one year  
14 reduction of \$28.8 million relative to the 2018 Actuals. This reduction relates to the  
15 following:

- 16
- 17 • Deferral of preventive maintenance on power equipment such as transformers,  
18 circuit breakers, switches and tap-changers, including transformer mid-life  
refurbishments;
  - 19 • Extension of the PCB testing and retrofill program (e.g. replace PCB  
20 contaminated oil in the bushing with non-PCB oil) by one year, which is now  
21 forecasted to be completed by 2024, leaving one year as contingency to comply  
22 with Environment Canada's 2025 deadline, as per PCB Regulations SOR/2008-  
23 273 (the "PCB Regulation");

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<sup>1</sup> EB-2016-0160, Decision and Order, September 28, 2017

- 1 • Deferral of overhead transmission line preventive maintenance, including cyclical  
2 inspections and component condition assessments; and
- 3 • Deferral of vegetation management on select 115kV circuits.

#### 4 5 **2020 Test Year**

6 The proposed Sustainment OM&A budget for the 2020 Test Year is in line with the prior  
7 five year average spending (2015-2019) (i.e. \$214.2M for 2020 versus \$219.3M for the  
8 prior five year average) and represents an increase of \$13.6 million relative to the 2019  
9 Bridge Year forecast. As further described in the sections below, Hydro One requires  
10 funding that is in line with its historical levels in order to maintain safety and reliability  
11 as well as to sustain its asset condition over the planning period. Continued funding at the  
12 2019 level, or a reduction below the 2020 forecast amount, will pose unreasonable safety  
13 and reliability risks, which will adversely affect Hydro One's ability to meet its customer  
14 needs and priorities.

15  
16 The variance between the 2020 Test Year and 2019 Bridge Year primarily relates to:

- 17 • Stations spending increases by approximately \$9.7 million due to (i) PCB testing  
18 and retrofill work that is required to meet legislative deadlines, as per the PCB  
19 Regulation; and (ii) increased spending on preventive maintenance for station  
20 assets, which is required in order to maintain transmission system integrity.
- 21 • Lines spending increases by approximately \$5.7 million primarily due to the  
22 increased spending on inspections for overhead lines, necessary to mitigate the  
23 growing inspection assessment backlog.
- 24 • Environmental and Engineering Support spending decreases by approximately  
25 \$1.9 million as a result of the completion in 2019 of the Campbellville Pit  
26 remediation project.

1     **3.     TEST YEAR FORECAST**

2  
3     Hydro One’s 2020 Test Year Sustainment OM&A expenditures for each of the Stations,  
4     Lines, and Engineering and Environmental Support categories are described below.

5  
6     **3.1     STATIONS**

7  
8     Transmission Stations are used for the delivery of power, voltage transformation and  
9     switching, and serve as connection points for both load customers and generator  
10    customers. Transmission Stations contain power system equipment described in TSP  
11    Section 2.2.

12  
13    Stations Sustainment OM&A covers expenditures that maintain the performance of assets  
14    located within Hydro One’s transmission stations. The Stations Sustainment OM&A  
15    program is divided into the following seven program categories described in further detail  
16    below: (i) Land Assessment and Remediation; (ii) Environmental Management; (iii)  
17    Power Equipment Maintenance; (iv) Ancillary Systems Maintenance; (v) Protection,  
18    Automation and Telecom Maintenance; (vi) Site Infrastructure Maintenance; and (vii)  
19    Cyber Security Management.

20  
21    Table 2 below provides (i) planned expenditures for the 2020 Test Year; (ii) forecasted  
22    2019 Bridge Year expenditures; and (iii) the 2015-2018 historical period expenditures for  
23    each of these categories.

1

**Table 2: Stations Sustainment OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Land Assessment and Remediation	3.6	2.9	1.8	1.3	1.0	1.5
Environmental Management	9.8	9.3	16.7	13.9	14.8	22.1
Power Equipment Maintenance	64.5	55.3	56.5	60.1	47.1	50.7
Ancillary Systems Maintenance	9.2	9.2	8.5	8.3	8.6	8.8
Protection, Automation and Telecom Maintenance	42.7	40.8	41.6	40.6	39.0	35.4
Site Infrastructure Maintenance	24.0	22.6	22.6	22.7	19.9	21.3
Cyber Security Management	21.2	19.2	14.9	14.6	15.3	15.6
<b>Total</b>	<b>175.0</b>	<b>159.3</b>	<b>162.7</b>	<b>161.4</b>	<b>145.7</b>	<b>155.4</b>

2

3 As described above, Hydro One had to make certain reductions and deferrals to its  
 4 maintenance programs in 2019 in order to manage its OM&A spending within the  
 5 approved levels. Through a revised preventative maintenance cycle analysis, Hydro One  
 6 temporarily reduced the transformers, circuit breakers, and switches maintenance  
 7 programs in 2019. This one-time maintenance reduction represented a managed increase  
 8 in asset risk, which is not sustainable over the long term, as constant deferrals and  
 9 reduced maintenance cycles ultimately give rise to unacceptable safety and reliability  
 10 risks.

11 In the 2020 Test Year, Hydro One plans to return to an expenditure level that is slightly  
 12 lower than its historical levels and will focus on the following:

Witness: Bruno Jesus



- 1       • Addressing PCB contaminated equipment to comply with the Environment  
2       Canada requirements is one of the largest OM&A investments over the plan  
3       period. In accordance with the PCB Regulation, Hydro One is required to test,  
4       retrofill and dispose of PCBs and PCB-contaminated equipment. Hydro One must  
5       complete all PCB-related activities and be fully compliant with the PCB  
6       Regulation by December 31, 2025 deadline.
- 7       • Preventive maintenance will (i) address wear and tear of power equipment, (ii)  
8       perform function testing of critical parts to ensure the working capability of the  
9       asset, (iii) identify and mitigate asset air/gas or oil leaks to avoid failures, and (iv)  
10      provide a condition inspection for external factors such as animals, rust, salt, etc.
- 11      • Corrective maintenance addresses unplanned failures and defects identified  
12      through preventive maintenance.
- 13      • Hydro One’s protection, control and telecom investment priorities include North  
14      American Electric Reliability Corporation (“NERC”) compliance and  
15      unplanned/corrective maintenance.

16

### 17       **3.1.1    LAND ASSESSMENT AND REMEDIATION**

18

19       Through the Land Assessment and Remediation (“LAR”) program, Hydro One assesses  
20       the level of contamination on its properties. This program is focused on the mitigation  
21       and remediation of historical off-property contamination from transmission station sites  
22       and real estate facilities that may pose a risk to the public and/or Hydro One staff. Where  
23       appropriate, LAR work is coordinated with refurbishment and capital work.

24       The LAR program follows a process to prioritize and select sites for environmental  
25       assessment and remediation work based on two factors: (i) type and level of  
26       contamination that exceeds Ministry of Environment, Conservation and Parks

1 (“MOECP”) standards; and (ii) the potential for the contaminants to cause adverse effects  
2 on human health and/or the environment

3  
4 The LAR program consists of the following components: Site Assessment, Site  
5 Remediation, and Site Management work. Site Assessments involve information  
6 gathering and soil and groundwater testing to identify and prioritize the remediation  
7 work. Where contamination is identified, Site Remediation is invoked, which includes the  
8 development of a remediation plan. This plan typically includes the treatment, removal or  
9 management of the identified contamination. Once a site has been assessed and  
10 remediated, Site Management work includes monitoring and management of any residual  
11 on-site contamination as well as management of installed controls (e.g. barriers and long-  
12 term treatment systems).

13  
14 The proposed expenditures for the 2020 test year are \$1.5 million and will depend on the  
15 number of sites identified for remediation and the extent of the remediation work  
16 required.

17  
18 **3.1.2 ENVIRONMENTAL MANAGEMENT**

19  
20 The Environmental Management program is an on-going program that focuses on  
21 mitigating and remediating contamination located both within and beyond the station  
22 fence and involves managing, testing and disposing of PCB and other regulated waste  
23 that develops as part of Hydro One’s normal business operations. This program ensures  
24 that Hydro One is able to satisfy its obligations related to environmental regulations and  
25 policies associated with its transmission station equipment.

26  
27 The Environmental Management program consists of the following four activities: (i)  
28 PCB Retirement and Waste Management; (ii) Transformer Oil Leak Reduction; (iii)

Witness: Bruno Jesus

1 Preventive and Corrective Maintenance; and (iv) Environmental Compliance and  
 2 Emergency Response Plan Updates. Proposed funding for the 2020 Test year, along with  
 3 the forecast and actual spending levels for the bridge and historical years is set out in  
 4 Table 3 below.

5  
 6

**Table 3: Environmental Management OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
PCB Retirement and Waste Management	5.3	4.3	7.4	6.9	7.7	14.6
Transformer Oil Leak Reduction	0.9	2.3	4.1	3.0	2.5	2.5
Preventive and Corrective Maintenance	2.7	1.8	3.4	2.6	1.7	1.7
Environmental Compliance and Emergency Response Plan Updates	1.0	0.9	1.8	1.4	2.9	3.3
<b>Total</b>	<b>9.8</b>	<b>9.3</b>	<b>16.7</b>	<b>13.9</b>	<b>14.8</b>	<b>22.1</b>

7

8 The Environmental Management program expenditures are expected to increase in 2020,  
 9 primarily due to:

- 10 • Complying with the federal regulatory requirements to eliminate high PCB  
 11 equipment by 2025; and
- 12 • Preparing for requirements under an expected new regulatory framework in  
 13 connection with greenhouse gas management.

14

15 The above referenced programs are the primary drivers of the increase in Environmental  
 16 Management OM&A in 2020 while the remaining programs expenditures remain in line  
 17 with 2019 levels. Details on each of the categories within the Environmental  
 18 Management program are discussed below.

Witness: Bruno Jesus

1                   **3.1.2.1     PCB RETIREMENT AND WASTE MANAGEMENT**

2

3     The PCB Retirement and Waste Management program aims to identify and phase-out  
4     PCB contaminated inventory to comply with the PCB Regulation. In accordance with the  
5     PCB Regulation, oil-filled power equipment (such as transformers, breakers, instrument  
6     transformers, and associated capacitors, bushings, reclosers) located at Hydro One’s  
7     transmission stations and containing concentrations of PCB greater than 50 ppm are  
8     required to be retro-filled or replaced by year-end 2025.<sup>2</sup>

9

10    As part of its planning process to meet the statutory requirements, Hydro One had  
11    allotted a two year buffer period and set its internal deadline to meet the legislative  
12    deadline by 2023. The two year buffer period was meant to deal with any unforeseen and  
13    complex issues that may arise as well as scheduling the required outages with its major  
14    customers. However, to manage its OM&A spending, in 2019, Hydro One deferred a  
15    planned increase to its PCB program, which resulted in a reduced buffer period to comply  
16    with the Environment Canada deadline. Hydro One anticipates completing the required  
17    PCB remediation by 2024, which is one year later than previously planned, but which  
18    leaves only a one-year buffer period for completion of the work within the required  
19    timeframe.

20    There are currently 6,267 components that require sampling, retrofill or replacement. In  
21    order to meet the federal deadline of year-end 2025, and to maintain the one-year buffer  
22    period, Hydro One requires increased funding to ensure that all oil sampling is complete  
23    by the end of 2024. In addition to inspecting, testing and retro-filling PCB contaminated

---

<sup>2</sup> Based on an amendment to the regulation by Environment Canada in 2014, which took effect in 2015.

Witness: Bruno Jesus

1 equipment, the program also funds activities that manage regulated waste, including but  
2 not limited to lead, cadmium and mercury, which are the subject of provincial and federal  
3 regulatory requirements applicable to Hydro One.<sup>3</sup>

4  
5 **3.1.2.2 TRANSFORMER OIL LEAK REDUCTION**

6  
7 As transformers age, they become susceptible to leaks due to the effects of thermal  
8 cycling and the gradual deterioration of sealing gaskets. Oil leaks are one of the most  
9 common deficiencies found in transformers, and are a significant contributor to  
10 transformer forced outages. Active leaks also provide a path of moisture ingress into a  
11 transformer's internal winding, which, in Hydro One's experience, has been one of the  
12 major causes of transformer Class 1 failures.

13  
14 When first discovered, transformer oil leaks are repaired on a temporary basis under the  
15 corrective program to mitigate any immediate environmental concerns. These repairs are  
16 usually a short-term solution that uses an exterior application of sealant until a more  
17 permanent solution can be implemented. The permanent solution involves disassembling  
18 the transformer and changing the gaskets, which requires an outage, staff with a specific  
19 skill set, and specialized equipment. As part of the Transformer Oil Leak Reduction  
20 program, Hydro One plans to re-gasket 5 or 6 transformers per year, which is in line with  
21 the historical average.

22  
23  

---

  
<sup>3</sup> O. Reg. 362: Waste Management - PCB; O. Reg. 347 General Waste Management; and PCB Regulation SOR/2008-273.

1           **3.1.2.3     PREVENTIVE AND CORRECTIVE MAINTENANCE**

2

3     The preventive maintenance component of the Preventive and Corrective Maintenance  
4     Program ensures that spill containment systems are inspected and operate as designed.

5     The program also ensures that non-functioning mechanical components (such as pumps,  
6     sensors, relays) used in oil/water separators to control effluent from the transformer spill  
7     containment pits are repaired or replaced, as required.

8

9     The corrective maintenance component of the program includes repairing spill  
10    containment systems identified as requiring mitigation. The program also maintains spill  
11    containment capacity for non-functioning spill containment systems by removing and  
12    disposing of the rainwater, containing and cleaning up insulating fluid spills as they occur  
13    and all other actions necessary to mitigate environmental risks posed by transmission  
14    equipment problems and failures.

15

16    The Preventive and Corrective Maintenance program allows Hydro One to meet its  
17    corporate Environmental Policy objectives, maintain compliance with MOECP  
18    requirements, minimize risks to human health and the environment, and mitigate the  
19    Hydro One's exposure to legal and reputational risks. While spending in some historical  
20    years was higher, due to one-time clean-up corrective expenses, Hydro One plans to  
21    maintain expenditures for the 2020 Test year in line with 2019 expenditures, as this  
22    funding level is sufficient to ensure compliance with MOECP requirements and to meet  
23    its corporate Environmental Policy objectives.

24

1           **3.1.2.4 ENVIRONMENTAL COMPLIANCE AND EMERGENCY**  
2                           **RESPONSE PLAN UPDATES**

3  
4     The Environmental Compliance investment encompasses (i) activities associated with  
5     greenhouse gas management as well as (ii) activities required to comply with MOECP  
6     Environmental Compliance Approvals (“ECAs”)<sup>4</sup>, which include a number of common  
7     and site-specific requirements (e.g. regularly test effluent). Funding for the 2020 Test  
8     year is expected to increase due to greenhouse gas management.

9  
10    Hydro One’s greenhouse gas management program includes compliance requirements  
11    related to legislation and regulations for greenhouse gases. Compliance activities include  
12    program management, emission reporting, third party verification and related initiatives.

13  
14    The program was forecasted based on Ontario’s Cap and Trade Regulations and was  
15    repealed on October 31, 2018. The regulations included detailed rules and obligations for  
16    businesses, such as Hydro One. In December 2018, the Ontario Government announced  
17    its new environment plan that is aimed at, among other things, addressing climate change  
18    by lowering greenhouse emissions. Details of the plan are not yet available. Furthermore,  
19    on October 23, 2018, the Government of Canada confirmed that Ontario would be  
20    covered by the federal *Greenhouse Gas Pollution Pricing Act* which imposes a price on  
21    greenhouse gas emissions in the province beginning in 2019.

22  
23    The 2020 Test Year Sustainment OM&A represents the minimum level of investment  
24    needed to maintain existing transmission system equipment and facilities. In light of

---

<sup>4</sup> Formerly known as Certificate of Approvals.

1 federal and provincial government commitments to continue reducing greenhouse gas  
2 emissions, Hydro One has determined that it is prudent to continue to budget for these  
3 regulations rather than jeopardize other sustainment programs, some of which have been  
4 funded below optimal levels and would need to be reduced if funding is not available to  
5 comply with anticipated regulations.

6  
7 Emergency Response Plans (“ERPs”) are station-specific emergency response and  
8 evacuation plan documents that are kept at each transmission station and are an effective  
9 tool for planning, preparing for and responding to emergencies. The plans ensure that the  
10 risk of harm to employees, contractors, the public, the environment and the physical  
11 assets of Hydro One is minimized. Funding under this program ensures that all ERPs  
12 contain up-to-date and accurate site-specific information. Funding for the 2020 Test  
13 Year is in line with historical expenditures.

### 14 15 **3.1.3 POWER EQUIPMENT MAINTENANCE**

16  
17 Hydro One’s transmission power equipment includes 716 transformers, 4,774 circuit  
18 breakers, as well as switches, insulators, bus work, instrument transformers, capacitor  
19 banks and reactors installed in 306 transmission stations. Maintenance of this equipment  
20 is required to sustain power equipment performance.

21  
22 The Power Equipment Maintenance program is divided into the following five  
23 categories: (i) Preventive Maintenance; (ii) Corrective Maintenance; (iii) Transformer  
24 Refurbishments; (iv) Breaker Refurbishments; and (v) Other Maintenance and Inspection  
25 Programs. Table 4, below, sets out the planned funding for the 2020 Test year, along with  
26 the forecast and actual spending levels for the Bridge and Historical years for each  
27 category.

Witness: Bruno Jesus



1 **Table 4: Power Equipment Maintenance OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Preventive Maintenance	21.1	21.1	20.6	19.4	15.2	17.6
Corrective Maintenance	28.7	23.6	25.4	30.0	24.1	24.5
500kV Autotransformer Refurbishments	2.0	1.1	1.7	0.0	0.0	0.0
Transformer Refurbishments	5.8	3.6	4.4	4.9	2.4	3.9
Breaker Refurbishment	3.6	2.8	1.7	3.9	2.6	2.6
Other Maintenance and Inspection Programs	3.4	2.9	2.7	1.9	2.8	2.1
<b>Total</b>	<b>64.5</b>	<b>55.2</b>	<b>56.5</b>	<b>60.1</b>	<b>47.1</b>	<b>50.7</b>

2  
 3 Overall planned expenditures for Power Equipment Maintenance in the 2020 Test Year  
 4 are \$50.7 million, which is lower when compared to the prior five-year average. The  
 5 operating budget for this program has fluctuated over the years, mainly due to the  
 6 implementation or completion of specific investments.

7  
 8 Furthermore, as discussed above, Hydro One made certain one year reductions and  
 9 deferrals in 2019 which lowered the OM&A budget in that year. In 2019, Hydro One  
 10 deferred preventive maintenance on power equipment such as transformers, circuit  
 11 breakers, and switches, as well as transformer mid-life refurbishments. However, given  
 12 that the planned maintenance and refurbishment activities undertaken as part of this  
 13 program ensure that station equipment is operating within specified parameters to  
 14 maintain transmission system safety and reliability, Hydro One cannot continue operating  
 15 with the 2019 reduced budget. Continuing at the 2019 level will affect Hydro One's  
 16 safety and reliability performance as well as increase asset risk and corrective

Witness: Bruno Jesus

1 expenditures due to asset failures similar to the Minden TS transformer fire that  
2 interrupted many customers and caused a need for environmental remediation work.

3  
4 Furthermore, despite ongoing preventive maintenance and corrective maintenance  
5 programs, planned transformer refurbishment is necessary as no minor repair solutions  
6 are available to address these needs. The implications of not proactively performing the  
7 refurbishments on transformers include but are not limited to: potential failure of a  
8 transformer, risk of equipment unavailability, equipment not reaching its intended life  
9 expectancy and environmental implication caused by oil leaks. Each Power Equipment  
10 Maintenance program category is further discussed below.

### 11 12 **3.1.3.1 PREVENTIVE MAINTENANCE**

13  
14 Hydro One performs preventive maintenance to meet its obligations under Section 7.1.1  
15 of the Transmission System Code, which requires Hydro One to “inspect, test and  
16 monitor its transmission facilities to ensure continued compliance with all applicable  
17 standards and instruments.”

18  
19 Hydro One’s preventive maintenance program places priority on condition assessment  
20 activities, including visual inspections, oil analysis, function testing and equipment  
21 performance monitoring rather than more intrusive time-based repairs. The different  
22 power equipment types have varying maintenance activities and the following are  
23 examples of maintenance activities for transformers, breakers and switches that Hydro  
24 One performs:

- 25 • Regular visual inspections to identify and record defects;
- 26 • Recording of pressures and temperatures to ensure that equipment is operating  
27 within appropriate specifications and to identify oil leaks;

Witness: Bruno Jesus

- 1       • Function testing of various equipment elements and alarms to ensure continued  
2       operation, reliability, as well as top up of oil as required;
- 3       • Diagnostic testing such as circuit breaker trip timing, contact resistance, oil  
4       analysis for dissolved gas, moisture content and dielectric strength; and
- 5       • Selective intrusive maintenance to assess equipment condition, check contacts,  
6       clean and lubricate, replace seals and complete minor repairs as required.

7

8       The frequencies of these activities vary depending upon the make, model type and  
9       condition of the subject power equipment. The Preventive Maintenance program  
10      expenditures are based on the volume and type of maintenance work required to be  
11      completed during the calendar year.

12

13      While the demographics and condition of the fleet, as well as the expanding asset base,  
14      would typically be indicators of a need for increases in these programs, the 2020 Test  
15      year expenditures are decreasing compared to the 2015-2018 historical period, primarily  
16      due to:

17

18      • Shifting from time based maintenance scheduling to a more condition based  
19      maintenance schedule – i.e. not carrying out costly intrusive maintenance  
20      activities until diagnostic testing indicates a condition that warrants further  
21      maintenance;

22

23      • Replacing assets whose condition warrants the replacement, resulting in avoided  
24      maintenance costs that would otherwise be required to preserve equipment  
25      reliability;

26

27      • Installing modern technologies with lower life cycle maintenance costs, such as  
28      replacing air blast circuit breakers with SF6 breakers which have lower  
29      maintenance requirements;

- 1 • Bundling certain activities to make the most effective use of outage planning and  
2 mobilization of crews; and
- 3 • Installing online monitors to increase the quality and frequency of condition data,  
4 as well as reduce the number of site visits.

5

### 6 **3.1.3.2 CORRECTIVE MAINTENANCE**

7

8 Corrective maintenance work is required to repair power equipment defects and return  
9 equipment condition and performance to an acceptable state. Corrective maintenance is a  
10 combination of planned repairs based on condition assessments and unplanned  
11 (“demand”) work, including emergency response. Planned corrective maintenance  
12 addresses issues outside regular preventive maintenance activities, including defects  
13 identified during normal condition assessments. Where possible, planned corrective  
14 maintenance is bundled or coordinated with other work to leverage efficiencies.

15

16 Unplanned corrective maintenance includes all unscheduled, non-programmed  
17 maintenance necessitated by unforeseen problems and/or equipment failures. Emergency  
18 response may include a preliminary investigation and minor repairs following equipment  
19 failure. Typically, the emergency work is required to address the risk of harm and/or  
20 damage to employee safety, public safety, system reliability or the environment.

21

22 The number and severity of corrective maintenance issues addressed each year is variable  
23 given the partly unplanned and unforeseen nature of this work. The 2020 Test Year  
24 corrective maintenance expenditures are generally in line with the 2015-2018 historical  
25 levels given the existing equipment demographics and the rate of replacements.

26

27

1                   **3.1.3.3     TRANSFORMER REFURBISHMENTS**

2  
3     Refurbishment of Hydro One’s transformer fleet is required to address deteriorating  
4     transformer parts and components, such as: radiators, gaskets, gauges, bushings, fans,  
5     pumps, instrumentation etc., which typically require major refurbishment or replacement  
6     prior to the end of the expected service life of the transformer. The Transformer  
7     Refurbishment program targets transformers that have not been scheduled for capital  
8     replacement programs. The 2020 test year expenditures are lower than the 2015-2018  
9     historical levels and aim to maintain asset condition over the planning period.

10  
11     The scope of the refurbishments is comprehensive and includes activities such as  
12     changing gaskets, refurbishment or replacement of transformer components, adding  
13     pressure relief devices, adding and upgrading transducers and monitoring devices,  
14     painting, and oil processing. Some refurbishments also include Low-Frequency Heating  
15     (“LFH”) dry-out treatment, to reduce moisture in the transformer’s internal paper  
16     insulation in order to preserve its useful life. These refurbishments are completed where it  
17     is cost effective, and allows the transformer to remain in-service through its expected  
18     service life while maintaining reliability.

19  
20     In addition to transformer refurbishments, a number of smaller transformer programs are  
21     being implemented under this category to reduce the risks of equipment failure. These  
22     programs have been developed as a result of failure investigation findings or to align with  
23     current industry best-practices. Examples of these activities include upgrading fall-arrest  
24     safety systems, proactive on-line dry-outs, installation of maintenance-free self-  
25     regenerating breathers, installation of under load tap changer (“ULTC”) filtration  
26     systems, and the planned implementation of manufacturer recommended modifications to  
27     ULTCs.

28  
Witness: Bruno Jesus

1 The 2020 Test Year expenditures for this program are lower than the 2015-2018  
2 historical period, primarily due to a small reduction (i.e. of one unit per year) in  
3 transformer refurbishment activities.

4

5 **3.1.3.4 BREAKER REFURBISHMENTS**

6

7 Breaker Refurbishments are required to address specific issues with some circuit breaker  
8 models (e.g. air blast, oil, GIS, and SF6) so as to allow those circuit breakers to reach  
9 their expected service lives. A significant portion of this program encompasses breaker  
10 refurbishment activities that resulted from past failures and corrective action plans  
11 developed during failure investigations. The majority of expenditures in this category are  
12 related to modifications and upgrades targeting air blast, oil, GIS, and SF6 circuit  
13 breakers. Planned work focuses on mitigating reliability risks by performing time based  
14 condition monitoring to track asset condition and then, based on asset condition,  
15 undertaking the necessary actions to ensure reliability for customers and the Bulk Electric  
16 System (“BES”) is maintained. The Breaker Refurbishment program also focuses on  
17 refurbishing GIS breakers and high voltage breaker hydraulic drive mechanisms. Hydro  
18 One plans to maintain expenditures in line with historical levels for the Breaker  
19 Refurbishment program in the 2020 Test year.

20

21 **3.1.3.5 OTHER MAINTENANCE AND INSPECTION PROGRAMS**

22

23 Maintenance activities under this category include nuisance wildlife control, maintenance  
24 required for strategic spares and miscellaneous maintenance as outlined below. Hydro  
25 One plans to lower expenditures relative to historical levels for this program for the 2020  
26 Test Year due to the introduction of control measures that will assist in scoping and  
27 limiting corrective work to what is necessary.

Witness: Bruno Jesus

1 Nuisance wildlife control programs are in place to address the issues associated with  
2 equipment interruptions and customer outages resulting from wildlife entering Hydro  
3 One's transmission stations for various reasons such as shelter, food, breeding and  
4 hibernation. The program involves installation of animal controls (such as cover-up) and  
5 barriers (such as perimeter fence dig barriers) to limit the likelihood of an animal coming  
6 in contact with power electric equipment. Hydro One has found this program to be  
7 effective in mitigating delivery point interruptions caused by animal contacts.

8

9 Strategic spares maintenance programs are in place to maintain the inventory of spare  
10 parts or components for circuit breakers and transformers that support the in-service fleet.  
11 The program includes the maintenance required to ensure that these components are  
12 available to enable timely response to system component failures and are maintained in a  
13 manner that does not void manufacturer warranties.

14

15 Other miscellaneous maintenance programs for power equipment include: capacitor bank  
16 maintenance, insulator contamination monitoring and power washing, and station asset  
17 assessment activities. These activities are important to ensure equipment and customer  
18 reliability, as well as to manage equipment in a prudent and sustainable manner.

**3.1.4 ANCILLARY SYSTEMS MAINTENANCE**

Ancillary systems are comprised of station service systems, high pressure air systems, grounding systems, DC battery and charger systems, and oil processing facilities. These systems provide key services and operating support to various station components and are required at all Hydro One transmission stations. This program focuses on sustainment the performance of ancillary systems by dividing the work into the following three categories: (i) Preventive Maintenance; (ii) Corrective Maintenance; and (iii) Other Maintenance Programs. Table 5 shows Hydro One’s planned expenditures for this program in the 2020 Test Year, along with the forecast and actual spending levels for the bridge and historical years for each category.

**Table 5: Ancillary Systems Maintenance OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Preventive Maintenance	4.4	4.6	4.3	4.1	4.1	4.0
Corrective Maintenance	3.6	3.5	3.3	3.6	3.1	3.1
Other Maintenance Programs	1.2	1.2	0.9	0.6	1.3	1.7
<b>Total</b>	<b>9.2</b>	<b>9.2</b>	<b>8.5</b>	<b>8.3</b>	<b>8.6</b>	<b>8.8</b>

Hydro One’s planned expenditures for the Ancillary Systems Maintenance program in the 2020 Test Year are \$8.8 million, which is in line with historical spending. The 2020 Test Year expenditures are primarily associated with activities to ensure that Hydro One is compliant with increased regulatory requirements under the NERC PRC-005-6 regulation for preventive maintenance and battery testing. Details for each Ancillary Systems Maintenance program category are discussed below.

Witness: Bruno Jesus



1                   **3.1.4.1     PREVENTIVE MAINTENANCE**

2

3     The preventive maintenance program for Ancillary Systems is founded on reliability  
4     centered maintenance (RCM) principles<sup>5</sup> and is established to allow equipment to reach  
5     its expected service life. The preventive maintenance activities include periodic testing  
6     and inspections required to satisfy reliability, safety and regulatory requirements.  
7     Oversight bodies, such as the Technical Standards and Safety Authority (“TSSA”),  
8     Independent Electricity System Operator (“IESO”), Northeast Power Coordinating  
9     Council (“NPCC”), NERC, Ministry of Health and the MOECP, impose various  
10    regulatory requirements and in some cases mandate specific inspection and testing cycles  
11    to which Hydro One must adhere.

12

13                   **3.1.4.2     CORRECTIVE MAINTENANCE**

14

15    The corrective maintenance program for Ancillary Systems is required to repair  
16    equipment defects and return equipment condition and performance to an acceptable  
17    state. Corrective maintenance is a combination of planned and unplanned work, including  
18    emergency response. Corrective maintenance is required to address the risk of harm  
19    and/or damage to employee safety, public safety, system reliability or the environment.

---

<sup>5</sup> Reliability Centered Maintenance is a process to achieve safe optimum levels of maintenance. This is achieved by examining the criticality of the equipment’s function and its mode(s) of failure to decide what type(s) of conventional maintenance program is the most suitable.

1           **3.1.4.3    OTHER MAINTENANCE PROGRAMS**

2

3    Other maintenance program activities include grounding studies, maintenance of Hydro  
4    One’s oil storage and processing operation at its Central Maintenance Services facility,  
5    and upgrades to backup diesel generators.

6

7    This program also funds the payments for services at facilities shared with OPG and  
8    Bruce Power. Hydro One has a number of sites located within or adjacent to generating  
9    stations (hydraulic, thermal, and nuclear) that are owned and operated by OPG or Bruce  
10   Power and where services are purchased directly from the plant in order to maintain  
11   switchyard operations. These services include AC/DC station service, water and snow  
12   removal.

13

14           **3.1.5    PROTECTION, AUTOMATION AND TELECOM MAINTENANCE**

15

16   Protection and automation assets are required to protect, control and operate the  
17   transmission system. They also provide real-time operational data, control remote  
18   equipment, and capture detailed event records for post-event analysis. Power System  
19   Telecom systems provide high reliability and high-speed communications required for  
20   the protection, monitoring and control of Hydro One’s transmission system.

21

22   **Error! Reference source not found.** below sets out Hydro One's planned OM&A  
23   expenditures for protection, automation and telecom assets for the 2020 Test Year, along  
24   with the forecast and actual spending levels for the bridge and historical years for each  
25   category.

1 **Table 6: Protection, Automation and Telecom OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Protection and Automation	19.6	17.7	18.0	16.4	15.9	14.0
Telecom	23.1	23.0	23.5	24.2	22.9	21.5
<b>Total</b>	<b>42.7</b>	<b>40.7</b>	<b>41.5</b>	<b>40.6</b>	<b>38.8</b>	<b>35.5</b>

2

3 The overall planned expenditures for this group of assets in the 2020 Test Year is \$35.5  
 4 million, which is lower than historical levels, primarily due to (i) decreases in technical  
 5 Support Processes and Systems such as field support, root cause failure analysis, etc. that  
 6 form part of the Protection and Automation program expenditures, and (ii) reduced  
 7 Telecom preventive and corrective maintenance activities as well as reduced operational  
 8 services provided by Hydro One Telecom that form part of the Telecom program  
 9 expenditures.

10

11 **3.1.5.1 PROTECTION AND AUTOMATION**

12

13 Protection and automation assets are required to protect, control and operate the  
 14 transmission system. The maintenance of these assets is required to sustain equipment  
 15 performance and comply with applicable NERC standards.

16

17 The protection and automation maintenance program is divided into three distinct  
 18 categories. Table 7 below sets out Hydro One's planned expenditures for the 2020 Test  
 19 Year, along with the forecast and actual spending levels for the bridge and historical  
 20 years for each category.

21

**Table 7: Protection and Automation OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Preventive Maintenance	3.3	2.6	3.2	2.7	3.6	3.8
Corrective Maintenance	7.6	6.2	6.9	7.2	6.3	6.9
Support Processes and Systems	8.7	8.9	7.9	6.6	6.0	3.3
<b>Total</b>	<b>19.6</b>	<b>17.7</b>	<b>18.0</b>	<b>16.4</b>	<b>15.9</b>	<b>14.0</b>

Hydro One’s overall planned expenditures for protection and automation equipment maintenance in 2020 is \$14.0 million, which is lower than the historical period and the bridge year. The decrease in the 2020 Test Year is primarily associated with reductions in the Support Processes and Systems category, as further described below. Further details have been provided for each program category:

**i. Preventive Maintenance**

Protection systems spend most of their service life in a stand-by/monitoring state, yet must be relied upon to perform flawlessly within milliseconds from a fault inception or other abnormal system condition. Routine testing is the only means to maintain a high degree of certainty that the system will operate correctly when called upon.

Preventive Maintenance involves routine testing of protection systems and revenue meters. Examples of such activities include relay re-verification, zone test trip, breaker trip coil testing, and special protection system trip testing. Prescribed maintenance for protection system activities as well as the intervals at which they are performed are outlined in the following Hydro One Directives and Policy documents, further description of which can be found in TSP 2.3.

Witness: Bruno Jesus

1 The maintenance activities and testing frequencies for protection systems that are part of  
2 the BES are mandated by the NERC reliability standard, PRC-005 – Protection System,  
3 Automatic Reclosing, and Sudden Pressure Relaying Maintenance. Maintenance is  
4 performed on approximately 40% of Hydro One’s protection related assets which is  
5 governed by NERC standards. For the remaining portions of the system, the scope of  
6 testing and testing frequencies are determined in accordance with the risk evaluation for  
7 reliability, safety and environmental impact.

8  
9 Modern, microprocessor-based relays have built in self-monitoring capabilities. As  
10 allowed by the NERC standard, Hydro One extends the maintenance intervals for these  
11 types of devices, which in turn helps better manage OM&A spending.

12  
13 Preventive Maintenance also covers periodic re-verification of revenue metering  
14 equipment to ensure their accuracy. These re-verifications activities are mandated under  
15 the *Electricity and Gas Inspection Act* and its associated regulations. Funding for  
16 preventive maintenance activities in the Bridge and Test years is forecasted to increase  
17 slightly compared to historical levels.

18  
19 **ii. Corrective Maintenance**

20  
21 All Protection and Automation assets experience a certain rate of failure during their  
22 normal operating life. Increased failure rates cause a reduction of the overall system  
23 reliability. The Corrective Maintenance program allows Hydro One to restore system  
24 reliability by performing timely emergency repairs as well as remedying specific  
25 systemic protection equipment issues. Such issues are usually discovered during the  
26 analysis of protection system misoperations and, typically, relate to design or  
27 manufacturing defects. Such issues, if not corrected on time, can impact other similar  
28 installations.

Witness: Bruno Jesus

1 Once the failure of any portion of the protection system is detected, Operating Centre  
2 staff dispatch field personal to resolve the issue and restore system reliability. If the  
3 problem is discovered during a preventive maintenance test, corrective action must be  
4 taken immediately to avoid adversely affecting system reliability. The corrective action  
5 can be as minor as calibrating a relay or as major as replacing an existing relay with a  
6 new or refurbished one. The costs of these corrective actions are covered within this  
7 program.

8  
9 As part of its obligation to comply with NERC requirements, Hydro One must analyse  
10 every BES protection system operation and correct those which are characterized as  
11 misoperations. When Hydro One determines that a misoperation is not an isolated case  
12 (e.g. manufacturer defect that applies to multiple relays), it proactively replaces or repairs  
13 protection system components in order to prevent widespread system issues. The costs of  
14 these planned corrective actions are also covered within this program.

15  
16 Funding for the corrective maintenance program in the 2020 Test Year is in line with  
17 historical levels. The requested funding is necessary to ensure that Hydro One maintains  
18 its safety and reliability performance.

19  
20 **iii. Support Processes and Systems**

21  
22 Hydro One maintains a set of support processes and systems that are needed to maintain  
23 protection and automation system assets. Such systems are in place to manage relay  
24 settings, control changes to relay settings and configurations, keep records of system  
25 events, and manage the inventory and re-seal schedule for revenue meters. The costs  
26 associated with maintaining these systems are covered by this program.

1 In addition, this program provides funding for multiple activities which directly support  
2 system reliability and maintain Hydro One's compliance with mandatory NERC  
3 requirements such as:

- 4 • Analyses of protection system operations;
- 5 • Tracking vendor advisories;
- 6 • Root cause analysis of protection system component failures; and
- 7 • Managing protection and automation spare parts.

8  
9 The 2019 Bridge Year and 2020 Test Year expenditures are expected to be lower  
10 compared to historical levels. The reduced budget prioritizes activities associated with  
11 those assets which are most critical to system reliability, safety and environment and  
12 complying with applicable NERC standards. Further reductions will be achieved by  
13 improved charging of work to applicable projects and the reassignment of the protection  
14 database support work to another department.

15  
16 While the proposed measures could potentially cause delays in the execution of certain  
17 activities such as root-cause analysis on non-BES protections asset failures or direct field  
18 support, the proposed prioritization of activities should mitigate the impact of the lower  
19 Test Year budget.

#### 20 21 **3.1.5.2 POWER SYSTEM TELECOM**

22  
23 Power System Telecom systems provide high reliability and high-speed communications  
24 required for the protection, monitoring and control of Hydro One's transmission system.  
25 Hydro One's Power System Telecom system consists of fibre optic based Synchronous  
26 Optical Networks ("SONET"), Power Line Carrier ("PLC") systems, teleprotection  
27 terminal devices, microwave radio systems, High Voltage Protection ("HVP") systems,

1 associated auxiliary telecommunication equipment and associated infrastructure. The  
 2 Power System Telecom program is divided into three distinct categories which are: (i)  
 3 preventive and corrective maintenance; (ii) leased telecommunication circuits for power  
 4 system; and (iii) Operation of Power System Telecom Services. Table 8 sets out Hydro  
 5 One’s planned expenditures for the 2020 Test Year, along with the forecast and actual  
 6 spending levels for the bridge and historical years for each category.

7  
 8

**Table 8: Power System Telecom OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Preventive and Corrective Maintenance	5.1	3.4	3.8	4.3	4.7	4.4
Leased Telecommunication Circuits for Power System	9.1	10.4	10.4	10.5	10.8	11.0
Operation of Power System Telecom Services	8.9	9.3	9.2	9.4	7.4	6.1
<b>Total</b>	<b>23.1</b>	<b>23.0</b>	<b>23.5</b>	<b>24.2</b>	<b>22.9</b>	<b>21.5</b>

9

10 Overall, Hydro One’s planned expenditures for the Power System Telecom program in  
 11 the 2020 Test Year are \$21.5 million, which is lower than 2019 Bridge Year and 2015-  
 12 2018 historical spending. The sustained reduction is mainly attributed to the reduction in  
 13 preventive and corrective maintenance activities and the reduction of operational services  
 14 provided by Hydro One Telecom.

15

16 Further details of the forecasted costs for each of the Power System Telecom  
 17 maintenance programs are discussed below.



1           **i. Preventive and Corrective Maintenance**

2  
3       The Preventive and Corrective Maintenance program is required to sustain Hydro One's  
4       Power System Telecom assets. Routine telecom maintenance requires field testing of  
5       telecom schemes and equipment to ensure they are operating within expected parameters.

6  
7       Telecom Preventive Maintenance involves the following activities:

- 8           1. Routine Maintenance / Re-verification;  
9           2. Signal Adequacy Tests (SAT);  
10          3. Radio Communication Tower Visual/Structural Inspection;  
11          4. Telecom Battery / Charger Maintenance;  
12          5. Auxiliary telecommunication equipment inspections; and  
13          6. OPGW shieldwire / ADSS maintenance and inspections.

14  
15       Timing intervals for telecom maintenance are dependent on the technology and/or  
16       equipment used in the communications scheme, and whether the telecom equipment  
17       directly interfaces with protection schemes included in the BES. Maintenance of telecom  
18       devices that are an integral part of protection schemes classified as BES elements is non-  
19       discretionary and requires annual compliance reporting. Maintenance on non-BES  
20       elements is discretionary and is performed on longer time intervals compared to BES  
21       elements but in line with industry best practices.

22  
23       The overall strategy for the maintenance component of the program is to reduce  
24       replacement costs, reduce corrective costs, and reduce interruption of services while  
25       complying with regulatory and Hydro One maintenance requirements. Preventive  
26       maintenance is used to gauge the condition of the assets and help in the planning of asset  
27       replacements and technology upgrades.

Witness: Bruno Jesus

1 Corrective maintenance that is performed on Telecom Assets includes: (a) Planned  
2 corrective maintenance to rectify issues that were identified earlier but did not have an  
3 immediate system impact; and (b) Emergency corrective maintenance to rectify issues  
4 that have already impacted system stability or will have an immediate impact on system  
5 stability, if left unresolved.

6  
7 The overall program strategy for the corrective component of the program is to ensure  
8 that telecom issues are corrected in a timely manner based on severity of the issue.  
9 Emergency corrective maintenance ensures that the affected telecom components and  
10 services are restored to normal operating conditions as soon as possible. Based on the  
11 available budget and identified issues, planned corrective maintenance prioritizes  
12 corrective actions to ensure that future system impacts are mitigated while reducing  
13 future corrective costs.

14  
15 As part of this program, Hydro One also maintains an adequate level of spare equipment  
16 in order to respond to corrective maintenance and restore communication systems to  
17 normal operation within a timely manner thereby minimizing potential reliability issues.

18  
19 Historical preventive and corrective maintenance costs have been well below optimal  
20 levels in order to manage overall OM&A spending within the OEB-approved envelopes.  
21 To manage the expenditures, Hydro One reviewed its planned maintenance activities and  
22 performed only the maintenance required to meet regulatory obligations associated with  
23 NERC and NPCC compliance requirements. All non-regulatory preventive maintenance  
24 and planned corrective maintenance activities were deferred by adopting longer  
25 maintenance intervals in accordance with the risk evaluation for reliability, safety and  
26 environmental impact.

Witness: Bruno Jesus

1 Preventative and Corrective Maintenance costs for the 2019 Bridge Year are slightly  
2 higher than historical years in order to catch up on deferred preventive and corrective  
3 maintenance activities. Maintenance costs for the 2020 Test Year are forecasted to  
4 remain close to average historical levels, representing the minimum level of investment  
5 required to ensure Power System Telecom reliability is maintained.

6  
7 **ii. Leased Telecommunication Circuits for Power System**

8  
9 Hydro One leases telecommunication circuits from third parties in order to support the  
10 telecommunication requirements for protection and control of the power system. This  
11 program covers the monthly fees associated with leasing telecommunication circuits for  
12 power system protection and control, the provincial mobile radio system and sites for  
13 provincial mobile radio base stations. In order to contain leasing costs for telecom  
14 circuits, Hydro One enters into long-term contracts (where feasible) to secure competitive  
15 pricing from telecom service providers. Some telecommunications services covered by  
16 this program are tariffed, meaning the rates for those services are approved and regulated  
17 by the Canadian Radio-television Telecommunications Commission (“CRTC”).  
18 Furthermore, as new protection, control and monitoring equipment is deployed, a greater  
19 number of leased circuits and circuit capacity is required to support the power system,  
20 thereby increasing cost pressures.

21  
22 Some of the protection systems at remote stations depend on remote backup, auto-  
23 grounds and sometimes operator intervention due to the lack of communication facilities.  
24 To improve system reliability, new leased circuits are incorporated into protection  
25 schemes to help clear a fault within appropriate time frames.

26  
27 The 2019 Bridge Year costs and 2020 Test Year costs for leased telecom circuits are  
28 expected to be slightly higher than the 2015-2018 historical period primarily due to

Witness: Bruno Jesus

1 additional leased circuits and the costs of leasing, offset partially by the removal of idle  
2 telecom cables, which resulted in the reduction of duct rental charges from Toronto  
3 Hydro.

4  
5 **iii. Operation of Power System Telecom Services**

6  
7 Operation of Power System Telecom Services covers the cost of labour for the  
8 monitoring, management and operation of the telecom infrastructure and engineering  
9 technical support for power system telecom services. These services are provided from  
10 the Integrated Telecom Management Center (ITMC) by Hydro One Telecom Inc.  
11 (“HOT”), under contract with Hydro One.

12  
13 Hydro One receives alarm based, coordinated networking management, systems analysis,  
14 and carrier/vendor management services. HOT also provides services related to  
15 maintaining and upgrading operating support systems used in the management of the  
16 telecommunications services.

17  
18 The forecasted 2019 Bridge Year costs are lower than historical spending in order to  
19 manage the overall OM&A budget envelope. This trend continues into the 2020 Test  
20 Year with further reductions in contracted services retained from HOT on monitoring and  
21 management of the Power System Telecom network.

22  
23 While operating support system upgrades will be addressed by capital programs,  
24 spending on enhancements to support telecommunication systems in the Test Year will be  
25 maintained in order to address key operating support systems that are lacking adequate  
26 vendor support and are at the end of service life.

Witness: Bruno Jesus

1       **3.1.6    SITE INFRASTRUCTURE MAINTENANCE**

2  
3       Hydro One’s site facilities and infrastructure systems are comprised of yard drainage, fire  
4       protection and detection, structural footings, station buildings, cranes, elevators, Heating  
5       Ventilation and Air-Conditioning (“HVAC”) systems, access roads, water supplies,  
6       sewage management, and fences at transmission stations. These systems provide  
7       infrastructure and support services to all other station components, prevent unauthorized  
8       access, and make the station site functional for equipment and staff. The Site  
9       Infrastructure Maintenance program is focused on the planned and corrective  
10      maintenance at transmission stations to ensure that these site facilities and infrastructure  
11      systems remain in a safe condition and in compliance with the regulatory requirements.

12  
13      The program is extensively driven by the assessment of data collected, unplanned work,  
14      regulatory requirements (such as Building Code, Fire Code, the *Occupational Health and*  
15      *Safety Act*, Ministry of Environment requirements, and various municipal by-laws) and  
16      corporate standards. The program is divided into the following three categories: (i)  
17      Facilities/Infrastructure Maintenance; (ii) Grounds Maintenance; and (iii) Site Perimeter  
18      Maintenance.

19  
20      Table 9 below sets out Hydro One’s planned expenditures for the 2020 Test Year, along  
21      with the forecast and actual spending levels for the Bridge and Historical years.

1 **Table 9: Site Infrastructure Maintenance OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Facilities/ Infrastructure Maintenance	21.6	20.4	20.4	20.5	17.9	19.4
Grounds Maintenance	0.7	0.7	0.7	0.6	0.5	0.5
Site Perimeter Maintenance	1.7	1.4	1.5	1.6	1.4	1.4
<b>Total</b>	<b>24.0</b>	<b>22.6</b>	<b>22.6</b>	<b>22.7</b>	<b>19.8</b>	<b>21.3</b>

2  
 3 Hydro One’s planned expenditures for Site Infrastructure Maintenance in 2020 are \$21.3  
 4 million, which is slightly lower compared to the 2015-2018 historical period. The  
 5 proposed spending will enable Hydro One to continue to address deficiencies with its  
 6 building infrastructure that pose a risk to reliability if not remedied (i.e. leaking roofs,  
 7 basements, etc.), as well as additional work to maintain station perimeter fences to secure  
 8 station sites from access by unauthorized individuals and animals. Hydro One was able to  
 9 decrease the budget, in the short term, by reducing the frequency of preventive  
 10 maintenance work, as well as deferring corrective work that does not impact fire, life,  
 11 safety or operations into the following year. Each site infrastructure maintenance program  
 12 category is discussed below.

13  
 14 **3.1.6.1 FACILITIES AND INFRASTRUCTURE MAINTENANCE**

15  
 16 This program is focused on the preventive and corrective maintenance of transmission  
 17 station facilities and associated infrastructure. Information on the condition of station  
 18 sites and buildings is collected through regular inspections, as well as during maintenance  
 19 work and trouble call responses. Contracted inspections and asset surveys are also  
 20 conducted.

Witness: Bruno Jesus

1 The preventive maintenance program for site facilities and infrastructure addresses a  
2 wide variety of activities such as: building maintenance and facility improvements;  
3 HVAC maintenance; inspections; janitorial services; water system maintenance and  
4 testing; roads, bridges and railway maintenance; station civil geotechnical inspections  
5 and maintenance; and asset assessments.

6  
7 The corrective maintenance program addresses unplanned work including trouble calls  
8 and identified defects related to station infrastructure facilities. The decrease in 2019  
9 planned expenditures is attributed to Hydro One managing within its approved OM&A  
10 expenditure envelope. Planned expenditures in the 2020 Test Year are slightly higher  
11 when compared to the 2019 Bridge Year, but are decreasing compared to historical  
12 spending.

### 13 14 **3.1.6.2 GROUNDS MAINTENANCE**

15  
16 The Grounds Maintenance program funds a number of activities, including the  
17 application of herbicides to control weeds and vegetation inside Hydro One's  
18 transmission stations. Weed and vegetation control is required to keep step and touch  
19 voltages at safe levels for workers that enter the station. In addition, grounds  
20 maintenance includes snow removal to allow access to and within a station, grass cutting,  
21 clean-up and general maintenance that may be required for site drainage and grading.  
22 Herbicide program funding was reduced in 2019 to assist Hydro One in managing within  
23 the OM&A expenditure envelope. In the 2020 Test Year, Hydro One will maintain the  
24 decreased funding, which will provide minimum levels of sustainability as Hydro One  
25 continues to explore new efficiencies with herbicide application frequencies.

1           **3.1.6.3     SITE PERIMETER MAINTENANCE**

2  
3     The Site Perimeter Maintenance program includes preventive and corrective maintenance  
4     at station perimeters, with measures taken to keep animals out of stations and reduce the  
5     likelihood of power interruptions due to animal contacts. The activities under this  
6     program complement Hydro One’s broader corporate security initiatives targeted at  
7     safeguarding transmission assets to ensure public and employee safety and maintain  
8     equipment and system reliability. The planned 2020 Test Year expenditures are  
9     consistent with the 2019 Bridge Year and slightly lower than historical costs.

10  
11           **3.1.7     CYBER SECURITY MANAGEMENT**

12  
13     As outlined in TSP Section 1.1.4.2, the energy sector is categorized as critical  
14     infrastructure by the Canadian and US Federal governments. Consequently, Hydro One  
15     must comply with cyber security standards that are intended to ensure the integrity of the  
16     Ontario BES and all of the interconnected BESs across North America. NERC has  
17     developed mandatory Critical Infrastructure Protection (CIP) standards to ensure regular  
18     testing and updating of the security systems and procedures affecting transmission assets  
19     and utility personnel. These standards are designed to mitigate cyber security risks to  
20     BES facilities, systems, and equipment, which, if destroyed, degraded, or otherwise  
21     rendered unavailable as a result of a cybersecurity incident, would affect the reliable  
22     operation of the BES.

23  
24     Cyber Security Management involves maintenance activities that are required to sustain  
25     systems and facilities so as to maintain compliance with NERC CIP Standards.  
26     Maintenance and system support for Cyber Security includes:

- 27           • Maintaining the various Cyber Security assets (e.g. Firewalls, Intrusion Detection  
28            Systems, Malware detection systems, Physical Security systems);



- 1       • Conducting annual surveys of critical cyber assets and security perimeters;
- 2       • Managing, operating and monitoring cyber security systems (e.g. maintaining
- 3       personnel access lists, patch management, maintaining logs, updating firmware,
- 4       periodic tests);
- 5       • Tracking the life cycle of the critical cyber asset and proper disposal to ensure
- 6       proper destruction of sensitive information; and
- 7       • Conducting ongoing assessments and testing of hardware and software
- 8       components to ensure compliance. Documenting Technical Feasibility Exceptions
- 9       (TFE) as evidence for submission on devices not capable of meeting compliance.

10

11 Cyber Security requirements are constantly evolving to mitigate potential threats to the  
12 BES's operation. Compliance with NERC CIP Version 5 ("V5"), which applied to Hydro  
13 One's High and Medium voltage transmission systems, increased the cyber security  
14 sustainment program by introducing new processes and procedures, many of which must  
15 be tested at least every 15 months. Compliance with NERC CIP Version 6 ("V6")  
16 extends requirements to Hydro One's Low impact classified sites requiring both physical  
17 and electronic access controls. NERC CIP V6 brought into scope approximately 60  
18 additional facilities which were not part of the NERC CIP V5 compliance program. The  
19 proposed next generation of NERC CIP Version 7 ("V7") Standards is in the final  
20 drafting stages and includes inter-control center communication and virtualization. These  
21 standards are expected to be approved with compliance due dates in the 2019-2021  
22 timeframe.

23

24 Cyber Security expenditures fall into the following three categories as outlined in Table  
25 10 below.

1

**Table 10: Cyber Security OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Cyber Security Maintenance and Support	11.1	8.6	10.8	9.8	10.5	11.7
Cyber Security Vulnerability Assessment and Audit	0.1	0.4	1.7	0.6	0.4	0.5
Special Compliance Related Projects	10.0	10.3	2.4	4.2	4.4	3.4
<b>Total</b>	<b>21.2</b>	<b>19.2</b>	<b>14.9</b>	<b>14.6</b>	<b>15.3</b>	<b>15.6</b>

2

3 Hydro One’s overall planned expenditures for Cyber Security Management in the 2020  
 4 Test Year are \$15.6 million, which is lower compared to the 2015-2018 historical period.  
 5 This funding is required for the continued maintenance of cyber security assets,  
 6 conducting annual surveys, and managing, operating and monitoring cyber security  
 7 systems described above. Increased spending in 2015 and 2016 was a result of efforts to  
 8 achieve compliance with NERC CIP V5.

9

10 The maintenance activities to be undertaken as part of the Cyber Security Management  
 11 program will ensure that Hydro One maintains compliance with applicable NERC CIP  
 12 standards to ensure the safe and reliable operation of the transmission network. Details  
 13 for each Cyber Security Management program category are set out below.

14

**3.1.7.1 CYBER SECURITY MAINTENANCE AND SUPPORT**

15

16  
 17 This investment is used to fund the necessary maintenance and support work required to  
 18 operate, maintain, report, and monitor systems related to Hydro One’s cyber security  
 19 program. This also includes services provided by external resources. Cyber security  
 20 systems include, but are not limited to, telecom, physical security, laboratory, central site

Witness: Bruno Jesus

1 tools and remote site systems. Hydro One's technical engineering teams also perform  
2 continuous evaluation and testing of both hardware and software components to address  
3 compliance issues due to new threats or vendor initiated changes such as new features or  
4 functionality and hardware modifications. The same technical staff is responsible for  
5 producing TFE documentation which is required as evidence to the IESO in cases where  
6 technical considerations (e.g. the inherent third-party design of a device) render Hydro  
7 One incapable of meeting certain specific compliance requirements. The 2020 Test Year  
8 increases relative to the 2019 Bridge Year and the average 2015-2018 historical spending  
9 level as a result of additional maintenance and support costs to implement proposed  
10 NERC V7 standards.

### 11 12 **3.1.7.2 CYBER SECURITY VULNERABILITY ASSESSMENT AND** 13 **AUDITS**

14  
15 This investment funds annual assessments and audits. Vulnerability assessments are  
16 required by the NERC CIP program to confirm that implemented security controls have  
17 not been intentionally or unintentionally modified, as well as to ensure that Hydro One's  
18 assets continue to meet system security management requirements. Third Party resources  
19 are leveraged to evaluate Hydro One's current cyber security posture and the results of  
20 these audits are used to improve Hydro One's NERC CIP security programs and ensure  
21 Hydro One remains compliant. The 2020 Test Year expenditures are in line with the 2019  
22 Bridge Year, and are slightly lower than the average 2015-2018 historical spending levels  
23 as a result of greater use of internal resources rather than 3<sup>rd</sup> party vendors.

### 24 25 **3.1.7.3 SPECIAL COMPLIANCE RELATED PROJECTS**

26  
27 This investment provides the funding necessary for compliance related projects. Funding  
28 is in place to address NERC continuous improvement, identified outside of capital

Witness: Bruno Jesus

1 spending, that is required for Hydro One’s compliance. The program also funds work  
2 related to V6 NERC CIP standards, specifically to address Low Impact facilities as part  
3 of CIP-003-6 for Physical Security and Electronic access control. Hydro One has  
4 identified approximately sixty Low Impact facilities that must be addressed to comply  
5 with the standard. NERC revised the compliance date to December 2019. The 2020 Test  
6 Year expenditures decrease relative to the 2019 Bridge Year and the average 2015-2018  
7 historical spending level.

8  
9 **3.2 LINES**

10  
11 Hydro One’s transmission lines primarily operate at voltages of 500 kV, 230 kV and 115  
12 kV, with minor lengths operating at 345 kV. Hydro One’s transmission system consists  
13 of approximately 29,100 circuit km of overhead transmission lines located on about  
14 82,500 hectares of rights-of-way (“ROW”), and 264 circuit km of underground  
15 transmission lines.

16  
17 Overhead transmission line components include structures (primarily steel or wood) and  
18 corresponding foundations, conductors, shieldwire, insulators, lightning arrestors,  
19 hardware, switches, and grounding systems. Underground transmission line components  
20 include cables, terminations, oil pressure systems and grounding systems. The  
21 underground transmission lines are generally located in large urban centres.

22  
23 Lines Sustainment OM&A funding covers expenditures required to maintain existing  
24 overhead and underground transmission lines assets. Hydro One manages its Lines  
25 Sustainment OM&A program by dividing the program into the following three  
26 categories:

Witness: Bruno Jesus

- 1        1. Vegetation Management, which ensures that vegetation clearances to energized  
2            equipment are maintained and includes brush control, line clearing, condition  
3            patrol, property owner notifications, annual vegetation patrol, demand  
4            (unplanned) maintenance and grounds maintenance;
  
- 5
- 6        2. Overhead Lines Maintenance, which focuses on inspections and condition  
7            assessment of overhead lines components to identify defects and end of life  
8            assets, planned corrective to replace and repair minor component, as well as  
9            demand (unplanned) maintenance to respond to emergency situations; and  
10
  
- 11       3. Underground Cable Maintenance, which focuses on condition assessment through  
12           the inspection, testing, analysis and diagnostics of the main cable and ancillary  
13           equipment (accessories) used to support cable operation, and associated corrective  
14           maintenance.

15

16 Hydro One’s planned expenditures for Lines Sustainment OM&A for the 2020 Test Year,  
17 along with its forecast and actual spending levels for the Bridge and Historical years, are  
18 provided in Table 11 below broken down by the categories discussed above.

19

20

**Table 11: Lines Sustainment OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Vegetation Management	32.6	31.2	29.4	37.3	29.7	31.9
Overhead Lines Maintenance	15.9	16.4	17.3	18.9	14.0	17.2
Underground Cable Maintenance	4.1	3.8	4.8	7.6	4.1	4.4
<b>Total</b>	<b>52.6</b>	<b>51.4</b>	<b>51.5</b>	<b>63.8</b>	<b>47.7</b>	<b>53.4</b>

1 As described above, the Transmission Lines maintenance programs focus on three areas:

- 2 • Vegetation Management and right-of-way maintenance, which account for  
3 approximately 60% of the 2020 Test Year funding;
- 4 • Overhead Lines Maintenance, which accounts for approximately 30% of the 2020  
5 Test Year; and
- 6 • Underground Cable Maintenance, which accounts for approximately 10% of the  
7 2020 Test Year.

8

9 With an aging asset population and past operating and resource constraints, a  
10 considerable backlog has accumulated in various lines maintenance activities such as  
11 condition assessment and brush control maintenance. Similar to Stations maintenance  
12 programs, Hydro One had to make certain reductions and deferrals to its Lines  
13 maintenance programs in the 2019 Bridge Year in order to operate within its approved  
14 OM&A spending envelope. Through a revised preventive maintenance cycle analysis,  
15 Hydro One temporarily reduced its preventive and corrective maintenance program on  
16 overhead lines in 2019. This one-time maintenance reduction represented a managed  
17 increase in asset risk, which is not sustainable over the long term. Given that there is a  
18 backlog, which continues to accumulate, continued operation based on a level of  
19 spending consistent with the reduced 2019 OM&A budget or continued deferral of the  
20 Lines maintenance programs would ultimately give rise to unacceptable safety and  
21 reliability risks. As such, the 2020 Test Year requires an increase relative to the 2019  
22 Bridge Year, but continues to be in line with the average of 2015-2018 spending levels.

23

24 In the 2019 Test Year, vegetation management will be performed on all 230 kV and 500  
25 kV corridors. This will maintain Hydro One's compliance with NERC Standard FAC-  
26 003, Transmission Vegetation Management Reliability Standard. To mitigate the risk to  
27 system reliability, vegetation management will also be performed on 115 kV corridors in

Witness: Bruno Jesus

1 the poorest condition. Maintenance work will be reduced on all remaining 115 kV  
2 corridors to meet Hydro One's OM&A spending envelope. Work prioritization and the  
3 unplanned ROW maintenance program will be used to mitigate the risk of vegetation  
4 outages on these 115 kV corridors. In the 2020 Test Year, Hydro One expects to return to  
5 its average historical funding levels, re-establishing vegetation maintenance on 115 kV  
6 corridors connected to critical customers. Some of Hydro One's large industrial  
7 customers are only connected to the transmission system via a single supply. These  
8 customers do not have a contingent connection to Hydro One's transmission system and  
9 so any vegetation related outage will result in a customer power interruption, which  
10 might have a detrimental effect to their business operations. To maintain reliability to  
11 these customers, vegetation maintenance on 115 kV corridors connected to critical  
12 customers will be performed in 2020.

13  
14 In the 2020 Test Year, the Overhead Lines Maintenance program will see a slight  
15 increase compared to the historical period primarily to address the accumulated backlog  
16 of asset condition assessments. Condition assessments are performed on assets that have  
17 surpassed their assessment criteria. Condition assessment results will be used to identify  
18 assets that have reached end of life and require replacement. Without performing  
19 condition assessments, end of life assets will not be identified. This could eventually lead  
20 to asset failure and pose safety and reliability risks. Overhead inspections will also be  
21 completed on critical circuits located in publically accessible areas and those connected  
22 to critical customers. These inspections are used to identify transmission line components  
23 with major defects. Identified defects and any assets that reach end of life prior to  
24 condition assessment will be prioritized and mitigated through the overhead lines demand  
25 (unplanned) corrective program.

26  
27 The underground cable maintenance program focuses on condition assessments through  
28 inspection, testing, analysis, patrol and diagnostics of the main cable and ancillary

Witness: Bruno Jesus

1 equipment used to support cable operation, associated corrective maintenance and cable  
2 locates. The vast majority of Hydro One's underground cables are located in major urban  
3 centers, including the downtown areas of Toronto, Ottawa and Hamilton. The 2020 Test  
4 Year plan focuses on performing regulatory cable locates and preventive and high  
5 priority corrective maintenance on Hydro One's underground cables. Risks will be  
6 mitigated through the prioritization of non-critical planned corrective maintenance  
7 activities in conjunction with demand (unplanned) corrective program.

### 8 9 **3.2.1 VEGETATION MANAGEMENT**

10  
11 The strip of land that is occupied by a transmission line is referred to as a Right-of-Way  
12 ("ROW") or a corridor. Hydro One's in-service ROWs cover an area of approximately  
13 82,500 hectares and support Hydro One's 115 kV, 230 kV, 345 kV and 500 kV circuits.  
14 To ensure system reliability and access, Hydro One is responsible for maintaining the  
15 clearance distance between the energized equipment and the vegetation located on and  
16 adjacent to all of these ROWs.

17  
18 The Vegetation Management program is divided into seven categories. Table 12 below  
19 sets out Hydro One's planned expenditures for vegetation management in the 2020 Test  
20 Year, along with the forecast and actual spending levels for the Bridge and Historical  
21 years for each category.



1 **Table 12: Vegetation Management OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Brush Control	17.8	18.7	16.3	20.1	17.4	18.5
Line Clearing	8.4	6.2	5.9	8.7	6.2	6.6
Condition Patrol	1.7	1.6	1.7	1.3	1.3	1.4
Property Owner Notifications	1.4	1.3	1.6	2.4	1.4	1.6
Annual Vegetation Patrol	0.3	0.4	0.5	1.0	0.4	0.4
Demand Maintenance	1.5	1.3	1.3	2.0	1.3	1.4
Grounds Maintenance	1.5	1.7	2.1	1.9	1.7	2.0
<b>Total</b>	<b>32.6</b>	<b>31.2</b>	<b>29.4</b>	<b>37.3</b>	<b>29.7</b>	<b>31.9</b>

2  
 3 Hydro One’s overall planned vegetation management expenditures in the 2020 Test Year  
 4 are \$31.9 million, which is higher than the 2019 Bridge Year and in line with the 2015-  
 5 2018 historical period. The 2019 Bridge Year spending was reduced to manage  
 6 expenditures within the approved OM&A spending envelope. Hydro One will manage  
 7 the Vegetation Management Program by prioritizing maintenance on all NERC  
 8 applicable ROWs and 115 kV ROWs in the poorest condition. In the 2020 Test Year  
 9 these expenditures are expected to return to a level consistent with the historical years,  
 10 which is necessary for Hydro One to perform vegetation maintenance on 115 kV ROWs  
 11 connected to critical customers.

12  
 13 The 2020 Test Year funding level is required in order to mitigate the risk of vegetation  
 14 related outages, potential violations of NERC FAC-003 (Transmission Vegetation  
 15 Management) regulatory requirements and a decline in system reliability. Details on each  
 16 of the categories within the Vegetation Management program are set out below.

Witness: Bruno Jesus

- 1        1. Brush Control: This includes manual cutting, herbicide application and/or  
2            mechanical clearing to manage vegetation growth on the ROW to ensure adequate  
3            clearances and access to Hydro One's overhead circuits.  
4
- 5        2. Line Clearing: This consists of trimming tree branches and removing any  
6            unhealthy or danger trees on the edge of or off of the ROW that have the potential  
7            to exceed Hydro One's clearances to the overhead transmission lines. Split,  
8            hanging, uprooted, dead and diseased trees are referred to as danger trees.  
9
- 10       3. Condition Patrol: These are mid-cycle working inspections to identify and  
11           mitigate any vegetation which requires maintenance prior to the next scheduled  
12           line clearing or brush control activity. ROW condition is also recorded and used  
13           to prioritize future maintenance activities.  
14
- 15       4. Property Owner Notifications: Prior to the execution of ROW vegetation  
16           maintenance, Hydro One contacts all adjacent property owners to communicate  
17           maintenance plans, obtain approval for access onto private property and acquire  
18           permission for the use of any herbicides to be applied during maintenance. Hydro  
19           One also actively engages all other external stakeholders, such as government  
20           agencies, municipal officials and special interest groups as required.  
21
- 22       5. Annual Vegetation Patrol: NERC standard FAC-003 requires all Hydro One  
23           circuits operating at a voltage of 230 kV or greater to be inspected annually.  
24           Consequently, visual inspections by helicopter or ground are performed on all  
25           NERC applicable circuits not receiving Line Clearing or Condition Patrol  
26           maintenance in the current calendar year.

Witness: Bruno Jesus

1           6. Demand Maintenance: This work is required to address vegetation management  
2           issues that cannot wait until the next scheduled line clearing or brush control  
3           activity.

4  
5           7. Grounds Maintenance: This maintenance includes grass cutting, snow removal,  
6           garbage clean-up, and repair of access barriers and fences on Hydro One's urban  
7           ROWs, and is required to comply with local by-laws.

8

9           **3.2.2 OVERHEAD LINES MAINTENANCE**

10

11       The Overhead Lines Maintenance program is required to maintain the reliability of  
12       transmission lines, address safety issues, and ensure the economic long term viability of  
13       the overhead lines system. The program includes activities such as overhead lines  
14       inspections to identify defects, component condition assessments to identify end of life  
15       assets which will require replacement, planned corrective maintenance to replace and  
16       repair minor components, as well as demand maintenance to respond to emergency  
17       situations. The gathering of asset condition information enables Hydro One to allocate  
18       funding on a priority basis to maximize the life of the lines assets and maintain  
19       performance. The program also provides for repair or replacement of defective equipment  
20       and components.

21

22       The Overhead Lines Maintenance program is divided into three activities, as discussed  
23       below. Table 13 sets out Hydro One's planned overhead lines maintenance expenditures  
24       for the 2020 Test Year, along with its forecast and actual spending levels for the Bridge  
25       and Historical years, for each category.

1

**Table 13: Overhead Lines Maintenance OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Preventive Maintenance and Asset Assessment	6.5	8.4	9.2	8.0	6.9	9.2
Demand Maintenance	3.9	3.5	4.6	8.5	4.0	4.2
Planned Corrective Maintenance and Projects	5.4	4.6	3.6	2.4	3.1	3.7
<b>Total</b>	<b>15.9</b>	<b>16.4</b>	<b>17.3</b>	<b>18.9</b>	<b>14.0</b>	<b>17.2</b>

2

3 Hydro One’s planned expenditures in the 2019 Bridge Year are lower than the historical  
 4 years. The 2019 Bridge Year budget was reduced to manage expenditures within the  
 5 approved OM&A spending envelope. Reductions were primarily attained through i)  
 6 cyclical inspections, such as foot patrols and thermovision patrols, not being performed at  
 7 optimal cycles, and ii) component condition assessments only being performed on assets  
 8 beyond their Expected Service Life (ESL). The 2019 Bridge Year budget is not  
 9 sustainable over the long-term. The associated risks include fewer asset defects being  
 10 identified from patrol and the backlog of assets requiring assessments is expected to  
 11 increase.

12

13 Hydro One’s planned expenditures in the 2020 Test Year are slightly higher than  
 14 historical spending. Condition assessments will be performed on assets meeting their  
 15 assessment criteria. A portion of the backlog of assets requiring assessments will be  
 16 addressed at this funding level. Failure to address the backlog of condition assessments

Witness: Bruno Jesus

1 will result in end of life overhead lines components not being identified in a timely  
2 manner, jeopardizing customer supply and system reliability as these assessments directly  
3 inform capital plans. Preventive maintenance inspections also will be prioritized  
4 accordingly for critical circuits.

5  
6 Demand Maintenance is unplanned in nature and is forecasted based on historical  
7 spending. Demand maintenance expenditures in the 2020 Test Year are expected to be  
8 consistent with historical levels. Planned corrective maintenance and projects in 2020 are  
9 forecasted to be in line with historical levels in order to address a backlog of hardware  
10 defects including U-bolts, ground wire, and safety signs.

11  
12 A reduction in this program would limit Hydro One's ability to identify and repair  
13 defects, and to identify end of life assets, which would lead to a further accumulation of  
14 backlogged defects, thereby increasing the likelihood of failures, and in turn resulting in  
15 increased reliability risks and public/employee safety issues as end of life assets are not  
16 identified for replacement.

17  
18 **3.2.2.1 PREVENTIVE MAINTENANCE AND ASSET ASSESSMENT**

19  
20 The overhead lines maintenance program encompasses cyclical and non-cyclical  
21 maintenance activities. Cyclical maintenance activities include helicopter patrols and  
22 foot patrols to identify major defects on transmission line components; thermovision  
23 patrols to identify defective transmission line components using infrared camera; switch  
24 maintenance to inspect and maintain switch components; and insulator washing to  
25 address salt contamination on selected transmission structures near urban highway and  
26 road crossings.

Witness: Bruno Jesus

1 Non-cyclical activities are mainly asset condition assessments which include detailed  
2 helicopter inspection (“DHI”) to inspect structure hardware and tops of wood poles;  
3 climbing inspection to inspect structures in no-fly regions; conductor and shieldwire  
4 assessments using the Kinectrics LineVue tool typically on ACSR conductors greater  
5 than 50 years and galvanized steel shieldwires greater than 25 years of age; polymer  
6 insulator testing to detect internal conductive defects; wood pole assessments to inspect  
7 the condition of the pole typically on wood poles greater than 25 years of age; and steel  
8 structure assessments to assess the remaining protective zinc layer in heavy corrosion  
9 zones. Further information can be found in the TSP section 2.3.2.

10  
11 There is currently a significant backlog of lines assets requiring condition assessment.  
12 Currently, about 45% of wood pole structures require assessment. The planned  
13 expenditure in 2020 for asset condition assessments is required to mitigate the safety and  
14 reliability risks due to the unknown condition of transmission lines components such as  
15 U-bolt hardware, insulators, wood poles, steel structures, conductors, and shieldwires.

### 16 17 **3.2.2.2 DEMAND MAINTENANCE**

18  
19 Demand maintenance is needed to respond to emergencies and to restore power as soon  
20 as possible. This program includes activities such as unplanned data collection,  
21 emergency component repair and trouble call response. This program also addresses  
22 problems identified during line patrols that need a near term response to prevent a  
23 potential outage or to address a serious safety issue.

### 24 25 **3.2.2.3 PLANNED CORRECTIVE MAINTENANCE AND PROJECTS**

26  
27 Planned corrective maintenance and projects includes minor corrective work and  
28 technical support to resolve reliability and safety problems with transmission line assets.

Witness: Bruno Jesus

1 The planned corrective maintenance activities and projects are developed using the data  
2 collected during patrols and asset assessment activities, as well as information about  
3 equipment reliability performance.

4  
5 Planned corrective maintenance addresses multiple line components including defective  
6 ground wire connections, missing or broken safety signs and nomenclature signs and U-  
7 bolt hardware that support the insulator strings and conductors; replacement of dampers  
8 that limit vibration of conductor

### 9 10 **3.2.3 UNDERGROUND CABLE MAINTENANCE**

11  
12 Underground transmission line cable systems are typically used to link portions of the  
13 overhead network or connect substations. They are mainly used in urban areas where it  
14 is either impossible or extremely difficult to build overhead transmission lines due to  
15 urban density, legal, environmental or safety issues.

16  
17 Hydro One has approximately 264 km of in-service underground transmission line cables  
18 in its system rated at either 115 kV or 230 kV. The majority of Hydro One's underground  
19 transmission system (88%) is comprised of oil-filled cables (LPLF and HPLF), with the  
20 remainder (12%) being XLPE. For more information on underground cables, refer to TSP  
21 Section 2.2.2.2.

22  
23 Hydro One's maintenance programs are implemented to identify and repair deteriorated  
24 components as well as monitor cable health to provide insight into remaining life. Cable  
25 maintenance reduces the risk of cable equipment failure, which can seriously impact  
26 service and reliability. Deteriorated components are identified and monitored through a  
27 rigorous preventive maintenance (condition assessment) program.

Witness: Bruno Jesus

1 The underground cable maintenance program is divided into three activities: (i)  
 2 preventive maintenance, (ii) corrective maintenance and (iii) cable locates. Table 14 sets  
 3 out Hydro One’s planned underground cable maintenance expenditures for the 2020 Test  
 4 Year, along with the forecast and actual spending levels for the Bridge and Historical  
 5 years for each activity. The 2020 Test Year expenditures are lower than historical levels.  
 6 Increased 2018 corrective costs were due to a one-time \$3.1M easement related project  
 7 and associated legal charges.

8

9 **Table 14: Underground Cable Maintenance OM&A (\$ Millions)**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Preventive Maintenance	0.8	0.9	0.9	0.8	1.0	1.0
Corrective Maintenance	2.1	1.6	2.4	5.7	1.5	1.8
Cable Locates	1.2	1.3	1.6	1.1	1.5	1.6
<b>Total</b>	<b>4.1</b>	<b>3.8</b>	<b>4.8</b>	<b>7.6</b>	<b>4.0</b>	<b>4.4</b>

10

11 Preventive maintenance activities are cyclical in nature and, therefore, spending is  
 12 expected to remain in line with historical years. Corrective maintenance includes both  
 13 planned and demand work and is a function of labour, equipment and material  
 14 requirements that vary by repair. Funding is based on historical actual spending. For the  
 15 Bridge and Test years, only critical planned and demand repairs will be performed. Non-  
 16 critical planned corrective maintenance and supplemental non-routine tests to obtain  
 17 detailed condition data will be prioritized and/or deferred. While this deferral may result  
 18 in an increased number of demand failure repairs, this risk will be mitigated through the  
 19 prioritization of planned repairs. The deferral of planned corrective maintenance may  
 20 result in an increased number of demand failure repairs, which often result in lengthy  
 21 unplanned outages and costly environmental remediation. This risk will be mitigated  
 22 through the prioritization of planned repairs. Cable locates are driven by external demand

Witness: Bruno Jesus



1 and funding is based on the historical number of locate requests. Locate spending is  
2 expected to remain consistent with historical expenditures.

3  
4 A reduction in this program would limit Hydro One's ability to identify and repair  
5 defects, potentially leading to premature cable deterioration/failures and unplanned cable  
6 capital replacements. Furthermore, reduced funding would result in a greater risk of  
7 reduced reliability, lower customer satisfaction due to loss of supply and increased  
8 environmental risk associated with oil leaks. Details for each underground cable  
9 maintenance program category are set out below.

#### 10 11 **3.2.3.1 PREVENTIVE MAINTENANCE**

12  
13 Preventive maintenance reduces the likelihood of premature cable degradation and  
14 failure, delivery point interruptions and oil leaks. Preventive maintenance activities are  
15 aimed at determining cable condition and ensuring system reliability. Activities include:  
16 condition assessment patrols and routine testing/diagnostics of cables and ancillary  
17 equipment. Condition patrols and routine testing are done cyclically. Routine tasks  
18 include: vault inspections, oil tests and analysis, jacket tests, etc. Condition and test data  
19 collected by this program is used to determine the optimal timeframe for capital  
20 replacement.

#### 21 22 **3.2.3.2 CORRECTIVE MAINTENANCE**

23  
24 Corrective maintenance activities are undertaken to investigate and repair cable and  
25 ancillary equipment deficiencies with the intent of returning assets to their normal  
26 operating state. Deficiencies are typically noted during preventive maintenance condition  
27 assessments or trouble call responses. Demand corrective maintenance addresses repairs  
28 requiring immediate attention (i.e. emergencies) while planned corrective maintenance

Witness: Bruno Jesus

1 addresses deficiencies not requiring immediate repair. Corrective maintenance activities  
2 include excavating and repairing cable components; locating, repairing and clean-up of  
3 oil leaks, etc.

4  
5 In addition, supplemental non-routine tests are done on a demand basis to verify repairs  
6 and obtain detailed condition data if routine testing results show abnormalities. These  
7 non-routine tests are typically more intrusive (sometimes destructive), costly, require  
8 specialized equipment and often cannot be done with internal resources (i.e. contractors  
9 are required). This data is used to increase the confidence in cable condition information,  
10 facilitating the selection and prioritization of replacement candidates.

### 11 12 **3.2.3.3 CABLE LOCATES**

13  
14 Upon request, Hydro One is required by provincial legislation<sup>6</sup> to provide locate services  
15 for its underground infrastructure. The locate program covers the cost of field stakeouts  
16 and site representation of Hydro One's underground transmission system. This  
17 investment reduces the probability of underground transmission cable damage caused by  
18 dig-ins and the associated public safety risk.

## 19 20 **3.3 ENGINEERING AND ENVIRONMENTAL SUPPORT**

21  
22 The Engineering and Environmental Support program is in place to support a wide range  
23 of activities, including management of records and drawings, data base management and  
24 provision of specific technical information, technical support including specialized

---

<sup>6</sup> Ontario Underground Infrastructure Notification System Act, 2012, S.O. 2012, c. 4

1 studies, outage assessments conducted by the IESO, event investigation and incidents  
 2 response, and to fund the use of external technical expertise when needed.

3  
 4 This program is primarily demand driven and is driven by the level of work required to  
 5 support the transmission capital work programs. The technical support and specialized  
 6 studies are completed on an ad hoc basis to aid in the decision-making process and  
 7 justification for capital investments. Table 15 below sets out Hydro One’s planned  
 8 expenditures for this program for the 2020 Test Year, along with the forecast and actual  
 9 spending levels for the Bridge and Historical years.

10  
 11 **Table 15: Engineering and Environmental Support OM&A**

Description	Historical Years				Bridge Year	Test Year
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Engineering and Environmental Support	6.0	4.4	4	4.1	7.2	5.3
<b>Total</b>	<b>6.0</b>	<b>4.4</b>	<b>4</b>	<b>4.1</b>	<b>7.2</b>	<b>5.3</b>

12  
 13  
 14 Hydro One’s planned 2020 Test Year expenditures for the Engineering and  
 15 Environmental Support program are \$5.3 million, which is in line with the prior 5-year  
 16 average and lower than 2019 Bridge Year spending. This program is reviewed annually  
 17 to assess the level of engineering and environmental support needs and has been  
 18 decreased to a level in line with the prior 5 year average as a result of streamlining certain  
 19 design and engineering processes and reassigning teams to other departments. For  
 20 example, Computer Aided Design and Drafting support was previously part of this  
 21 program but has been moved to Information Services Division.

1 Expenditures in the 2019 Bridge Year are forecasted to be above historical levels  
2 primarily due to efforts associated with the Campbellville Pit Remediation project. This  
3 project will conclude in 2019 and funding levels will return to historical levels in 2020.  
4 Additionally, beginning in 2019 all the costs related to Maintenance Technical Services  
5 will be transferred from the Power Equipment program to the Engineering and  
6 Environmental Support program in order to provide better visibility and accurate  
7 tracking.

1 **DEVELOPMENT OM&A**

2  
3 **1. INTRODUCTION**

4  
5 Development OM&A consists of expenditures incurred by Hydro One Transmission in  
6 the course of developing required technical standards, technical approaches and solutions,  
7 and associated bodies of knowledge. These activities benefit Hydro One’s customers and  
8 are critical for Hydro One’s business success.

9  
10 Development OM&A expenditures can be categorized into the following key programs:

- 11 • Transmission Standards Program;
- 12 • Research Development and Demonstration (“RD&D”) Program; and
- 13 • Customer Power Quality (“PQ”) Program.

14  
15 This Exhibit discusses the Development OM&A investments and how the investment  
16 plan aligns with customer preferences and ensures the safe, reliable operation of the  
17 transmission system. Hydro One developed the proposed Development OM&A  
18 investment plan utilizing the planning process described in Exhibit B, Tab 1, Schedule 1,  
19 TSP Section 2.1.

20  
21 **2. VARIANCE EXPLANATION FOR DEVELOPMENT OM&A**

22  
23 Table 1 below presents the required funding for the Development OM&A in the 2020 test  
24 year, along with the actual and planned spending levels for the bridge and historical  
25 years, for each of the Development OM&A programs, as mentioned above.

1

**Table 1: Summary of Development OM&A (\$ Million)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Transmission Standards Program	2.8	5.6	2.3	6.0	1.6	2.5	2.8	2.6	3.4	3.7
Research Development and Demonstration*	3.3	7.3	2.3	7.4	3.3	2.1	2.2	2.2	2.2	2.7
Customer Power Quality Program	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.5	0.5
<b>Total Development</b>	<b>6.1</b>	<b>12.9</b>	<b>4.6</b>	<b>13.4</b>	<b>5.1</b>	<b>4.8</b>	<b>5.2</b>	<b>5.0</b>	<b>6.0</b>	<b>6.9</b>

*\* In 2016, smart-grid related studies were integrated with other technology program studies under the new Research Development and Demonstration program. For consistency, the actual and plan dollars for these programs in 2015 have been allocated under the Research Development and Demonstration program in the table above.*

2

3 The proposed Development OM&A spending for the 2020 test year represents an  
 4 increase of \$0.9 million relative to the 2019 bridge year forecast expenditures. Of this  
 5 increase, \$0.5 million is attributable to the RD&D program to assess applications and  
 6 impacts of emerging technologies, such as transmission level energy storage and grid  
 7 modernization, as well as address any transmission related initiatives arising from  
 8 innovation and policy initiatives (for example: the OEB's Advisory Committee on  
 9 Innovation, and the IESO's Innovation Roadmap and Market Renewal). The remaining  
 10 \$0.3 million is for the Transmission Standards Program to revise existing standards and  
 11 maintenance procedures to account for new equipment and technologies, and address  
 12 compliance requirements.

13

14 The 2019 bridge year forecasts expenditures represent an increase of \$0.8 million and  
 15 \$1.0 million relative to the 2018 historical year actual expenditures and the 2018 Board-  
 16 approved amount, respectively. This increase is mainly attributable to the Transmission  
 17 Standards Program, which will facilitate the review and/or revision of standards based on  
 18 an established revision cycle. There is also a slight increase to the Customer PQ program  
 19 to address increasing third party PQ audit activities and the need for advanced PQ  
 20 software.

Witness: Robert Reinmuller

1 The 2018 historical year actual expenditures represents an increase of \$0.1 million and  
2 \$0.2 relative to the 2017 actual expenditures and the 2018 Board-approved amount,  
3 respectively. This slight increase relative to the Board-approved amount is attributable to  
4 the Transmission Standards Program, representing an increase in the number of standards  
5 that were either developed, reviewed or updated.

6  
7 The 2017 historical year actual expenditure represents an increase of \$0.4 million and  
8 \$0.2 million relative to the 2016 actual expenditures and the 2017 Board-approved  
9 amount, respectively. This variance is due to an increase in the RD&D expenditures,  
10 partially offset by delays in the number of standards revised in 2017.

11  
12 Over the 2015 to 2016 period, the historical year actual expenditures decreased  
13 approximately \$1.5 million. This trend reflects a transition from the completion of multi-  
14 year programs in the area of renewable generation and smart grid, into the newly  
15 integrated RD&D program.

### 16 17 **3. TEST YEAR FORECAST**

18  
19 A summary of Hydro One's test year Development OM&A investments are described  
20 herein for each of the three programs.

#### 21 22 **3.1 TRANSMISSION STANDARDS PROGRAM**

23  
24 The Transmission Standards Program supports the planning, design, installation,  
25 operations, and maintenance of Hydro One's transmission system by maintaining,  
26 updating and/or developing new transmission technical standards for power system assets  
27 such as: stations, transformers, lines, protection and control equipment, and other  
28 transmission equipment.

Witness: Robert Reinmuller

1 Hydro One's technical standards provide a framework for consistent application of  
2 engineering principles resulting in design and maintenance approaches, which improve  
3 efficiency, maintainability and operational performance.

4  
5 Technical standards ensure clear direction and work procedures are in place to safe-guard  
6 employees and the public where electrical equipment is installed, operated and  
7 maintained. Through repeatable and consistent designs, maintenance practices are  
8 standardized and bulk purchasing is enabled, which are expected to lower total asset  
9 lifecycle costs.

10  
11 Standards also incorporate internal policies and requirements to ensure compliance with  
12 new and existing industry standards and codes. This program supports the development  
13 of standards triggered by changes to reliability standards from organizations such as the  
14 North American Electric Reliability Corporation ("NERC") and/or the Northeast Power  
15 Coordinating Council ("NPCC"), as well as any revisions to wide-scale, externally-  
16 developed industry standards such as the Transmission System Code.

17  
18 Furthermore, the Transmission Standards Program manages Hydro One's external  
19 standards subscriptions and service-level agreements with Standards Development  
20 Organizations such as the Institute of Electrical and Electronic Engineers ("IEEE"), the  
21 Canadian Standards Association ("CSA"), and the Information Handling Services  
22 ("IHS") Global standards. This function provides employees across the company with  
23 access to up-to-date industry standards and allows Hydro One to request access to  
24 additional standards that may be outside the scope of the current subscription. Hydro One  
25 strives to influence industry standards and requirements through participation in these  
26 industry standards groups.



1 A description of the Standards investments planned in 2020 as part of the Transmission  
2 Standards Program is provided below. The development and revision of these standards  
3 is based on an established revision cycle; as well as includes those necessitated by the  
4 adoption of new equipment and technologies, and to address any compliance  
5 requirements (for example: in recent years considerable effort has focused on updating  
6 standards related to critical infrastructure protection).

- 7 • Develop and revise approximately 8 functional requirement standards;
- 8 • Develop and revise approximately 74 engineering, design and construction  
9 standards;
- 10 • Develop and revise approximately 36 work processes, commissioning and  
11 maintenance procedures; and
- 12 • Subscription costs for standards issued by leading organizations in order to  
13 provide access to external standard subscriptions and external expertise to support  
14 standards development work, including review of material standards, technical  
15 support, and analysis.

16  
17 The planned Transmission Standards program expenditure for 2020 is \$3.7 million,  
18 which will ensure that a continued focus on the development and revision of technical  
19 standards is maintained in order to: (i) address scheduled updates of existing standards  
20 for lines and stations, (ii) prepare new standards that will be needed as new technologies  
21 are adopted, and (iii) comply with mandatory standards for safety and reliability.

### 22 23 **3.2 RESEARCH DEVELOPMENT AND DEMONSTRATION PROGRAM**

24  
25 The Corporate RD&D program supports Hydro One's adoption of new technologies to  
26 improve operational effectiveness, safety, and system reliability. This program addresses:  
27 (i) operational needs by resolving technical challenges experienced by Hydro One to  
28 improve the management of existing transmission facilities to deliver safe and reliable

Witness: Robert Reinmuller

1 supply to customers, (ii) strategic needs by engaging in research and demonstration of  
2 emerging technologies, and (iii) other electricity industry changes arising from  
3 innovation and policy initiatives (for example: the OEB's Advisory Committee on  
4 Innovation, and the IESO's Innovation Roadmap and Market Renewal).

5  
6 The following examples are representative of transmission related initiatives supported  
7 through the Corporate RD&D program.

8  
9 1. Overhead Transmission

10 The goal of this research is to improve safety and reliability in the operation and  
11 maintenance of transmission lines, and identify approaches to cost-effectively  
12 maintain or increase transmission capacity. This research focuses on overhead  
13 transmission line issues, including: corrosion of structures and components;  
14 lightning and grounding; line hardening; emerging designs; polymer, composite,  
15 porcelain, and glass transmission insulators; and practices for construction and  
16 maintenance.

17  
18 2. Underground Transmission

19 The goal of this research is to improve the operation and maintenance of existing  
20 underground cable facilities, and to ensure effective design and implementation of  
21 new facilities to meet anticipated system needs. This research focuses on  
22 underground cable issues, including: cable ratings; inspection technologies;  
23 thermo-mechanical performance; advanced sensing and monitoring; and buried  
24 steel pipe corrosion.

25  
26 3. Transmission Substations

27 The goal of this research is to improve the lifecycle management of substation  
28 assets, by examining issues relating to new materials; component aging; and

1 monitoring techniques for assets such as transformers, ground grids, circuit  
2 breakers, protection and control equipment.

3

4 4. Transmission Environmental Issues

5 The goal of this research is to examine a broad range of subjects including:  
6 transmission-line siting; spill prevention, containment, management and  
7 remediation; prevention of animal interactions; sensitive species protection; and  
8 selecting and managing dielectric fluids in order to inform the effective  
9 management of existing and future environmental issues.

10

11 5. Beyond Visual Line of Sight (“BVLOS”) Unmanned Aircraft Systems (“UAS”)  
12 Operations

13 The use of UASs (or drones) is currently limited to line-of-sight applications,  
14 however further value could be obtained through BVLOS operations. The goal of  
15 this research, through BVLOS pilot demonstrations, is to assess current  
16 performance and opportunities for improvement which will inform functional  
17 specifications to further the safe and effective adoption of UAS technology to  
18 improve operational performance.

19

20 6. Emerging Technology

21 The goal of this research, through collaborative demonstration projects, is to  
22 evaluate and assess the impact of emerging technologies, such as energy storage,  
23 larger scale microgrids, advanced real-time sensors and monitoring applications,  
24 and other technology applications on the transmission system, in order to inform  
25 new approaches to meet changing customer needs.

26

27 Much of this research is conducted through partnerships with industry, including the  
28 Electric Power Research Institute (“EPRI”) and the Centre for Energy Advancement

1 through Technological Innovation (“CEATI”) on a subscription basis. This participation  
2 model is a cost-effective approach that allows Hydro One to leverage joint funding with  
3 other utilities, risk sharing, and access to the broader expertise of companies with similar  
4 interests or challenges.

5  
6 The planned RD&D program expenditure for 2020 is \$2.7 million, which will allow  
7 Hydro One to continue its focus on improving the management of existing transmission  
8 facilities, and staying abreast of advances in emerging technologies that could impact  
9 Hydro One’s existing transmission business operations.

### 11 **3.3 CUSTOMER POWER QUALITY PROGRAM**

12  
13 The Customer PQ Program is designed to address the quality of delivered power which  
14 can materially impact customers’ operations and satisfaction, as reaffirmed in the  
15 Customer Engagement consultations. The exact impacts of PQ issues on customers are  
16 particular to their individual circumstances and are functions of:

- 17 1. The nature, severity and frequency of the PQ issue; and
- 18 2. The sensitivity of customer equipment or processes to PQ disturbances.

19  
20 It is in the best interests of both customers and the transmission system to improve and  
21 sustain adequate levels of compatibility in power quality. However, there are several  
22 challenges that transmission utilities face in this regard. For instance, many PQ issues are  
23 inherent in the physical nature of a transmission system such as routine switching  
24 operations that may cause voltage spikes and dips. In addition, the leading cause of PQ  
25 issues in North America is due to natural events such as lightning and other weather  
26 related causes. These types of PQ issues are difficult, cost prohibitive and/or sometimes  
27 simply impossible to address in a network-wide manner. At the same time, there are  
28 certain PQ issues faced by customers that can be mitigated on a case by case basis.

Witness: Robert Reinmuller

1 Hydro One's Customer PQ program is focused on the following four initiative streams:

- 2 1. PQ monitoring, data acquisition and reporting;
- 3 2. Event analysis, correlation and modeling;
- 4 3. Mitigation development; and
- 5 4. Improvement of customer support by streamlining the PQ response process.

6  
7 These initiative streams consist of both a proactive aspect of predicting and informing  
8 customers of potential system-specific PQ problems as well as a reactive aspect of  
9 addressing customer PQ issues on an ad hoc demand basis. These aspects combine to  
10 address the impacts of PQ disturbances by improving system PQ performance and/or  
11 improving customer resilience.

12  
13 The specific investments under the Customer PQ program include:

- 14 • Providing third party customer PQ audit;
- 15 • Enabling PQ monitoring features in both Hydro One and customer's revenue  
16 meters through the PQ meter integration initiative;
- 17 • Licensing PQ related database software;
- 18 • Enhancing the software for PQ reporting of both event-driven information and  
19 high level compliance summary; and
- 20 • Providing access to yearly archived lightning data from service provider for  
21 Hydro One lightning data system.

22  
23 The planned Customer PQ program expenditure for 2020 is \$0.5 million to address the  
24 expected demand of customer enrolments in the PQ meter integration initiative program,  
25 the expected demand in third party audit activities, and the need for more advanced PQ  
26 monitoring software. Hydro One will continue to monitor the effectiveness of this  
27 program, and adjust future program funding accordingly.

Witness: Robert Reinmuller

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# OPERATIONS OM&A

## 1. INTRODUCTION

Hydro One understands that its transmission customers value safety, reliability and a prompt outage restoration. Reductions in frequency and duration of outages are among the top needs of most Hydro One Transmission customers.

Hydro One’s Operations function manages the Hydro One transmission system in real time on a continuous basis from a centrally located control centre at the Ontario Grid Control Centre (“OGCC”); or via the Back-Up Control Centre (“BUCC”) in case the OGCC is rendered unavailable. The Operations function monitors and controls transmission assets, coordinates and schedules planned outages, reacts to system contingencies, provisions for customer notifications and reports on the performance of the transmission system. Hydro One operates its transmission system in accordance with the requirements established by the Independent Electricity System Operator (“IESO”) Market Rules, regulatory authorities such as North American Electric Reliability Corporation (“NERC”) and Northeast Power Coordinating Council (“NPCC”), and in accordance with the good utility practice.

Hydro One manages its Operations OM&A by dividing the program expenditures into the following key categories:

- Operations accounts for the staff and work activities required to ensure the safe and reliable operation of the transmission system, including the planning, scheduling and execution of transmission outages;
- Operations Support ensures that the various operating computer tools and systems are kept current and functional; and

- 1       • Environment, Health and Safety supports the environmental, health and safety  
 2           initiatives required to meet legal obligations, due diligence requirements and  
 3           Hydro One’s commitments to the safety of its employees, customers, the public  
 4           and the environment.

5  
 6       This Exhibit discusses the Operations OM&A investments and how the investment plan  
 7       aligns with customer preferences and ensures the safe, reliable operation of the  
 8       transmission system. Hydro One developed the proposed Operations OM&A investment  
 9       plan utilizing the planning process, described in Exhibit B, Tab 1, Schedule 1, TSP  
 10      Section 2.1.

11

12      **2.       VARIANCE EXPLANATION FOR OPERATIONS OM&A**

13

14      Table 1 below presents the required funding for the Operations OM&A in the 2020 test  
 15      year, along with the actual and planned spending levels for the bridge and historical years  
 16      for each of the key Operations OM&A categories, as discussed above.

17

18                              **Table 1: Summary of Operations OM&A (\$ Million)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Operations	35.5	33.1	38.2	33.4	38.4	35.9	32.5	36.1	24.5	24.8
Operations Support	22.4	22.9	23.2	23.1	21.0	23.6	19.5	24.3	20.2	22.8
Environment, Health and Safety	1.1	2.4	1.2	2.6	1.6	1.9	1.4	1.8	1.4	1.4
<b>Total Operations</b>	<b>59.0</b>	<b>58.5</b>	<b>62.5</b>	<b>59.1</b>	<b>61.1</b>	<b>61.3</b>	<b>53.4</b>	<b>62.1</b>	<b>46.1</b>	<b>48.9</b>

19

20      The proposed Operations OM&A spending for the 2020 test year is designed to reflect  
 21      Hydro One’s commitment to meet customers’ needs, manage health, safety and  
 22      environmental risks, fulfill its regulatory compliance obligations and be a reliable

Witness: Tom Irvine

1 operator of the transmission system. The 2020 test year proposed spending represents an  
2 increase of \$2.8 million relative to the 2019 bridge year forecast expenditures. The  
3 increase is necessary to reinstate the Operations Support work programs that were part of  
4 the unsustainable reductions in 2018 and 2019 as noted below. Even with this increase,  
5 the 2020 proposed level still remains below the previous Board-approved amounts.

6  
7 The 2019 bridge year forecast expenditures represents a decrease of \$7.3 million and  
8 \$16.0 million relative to the 2018 historical year actual expenditures and the 2018 Board-  
9 approved amount respectively. The decrease is largely within Operations due to the  
10 disallowance of the recovery of executive compensation through rates brought forth in  
11 Bill 2 legislation, and a decrease in expenditures resulting from the corporate costing  
12 initiative conducted by management. In comparison to the 2018 Board-approved amount,  
13 the Operations Support expenditures are also below plan due to a single year reduction  
14 made by reprioritizing and deferring certain work programs to align with the OM&A  
15 envelope in the 2019 inflation application; which is reinstated in the 2020 test year as  
16 noted above.

17  
18 The 2018 historical year actual expenditures reflects a decrease of \$7.7 million and \$8.7  
19 million relative to the 2017 historical year actual expenditures and the 2018 Board-  
20 approved amount respectively. The decrease is attributed to the Operations staff labour  
21 costs (i.e., lower pension burdens, adjustments based on average vacancy rates, and  
22 applied recoveries). There is also a decrease to Operations Support expenditures due to an  
23 adjustment in labour rates charged to the program and a one-time reduction due to a  
24 change in the payment plan schedule for the Network Management System (“NMS”)  
25 licensing and support costs.

26  
27 Over the 2015 to 2017 period, the actual expenditures have remained relatively stable  
28 with an average spending of approximately \$60 million per year. The actual expenditures

Witness: Tom Irvine



1 were on par with the Board-approved amount of spending over that period with the  
2 exception of 2016; which was slightly more than the Board-approved amount due to an  
3 increase associated with additional governance and oversight expenditures.

### 4 5 **3. TEST YEAR FORECAST**

6  
7 A summary of Hydro One's test year Operations OM&A investments are described  
8 herein for each of the key categories.

#### 9 10 **3.1 OPERATIONS**

11  
12 As described above, the Operations category of the Operations OM&A investments funds  
13 the staff and work activities required to conduct the safe and reliable operation of the  
14 transmission system. These activities include planning and scheduling of transmission  
15 outages required to execute Hydro One's maintenance and capital work programs,  
16 coordinating emergency response and monitoring system performance.

17  
18 Much of the stations and overhead lines work program and projects require transmission  
19 system outages. Executing these programs with minimal interruption to customers  
20 requires significant planning and coordination due to the complex nature of the  
21 transmission system which must take into consideration forecasted system conditions,  
22 system limits, operating constraints and stakeholder requests.

23  
24 Hydro One has implemented the Transmission System Outage Groupings ("TSOG")  
25 process to enhance outage related services, and bundle outages where appropriate, to  
26 effectively plan and better align with interconnected customers. The goal of the TSOG  
27 process is to continually communicate and engage with customers to better understand  
28 the impacts of the planned outages on their business operations and to enhance

Witness: Tom Irvine

1 Operations' ability to provide services that meet customer needs. To date, Hydro One has  
2 seen an improvement in its outage coordination that resulted in a decreased number of  
3 planned outages by over 5,300 since 2011. It also resulted in a reduction of outage  
4 cancellations. The TSOG process demonstrates operational efficiencies and improved  
5 service to customers.

6  
7 System operator competency is also critical to the reliable operation of the transmission  
8 system. Since Hydro One is a registered Transmission Owner and Operator with NERC,  
9 Hydro One's control room operators are required to be NERC certified. This Operations  
10 program funds both the NERC Training and the Hydro One Controller Trainee Program  
11 required by Hydro One.

- 12 • The NERC Training includes the NERC certification training for new hires and  
13 controller trainees, as well as the ongoing mandated requirement to provide  
14 continuing education hours annually to maintain NERC certification.
- 15  
16 • The Controller Trainee Program involves on-the-job training in the control room  
17 and in outage planning, both, are required to be successfully completed prior to  
18 the controller trainees being considered part of the shift complement.

19  
20 In 2016, the Controller Trainee Program transition from a three-year to a two-year  
21 program, while maintaining the required training standards. This has allowed for an offset  
22 to the forecast attrition rate of Operations staff and has led to a reduction in training costs.

23  
24 In order to accomplish the work plans and training requirements as outlined above, Hydro  
25 One requires \$24.8 million for the 2020 test year. This spending requirement significantly  
26 reduces previous Board-approved costs while ensuring that Hydro One maintains the  
27 resource and funding level for efficient and reliable operation of the transmission system  
28 that meets the customer's expectation.

Witness: Tom Irvine

1     **3.2     OPERATIONS SUPPORT**

2  
3     As highlighted above, Hydro One Operations relies on a number of systems and  
4     associated technical competencies, tools, and equipment to manage and operate the  
5     transmission system. The Operations Support category provides funding for maintenance  
6     and enhancements to the Operating facilities at the OGCC and BUCC, as well as  
7     services, operating systems and tools essential to the planning and execution of the  
8     outages.

9  
10    The spending requirement for Operations Support in the 2020 test year is \$22.8 million.  
11    This funding is essential to ensure the Operating facilities, systems, and tools maintain  
12    the highest level of availability commensurate with the functions they support. The  
13    required level of funding ensures the sustained real-time monitoring and control; as well  
14    as overall reliability of the transmission system and compliance with NERC Standards  
15    and IESO Market Rules.

16  
17    A detailed description of the essential services to support the day-to-day operation of the  
18    transmission system is described below:

19  
20    **Operating Power System IT Support (“PSIT Support”)**

21    This investment provides funding to maintain support for operating computer tools,  
22    systems and hardware as it relates to the operation of Hydro One transmission assets. The  
23    PSIT Support program ensures continuity and availability of systems through required  
24    support, maintaining the viability of systems for operational response, dispatch,  
25    communication, and outage planning.

26  
27    The primary and critical operating systems maintained as part of PSIT Support are as  
28    follows: the Network Management System (“NMS”), the Network Outage Management

1 System (“NOMS”), the Utility Work Protection Code (“UWPC”), and the Electronic  
2 Log. Typical services include asset lifecycle management, systems performance  
3 monitoring, configuration and release management, system operating, capacity planning,  
4 minor modifications and enhancements.

5  
6 Additionally, this program will also support and maintain synchrophasor technology.  
7 Synchrophasor measurement units were installed for demonstration purposes under  
8 Hydro One’s Research Development and Demonstration program, and will have a  
9 broader deployment within Operations starting in 2019. The synchrophasor technology  
10 improves the monitoring and management capabilities of the transmission grid, provides  
11 for better power quality management of the Hydro One system, and minimizes customer  
12 and inertia disturbance.

13  
14 The cost for Operating PSIT Support in the 2020 test year is \$15.8 million. Given the  
15 critical nature of PSIT Support, reductions to this program would necessitate major  
16 reductions in support staff; leaving critical applications unsupported and would result in  
17 the expiration of software licenses and vendor maintenance contracts. A prolonged  
18 disruption to critical systems supported under this program (i.e., NMS and NOMS) would  
19 catastrophically impact the reliable operation of the transmission system.

20  
21 **Field Switching – Stations and Lines**

22 Many elements of the transmission system cannot be remotely controlled. In order to  
23 fully execute its accountabilities related to the provision of safe working conditions and  
24 reliable operations, Hydro One Operations directs staff in the field to carry out required  
25 manual field switching activities for planned outages. The Field Switching program also  
26 funds responses to unplanned outages and third party requests.

Witness: Tom Irvine

1 The costs for Field Switching activities in the 2020 test year are \$4.9 million. This is a  
2 reduction of approximately 10% from previous Board-approved amounts due to the  
3 implementation of the TSOG process and outage bundling processes that reduces the  
4 number of transmission planned outages required, discussed above in Section 3.1. Any  
5 further funding reductions in test year funding for field switching activities will cause  
6 longer outage durations (planned and unplanned) resulting in negative impacts on  
7 customers, their businesses and completion of the annual work program.

8  
9 **Integrated Voice Communications and Telephony System (“IVCT”) Support**

10 This investment funds the maintenance program for the control room IVCT system and  
11 provides for essential expert telecommunications support. The integrated voice system is  
12 Hydro One Operations’ method of communicating with customers, field crews and other  
13 authorities (i.e., IESO) involved in the management and operation of the transmission  
14 system. The IVCT system provides integrated access and intelligent call routing  
15 incorporating multiple technologies (i.e., interactive voice response technology, rolodex,  
16 intercom, voice messaging, and conference bridge functions) to provide efficient  
17 management of thousands of control room calls each day. Supplemental support for  
18 emergency satellite communications and the Provincial Mobile Radio System is also  
19 provisioned under this program.

20  
21 The cost for Voice Communications System Support and Maintenance in the 2020 test  
22 year is \$0.7 million, representing over a 20% reduction from the previous Board-  
23 approved amounts due to savings realized in contract renewals.

24  
25 **Other Miscellaneous Operations Support Programs**

26 Other miscellaneous Operations Support programs encompass a variety of initiatives  
27 required to support the Hydro One Operations function, including:

- 1       • Operating Diagram Maintenance is paramount to the safe and reliable operation  
2       of the transmission system. Operating diagrams show the interconnectivity of  
3       transmission system elements and the devices that isolate them from the system  
4       and are used for real time operation and control. The development and  
5       sustainment work programs undertaken by Hydro One result in numerous changes  
6       to the transmission system each year. The Operating Diagram Maintenance  
7       program ensures that these changes to the transmission system are reflected on the  
8       operating diagrams accurately and in a timely fashion. The cost for Operating  
9       Diagram Maintenance in the 2020 test year is \$0.4 million.
- 10
- 11       • Emergency Preparedness is required to ensure the Hydro One Emergency  
12       Response Implementation Procedures (“ERIP”) are updated annually and to  
13       ensure emergency communications and backup generator testing is completed.  
14       This program ensures all emergency preparedness regulatory requirements (i.e.,  
15       IESO Market Rules, NERC, etc.) are properly managed and documented as  
16       prescribed. The cost for this investment in the 2020 test year is \$0.1 million.
- 17
- 18       • Field Verification is required for equipment and print verification to facilitate  
19       incident reporting and to ensure diagrams are adequately maintained. Accurate  
20       and up-to-date diagrams are important to ensure employee and public safety, and  
21       for the administration of the UWPC. The cost for this investment in the 2020 test  
22       year is \$0.2 million.
- 23
- 24       • Major Tools Assessment is a new program designed to perform a comprehensive  
25       review of major grid network tools (i.e., NMS) in order to determine the best  
26       approach for future upgrades based on industry best practices. The cost for this  
27       investment in the 2020 test year is \$0.1 million.

- 1       • ARCOS Resource Management Optimization is a new program that will improve  
2       Operating’s ability to restore customers during unplanned outages. This program  
3       is reflective of feedback from customers that identified “number of unplanned  
4       outages” as a key area of improvement. Operating understands it cannot change  
5       adverse weather; however, it is important to adopt measures that allow Hydro One  
6       to be more responsive when these events happen. By automating the resource  
7       transition between daily operations and emergency scenarios, this tool will enable  
8       Operating to respond to adverse weather and restore power to customers quicker.  
9       The cost for this investment in the 2020 test year is \$0.5 million.

10

11       The total costs of miscellaneous Operations Support programs are \$1.3 million in the  
12       2020 test year. This includes sustained program reductions of approximately \$1.0 million  
13       from the previous Board-approved amounts as a result of initiatives that have eliminated  
14       the need for both Load Transfer Studies and Level II Inspection investments; as well as  
15       the re-assessment and elimination of the Customer Event Investigations investment.

16

17       **3.3     ENVIRONMENT, HEALTH & SAFETY**

18

19       The Environment, Health and Safety program funds health and safety initiatives that are  
20       required to meet legal obligations, due diligence requirements and to align with Hydro  
21       One’s commitments to the safety of its employees, its customers, the public and the  
22       environment.

23

24       These Environment, Health and Safety initiatives support Hydro One corporate Health  
25       and Safety Policy, Environment Policy and Public Safety Policy and include the  
26       following programs and initiatives.

1 **Environment Programs** – These programs support sustainability, biodiversity and  
2 heritage resource management in support of Hydro One’s Environment Policy, and  
3 include:

- 4 • Sustainability – To promote environmental sustainability and to provide support  
5 managing risks associated with environmental impacts and climate change. In  
6 addition this program supports Hydro One’s commitments to the Canadian  
7 Electricity Association Sustainable Electricity Company designation.  
8
- 9 • Biodiversity – To ensure compliance with revised Federal and Provincial  
10 regulations that require protection of migratory birds, endangered species, and  
11 protection of their habitat. This involves development of special treatment  
12 requirements for areas containing migratory birds and endangered species. It also  
13 involves developing and implementing a system to relay these requirements to  
14 staff responsible for developing work programs.  
15
- 16 • Heritage Resource Management – To ensure compliance with heritage legislation.  
17 This program is used to support studies, prepare policy and documentation to  
18 manage Hydro One’s heritage assets (including which surplus properties should  
19 be demolished, re-purposed or sold) in accordance with the legislation.  
20

21 **Safety Programs** – These programs support both Hydro One’s Health and Safety Policy,  
22 and Public Safety Policy, and include:

- 23 • Safety Culture – This element supports Hydro One’s Journey to Zero initiative  
24 which in part leverages the results of a safety system evaluation. This evaluation  
25 assists Hydro One in understanding the progress being made towards its goal of  
26 achieving world class safety performance and allows Hydro One to compare its  
27 health and safety beliefs to those of world class companies.

Witness: Tom Irvine



- 1       • Public Electrical Safety – This element supports public safety education programs  
2       such as the delivery of Hazard Hamlet electrical safety presentations to  
3       elementary school children across Hydro One’s service territory. It also supports  
4       presentations to community events, fairs and the International Plowing Match.  
5
- 6       • Employee Health and Safety – This element utilizes external consultants to carry  
7       out specific employee occupational hygiene monitoring such as: indoor air  
8       quality, electromagnetic field frequency, noise surveys and assessment of  
9       employee exposures to physical, chemical and biological agents.  
10
- 11       • Health, Safety and Environment Contractor Pre-Qualification – This element  
12       ensures that comprehensive reviews of all contractor health, safety and  
13       environment requirements to ensure all contractors hired by Hydro One are  
14       qualified to carry out work for the company.  
15
- 16       • Health, Safety and Environment Management System (“HSEMS”) – This  
17       element supports the use of external consultants to carry out maintenance audits to  
18       ensure Hydro One’s HSEMS is meeting the Occupational Health and Safety  
19       Assessment Series (“OHSAS”) standard. It also is used to maintain registration  
20       for Hydro One’s HSEMS.  
21

22       **Training Programs** – These programs support Hydro One’s Health and Safety Policy  
23       and include:

- 24       • Employee Health and Safety Learning – This element ensures employee  
25       competence and education on safe work practices. The E-learning modules  
26       continue to be developed and refreshed to enable employees to be trained  
27       remotely and to allow timely and immediate delivery of required training while  
28       reducing training delivery costs. Hydro One is also in the process of evaluating

1 new training media/approaches (i.e. web casting, video streaming, mobile  
2 learning, simulation and knowledge transfer technologies) to improve  
3 effectiveness of trades training and to ensure future skilled labour for the  
4 maintenance and operation of Hydro One assets by obtaining the technical  
5 knowledge of senior staff and facilitating the knowledge transfer through  
6 alternative training technologies.

7

8 • Specialized Training – This element allows engaging of specialized training  
9 organizations (i.e. Ice and Water Rescue, Human Success) to ensure that Hydro  
10 One employees have the correct training to perform their work.

11

12 • Training Lab Installation/Maintenance – This element supports the establishment  
13 of training labs and the ongoing need to ensure the most current technology for  
14 training is available.

15

16 The total cost of these Environment, Health and Safety programs is \$1.4 million in the  
17 2020 test year; which is consistent with the 2019 forecast and the average actual spend  
18 over the 2015 to 2018 period.

1                   **CUSTOMER CARE & CORPORATE AFFAIRS OM&A**

2  
3           **1.       OVERVIEW**

4  
5       Hydro One’s Customer Care and Corporate Affairs department carries out customer-  
6       facing activities that serve the needs of its transmission customers. The department  
7       focuses on positively influencing customer relationships and providing transparent,  
8       responsive, and cost conscious service to Hydro One’s largest customers and associated  
9       local communities.

10  
11       Work activities undertaken by the Customer Care and Corporate Affairs Department  
12       include Customer Care and Corporate Affairs (which includes Indigenous Relations,  
13       Corporate Communications, and External Relations). More specifically, the Large  
14       Customer Account Management Group provides customers with a single point of contact  
15       at Hydro One. This group communicates with customers on matters that include  
16       customer connection requests, sustainment and system development plans and projects,  
17       and concerns regarding service levels or power quality. Table 1 summarizes Customer  
18       Care costs and Table 2 shows the amounts directly attributable to the Corporate Affairs  
19       and Outsourcing functions.

1

2

**Table 1: Customer Care OM&A (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Customer Care	5.1	5.5	4.5	5.5	8.5	4.0	11.0	3.9	7.3	7.5
<b>Total</b>	5.1	5.5	4.5	5.5	8.5	4.0	11.0	3.9	7.3	7.5
<b>Change Year Over Year</b>			-12.4%		89.4%		29.4%		-30.0%	2.9%
<b>Variance to Plan</b>	(0.4)		(1.0)		4.5		7.1		(0.2)	

3

**Table 2: Corporate Affairs and Outsourcing OM&A (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Corporate Affairs <sup>1</sup>	6.1	4.2	7.1	4.2	3.5	8.0	4.2	8.1	5.0	5.0
Outsourcing	1.6	1.7	0.5	1.7	0.6	0.7	0.4	1.8	0.3	0.3
<b>Total</b>	7.7	5.9	7.6	5.9	4.1	8.7	4.6	9.9	5.3	5.3
<b>Change Year Over Year</b>			-1.3%		-46.1%		12.2%		8.2%	0.0%
<b>Variance to Plan</b>	1.8		1.7		(4.6)		(5.3)		-	

<sup>4</sup> <sup>1</sup> These costs are classified as a common service and are described in the Corporate Common Functions and Services

<sup>5</sup> (Exhibit F, Tab 2, Schedule 2, Table 2 "Corporate Affairs and Outsourcing Services" line item.

1 **1.1 CUSTOMER CARE**

2  
3 The Customer Care team provides a range of services to transmission customers,  
4 including: responding to customer inquiries, account executives, meter data aggregation,  
5 billing, and settlement activities.

6  
7 Hydro One's dedicated account executives are the single point of contact for large  
8 customers, acting as their advocate and providing education on issues that matter.  
9 Account Executives meet with transmission customers on a regular basis to ensure that  
10 the needs of those customers are identified and discussed, and that action plans are  
11 developed to address these needs. Hydro One's Account Executives proactively and  
12 directly engage with transmission customers to review and coordinate plans for the  
13 company's assets in order to minimize impacts on customers and optimize opportunities  
14 for both Hydro One and its customers to plan and execute work on their respective  
15 facilities.

16  
17 The billing and settlements functions ensure the integrity of financial transactions  
18 between Hydro One, the Independent Electricity System Operator ("IESO"), and  
19 applicable transmission-connected customers. Settlement activities include: calculating  
20 gross load-billed quantities at specific delivery points; reviewing and approving  
21 transmission totalization tables; reviewing and approving IESO transmission delivery  
22 point site registration reports and meter connectivity; reconciling transmission delivery  
23 point quantities and charges; and identifying anomalies and exceptions in metering data  
24 used by the IESO to bill Hydro One Transmission-connected customers.

Witness: Spencer Gill

1    **1.2    INDIGENOUS RELATIONS**

2  
3    Hydro One is committed to developing and maintaining positive relationships with First  
4    Nations and Métis communities and customers across Ontario. Hydro One recognizes the  
5    unique rights and interests of Aboriginal peoples in Canada and seeks to work with First  
6    Nations and Métis communities in Ontario in the spirit of collaboration, mutual respect  
7    and trust, and shared responsibility.

8  
9    Hydro One serves 88 First Nations communities representing close to 22,000 distribution  
10   system customers. While Indigenous communities (First Nations communities and Métis  
11   Councils) in Ontario are not directly connected to the transmission system, Hydro One's  
12   transmission business may impact these communities in other ways. In particular:

- 13       • Hydro One's transmission assets are located on the reserve lands of 23 First  
14       Nations communities and within the traditional territories of Indigenous  
15       communities;
- 16       • Hydro One has large projects that cross or may impact First Nations communities  
17       such as the Niagara Reinforcement Project; and
- 18       • Hydro One's business partnerships with First Nations communities.

19  
20   Hydro One is committed to developing and maintaining relationships with Indigenous  
21   communities and adapting its business practices in response to evolving industry best  
22   practices and legal rights of Indigenous communities and individuals.

1 Exhibit A, Tab 7, Schedule 2 details Hydro One's First Nations Engagement Strategy and  
2 outlines:

- 3 • Hydro One's ongoing efforts to engage with Indigenous communities;
- 4 • The needs and preferences that have been identified through those activities as  
5 they relate to Hydro One's transmission system; and
- 6 • The steps Hydro One has taken to address those needs and preferences.

7  
8 The exhibit also describes the Hydro One's overall approach to Indigenous relations and  
9 highlights areas where its transmission business affects Indigenous communities. To a  
10 certain extent, the information in the exhibit reflects the fact that Hydro One also has a  
11 relationship with Indigenous communities and people as distribution customers and that  
12 distribution system issues naturally arise during engagement sessions with Indigenous  
13 communities.

14  
15 Additional information can be found within the Common Corporate Functions Exhibit F,  
16 Tab 2, Schedule 2.

### 17 18 **1.3 CORPORATE AFFAIRS**

#### 19 20 **1.3.1 CORPORATE COMMUNICATIONS**

21  
22 The Corporate Communications function develops customer communication material to  
23 ensure transmission customers are aware of all items that may affect their service,  
24 including: upgrades, planned power outages, and power quality. The team is also  
25 accountable for customer education, media relations, and web communications for Hydro  
26 One's corporate website. Additional information can be found within the Common  
27 Corporate Functions Exhibit F, Tab 2, Schedule 2.

Witness: Spencer Gill

1        **1.3.2    EXTERNAL RELATIONS**

2

3        The External Relations function manages the company’s relationship with key external  
4        stakeholders, such as the government, Ministry of Environment, energy regulators,  
5        elected officials, municipal associations, industry associations, and energy sector  
6        stakeholders, in order to address customer needs. The team is responsible for providing  
7        various lines of business with public affairs and community relations advice during the  
8        environmental, legal and regulatory approvals phases of transmission projects to ensure  
9        requirements are met and public consultations are conducted. The team leads public  
10       consultation, environmental assessments, and community engagement functions in  
11       support of new transmission projects and programs. Additional information can be found  
12       within the Common Corporate Functions Exhibit F, Tab 2, Schedule 2.

13

14       **2.        VARIANCE EXPLANATIONS**

15

16       **2.1       HISTORICAL TRENDS**

17

18       In an effort to improve customer service, considerable focus has been placed on a  
19       renewed commitment to customer advocacy and operational excellence. Of importance  
20       are processes and practices that need to be customer centric, which are: transparency,  
21       responsiveness, and being cost conscious. Customers also expect Hydro One to keep  
22       commitments and be responsive to the needs of their business. As a result of this  
23       increased effort, Customer Care Operations, Maintenance & Administration (“OM&A”)  
24       costs have increased from 2015 to 2018, from \$5.1 to \$11 million per annum respectively  
25       (as outlined in Table 1).



1 Relative to the 2019 bridge year forecast, Hydro One proposes to spend \$0.2 million  
2 more in Customer Care OM&A in the 2020 test year. The department is committed to  
3 striking a balance between improved customer service while maintaining operational  
4 expenditures. As such, OM&A cost levels will remain relatively constant over this  
5 period.

6  
7 Forecast costs in the 2019 bridge year are \$3.7 million lower than 2018 actuals primarily  
8 due to improved organizational alignment and increased focus on productivity and cost  
9 containment.

10  
11 Over the 2015 to 2018 period, Customer Care OM&A expenditures trended upwards  
12 mainly due to the increased focus on large transmission customers, as well as increased  
13 costs related to detailed customer surveys which were centralized and included in this  
14 category level.

15  
16 Corporate Affairs and Outsourcing costs have trended down over the 2015 to 2018  
17 period, and OM&A forecasted expenses over the 2019 and 2020 period are flat and both  
18 lower than 2018 actual amounts, as outlined in Table 2.

19  
20 **2.2 TEST YEAR FORECAST**

21  
22 Hydro One understands that its customers have differing needs and preferences. The  
23 results of the 2018 Transmission Customer Engagement Survey, which are provided in  
24 the Transmission System Plan at Exhibit B, Tab 1, Schedule 1 (“TSP”) at Section 1.3.1,  
25 demonstrate that customer priorities are as follows: safety, reliability and outage  
26 restoration, followed by power quality, customer service, productivity and environmental

Witness: Spencer Gill

1 stewardship. Several transmission customers also suggested that Hydro One could  
2 improve in the areas of customer service, reliability, and infrastructure.

3  
4 In an effort to create a single, cohesive view to large customers, Hydro One undertook an  
5 effort to provide dedicated account executives who act as a “single point of contact” for  
6 transmission customers, participate at large customer conferences, and who are focused  
7 on planning meetings with customers, various oversight committees, and working groups.  
8 The feedback from these ongoing efforts aligns with the outcomes articulated in Hydro  
9 One’s 2017 Customer Engagement Survey.

10  
11 Recent survey results also identified areas where customers are seeking improvements, as  
12 outlined in the Identifying Customer Needs Exhibit A, Tab 7, Schedule 1. This includes  
13 improved communications, transparency, and streamlines partnering process.

14 The department is also committed to striking a balance by delivering improved customer  
15 service while maintaining operational expenditure. As such, OM&A cost levels will  
16 remain relatively constant over the 2019 to 2020 period.

17  
18 **3. CUSTOMER OUTCOMES**

19  
20 Customer Care and Corporate Affairs allow Hydro One to address customer needs (as  
21 outlined in Exhibit A, Tab 7, Schedule 1), improve the service provided to large  
22 customers, and ensure customer requests are completed in a timely manner. Hydro One  
23 will monitor several key measures, including overall customer satisfaction (as described  
24 in the Performance Measurement for Continuous Improvement at TSP Section 1.5).

25 The overall customer satisfaction measure reflects the overall satisfaction levels of three  
26 major transmission customer segments (Transmission End Users, Local Distribution

Witness: Spencer Gill

1 Companies (“LDC”s) and Transmission-Connected Customer Generators). Hydro One is  
2 committed to providing consistently high levels of customer satisfaction for all customer  
3 segments. Considerable focus will be placed on a renewed commitment to exceeding  
4 customers’ expectations and to operational excellence. Hydro One's average performance  
5 over the past five years (2014 to 2018) was 84 per cent. Over the term of the Application,  
6 Hydro One plans to exceed its historical average, targeting 88 per cent overall customer  
7 satisfaction (as outlined in the Hydro One Proposed Transmission Scorecard at TSP  
8 Section 1.5).

**O&M WORK EXECUTION STRATEGY**

**1. BACKGROUND**

Every year, Hydro One aims to complete its annual operations and maintenance (O&M) work program - a series of programs for which expenditures will be incurred in that calendar year. The company’s O&M work execution strategy is aligned with the business objectives described in the TSP and is focused on ensuring that Hydro One maintains system reliability, addresses customer needs and meets regulatory requirements while planning and executing the work efficiently and ensuring a safe environment for workers and customers. Hydro One’s transmission O&M work is comprised primarily of preventive, corrective and program-specific maintenance work conducted in the stations and lines categories. The O&M work is described, for the most part, in Exhibit F-01-03 and also in Exhibits F-01-04 and F-01-05.

This Exhibit describes the parameters within which Hydro One operates its O&M work program, explains the company’s work execution strategy and describes the main productivity savings Hydro One intends to achieve during the test years. While section 1.6 of the TSP identifies total O&M productivity savings forecast over the test period, this Exhibit identifies a subset of O&M productivity savings that will be achieved during the execution of the company’s O&M work plan, primarily by the company’s Field Operations group.<sup>1</sup> These savings will be achieved in large part by increasing labour

---

<sup>1</sup> Some productivity placeholder savings identified herein may be attributed to System Operations and are characterized as such in the narrative

1 productivity, improving planning, better inventory management and by leveraging  
2 technology, as further described below.

## 3 4 **2. WORK EXECUTION PARAMETERS**

5  
6 Hydro One must execute its O&M program within certain pre-existing parameters  
7 including: (i) staff resources; (ii) outage scheduling; and (iii) compliance requirements.  
8 Hydro One's proposed approach to each of these parameters is described below.

### 9 10 **2.1 O&M WORKFORCE**

11  
12 Hydro One relies on the expertise of its skilled labour force to complete its O&M work  
13 program. Demand for specialized labourers, attrition and the size of the proposed capital  
14 work plan are factors Hydro One is considering as it plans to resource its O&M  
15 workforce during the test years.

16  
17 As discussed in Exhibit F-04-01, Hydro One is taking steps to attract, motivate, engage  
18 and retain a skilled and high-performing O&M workforce. The company hires graduate  
19 trainees through its on-campus recruitment program, recruits into its trades  
20 apprenticeship and technical training programs and has partnered with a number of  
21 colleges and universities, where it supports power system engineering programs. Hydro  
22 One also supports the University and College Co-Op Education Program and has  
23 structured in-house apprenticeship programs which allow it to develop the skills of its  
24 existing workforce.

25  
26 The company utilizes a variety of labour resources, including regular, temporary, PWU  
27 hiring hall, casual construction and contract staff. Hydro One also realizes economies of  
28 scale and efficiencies by integrating its transmission and distribution workforces.

Witness: Andrew Spencer

1 Through a combination of recruitment, skills development, training and diversification,  
2 Hydro One's workforce will be able to accomplish the planned work program.

3  
4 Hydro One will be managing its workforce to be consistent with fluctuations to its O&M  
5 work program over the duration of the test period.

## 6 7 **2.2 PLANNED EQUIPMENT OUTAGES**

8  
9 Approximately 70 percent of Hydro One's O&M work requires outages to transmission  
10 system equipment. Completing the maintenance program without interruptions to  
11 customers requires significant planning and coordination. This is a key factor for Hydro  
12 One since customers served by Hydro One's transmission system include large industrial  
13 end users, which depend on a reliable energy supply and high power quality to support  
14 their facilities and industrial processes, as well as the owners and operators of local  
15 distribution systems that in turn serve other end-users across Ontario ("the province"). As  
16 well, Hydro One's transmission system is a critical asset for the province, with a  
17 particularly high level of criticality for certain areas and facilities, such that significant  
18 and far-reaching impacts are likely to result from outages. As a result, scheduling of  
19 outages must consider forecasted bulk electrical system conditions, equipment limits,  
20 system limits, operating constraints and stakeholder requests. As discussed in section  
21 1.3.1 of the TSP, the Transmission System Outage Groupings ("TSOG") process  
22 enhances outage related services, plans farther out and has improved its coordination with  
23 interconnected customers. Longer term certainty and visibility of outage requests will  
24 improve coordination among Hydro One lines of business and result in enhanced  
25 efficiencies. A greater emphasis is given to contingency plans and system reliability,  
26 which benefit transmission customers.

Witness: Andrew Spencer

1    **2.3    COMPLIANCE**

2  
3    Hydro One is subject to applicable transmission rules and regulations imposed by a  
4    number of regulatory and government bodies including the North American Electric  
5    Corporation (“NERC”), the Northeast Power Coordinating Council (“NPCC”), the  
6    Independent Electricity System Operator (“IESO”), the Ontario Energy Board (“OEB”),  
7    the National Energy Board (“NEB”), Technical Standards and Safety Authority – Ontario  
8    (“TSSA”) and various Ontario government ministries. Many of these bodies have the  
9    authority to impose penalties for non-compliance. In some instances, penalties can be  
10   significant. Hydro One operates in a compliant manner and works to balance these  
11   requirements with the efficient scheduling and execution of the work program.

12  
13   **3.       PRODUCTIVITY AND EFFICIENCY IMPROVEMENTS**

14  
15   Hydro One’s aim is to execute its annual O&M work strategy at a lower cost relative to  
16   historical costs through improved productivity. Hydro One’s Operations group has  
17   productivity placeholder savings of almost \$6 million for each of the test years. Below  
18   (in Table 1) are some examples of O&M productivity improvement initiatives that Hydro  
19   One will achieve throughout the test period as it executes its O&M work plan. These  
20   represent a subset of the OM&A productivity savings listed in TSP Section 1.6.

21  
22   In an effort to realize productivities, the company is optimizing: (i) the manner in which  
23   it uses and deploys its workforce; (ii) the skills and performance of its employees; (iii) its  
24   planning, scheduling and reporting processes; (iv) the management of its equipment  
25   inventory; and (v) its use of technology. Each of these initiatives are further described  
26   below.

1

**Table 1: O&M Productivity Placeholder Savings (\$ millions)**

	O&M			
	2019 Bridge Year	2020 Test Year	2021 Test Year	2022 Test Year
Outsourcing Grounds and Sites (section 3.1.1)	0.3	0.3	0.3	0.3
In-house Retorques on Light Vehicles (section 3.1.2)	0.1	0.1	0.1	0.1
Over-time Reductions (section 3.1.3)	0.5	0.5	0.5	0.5
Wrench Time Studies (section 3.1.4)	2.3	2.3	2.3	2.3
Temporary Work Headquarters (section 3.1.5)	0.2	0.2	0.2	0.2
Scheduling Tool (section 3.2)	0.4	0.4	0.4	0.4
Use of Recondition oil (section 3.3.3)	0.5	0.5	0.5	0.5
Transmission Brush Control (section 3.4.2.2)	1.3	1.2	2.7	1.2
Other	0.0	0.0	0.0	0.0
<b>Total</b>	<b>5.5</b>	<b>5.5</b>	<b>6.9</b>	<b>5.4</b>

2

3

**3.1 LABOUR PRODUCTIVITY AND SKILL OPTIMIZATION**

4

5

**3.1.1 WORKFORCE MANAGEMENT**

6

7

8

9

10

11

12

Hydro One manages its workforce to identify the appropriate balance of regular and non-regular staff to complete work plan programs. Hydro One’s non-regular staff contingent provides the company with the flexibility to staff according to its work levels rather than work around staffing levels. Hydro One is developing resourcing models to identify opportunities to effectively outsource certain work. For example, it will continue to enter into and rely on contracts for External Purchased Services for times of peak work.

Witness: Andrew Spencer



1 In addition, Hydro One looks for opportunities for efficiencies. One such area includes  
2 the transmission grounds and sites work within transmission stations where  
3 approximately 20 percent is outsourced to Brookfield Global Integrated Solutions.

4  
5 O&M savings for the Transmission business are budgeted at \$0.3 million per year for  
6 each of the test years.

7  
8 As discussed in section 2.2 above, Hydro One is taking steps to attract, motivate, engage  
9 and retain a highly skilled and high performing O&M workforce, particularly its  
10 specialized resources who work in transmission stations so it can execute its O&M work  
11 plan. To ensure a consistent pipeline of qualified resources Hydro One regularly draws  
12 from the Hiring Hall and develops apprentices. The company will continue to use this  
13 resource pool when a skill set is required on temporary basis, such as completing the  
14 requirement for PCB Retrofill and Testing over the next five years. By doing this, Hydro  
15 One is taking a prudent approach to completing a temporary requirement that will drop  
16 off by 2025.

17  
18 Staff will continue to be hired and developed at the required rate in the critical core trades  
19 and professional groups with consideration to the period of training (three to five years)  
20 required for them to be effective.

### 21 22 **3.1.2 OPTIMIZING SKILL SETS**

23  
24 Hydro One is looking at optimizing skill levels and developing employees in all areas of  
25 the company. This will promote the “one company, one team” culture and empower staff  
26 to work more efficiently and reduce costs.

1 Hydro One is focusing on improving the business acumen of its field management and  
2 supervision groups through training and the provision of a new reporting tool.  
3 Leveraging enhanced information and analytical tools will allow field managers to  
4 improve their decision making in the areas of overtime and administration costs as well  
5 as crew size, supervision, training time, “windshield time”, fleet utilization and facilities  
6 utilization at a field level. As a result, field managers will play a more active role in  
7 lowering costs in the field. For example, wrench time studies completed in 2016 and  
8 2017 resulted in a number of recommended action items to reduce idle time and increase  
9 productivity. Hydro One and a third party consultant are in the process of implementing  
10 these action items. The results of these efforts are built into the business plan and will  
11 result in productivity as further described in section 3.1.4 below.

12  
13 Internal training packages have been enhanced to target productivity improvements and  
14 facilitate long term employee development. This reduces the cost of hiring externally. For  
15 example:

- 16 • Straddle Hoist Usage: to reduce costs at the company’s Central Maintenance  
17 Services shop, Hydro One trained employees to drive tractor trailers and  
18 purchased a Gantry Crane to move equipment in the yard. O&M savings to the  
19 transmission business are budgeted at approximately \$0.1 million per year for  
20 each year of the test period; and
- 21 • In-house Retorques on Light Vehicles: to reduce costs on light vehicle  
22 maintenance, Hydro One re-torques lug nuts in-house as part of the regular  
23 vehicle inspection process instead of outsourcing the work at a higher rate. This  
24 increases wrench time and fleet savings, and the resultant O&M savings to the  
25 transmission business are budgeted at approximately \$0.1 million per year for  
26 each year of the test period.

Witness: Andrew Spencer

1       **3.1.3 OVERTIME SPEND AND CORRECTIVE MAINTENANCE**  
2               **REDUCTIONS**

3  
4 Overtime spend will be reduced during the test period by tightening controls and  
5 implementing stringent approval methods. A significant driver of overtime spend is high  
6 priority demand corrective maintenance. Hydro One will reduce its maintenance and  
7 associated overtime costs resulting in budgeted O&M savings of \$0.5 million per year for  
8 each year of the test period. Other steps that will help reduce overtime spend include the  
9 new planning and scheduling tool (Section 3.2), the replacement of assets in poor  
10 condition through the sustainment capital program, reviews of trouble calls performed on  
11 overtime and collaboration with customers regarding optimal scheduling times.

12  
13       **3.1.4 WRENCH TIME STUDIES**

14  
15 Hydro One conducted wrench time studies in 2016 and 2017 which analysed specific  
16 work tasks performed on the same equipment across all zones. The analysis identified  
17 best practises used by the most efficient crews and the studies recommended specific  
18 action items that would increase overall efficiency in the field. Estimates were adjusted  
19 using the study data to better reflect actual labour cost and estimates will continue to be  
20 reviewed and updated, which will lead to more accurate scheduling and planning.

21 Recommendations arising from the wrench time studies were implemented with the  
22 assistance of a third party consultant across the province in 2018. Recommendations that  
23 were implemented include the following:

- 24       • Increase the focus on supervision in the field with a view to setting clear  
25           expectations, providing direct follow-up and timely feedback to field staff
- 26       • Optimize standards and estimates
- 27       • Clearly define all management roles and responsibilities

1 O&M savings to the transmission business are budgeted at approximately \$2.3 million  
2 for each year of the test period.

3  
4 **3.1.5 TEMPORARY WORK HEADQUARTERS**

5  
6 Work program execution is improved by the optimal deployment of Hydro One expert  
7 internal resources. To accomplish this, the company temporarily re-assigns staff to areas  
8 of specific project work demand. Hydro One has established temporary work  
9 headquarters for employees who are required to work outside of their residence  
10 headquarters for extended periods of time. The benefits of this initiative include increased  
11 wrench time, fleet savings, decreased travel expenses, scheduling efficiencies and safety  
12 improvements (e.g. less windshield time). O&M savings to the transmission business are  
13 budgeted at approximately \$0.2 million for each year in the test period.

14  
15 **3.2 IMPROVED PLANNING, SCHEDULING AND REPORTING**  
16 **PROCESSES**

17  
18 Hydro One has made changes to the way it prioritizes, plans and releases work in order to  
19 execute it more efficiently. Hydro One Transmission uses fully integrated work planning  
20 methods that balance and optimize the use of internal and external resources, costs,  
21 system outages, customer needs and material availability. Maintenance plans are  
22 continually reviewed for optimization opportunities to reduce overall maintenance costs  
23 without sacrificing safety or reliability to customers.

24  
25 In 2017, Hydro One implemented a new scheduling and planning tool for the  
26 transmission stations O&M work program. The tool provides a fully integrated SAP  
27 solution and improves the scheduling and planning process and Key Performance

1 Indicator (“KPI”) reporting ability, allowing the company to identify opportunities for  
2 improvement across the province.

3 This initiative has budgeted O&M savings of \$0.4 million per year in each year of the test  
4 period. Hydro One anticipates it will recover the value of this investment over a two year  
5 period.

### 6 7 **3.2.1 OUTAGE AVAILABILITY AND OPTIMIZATION**

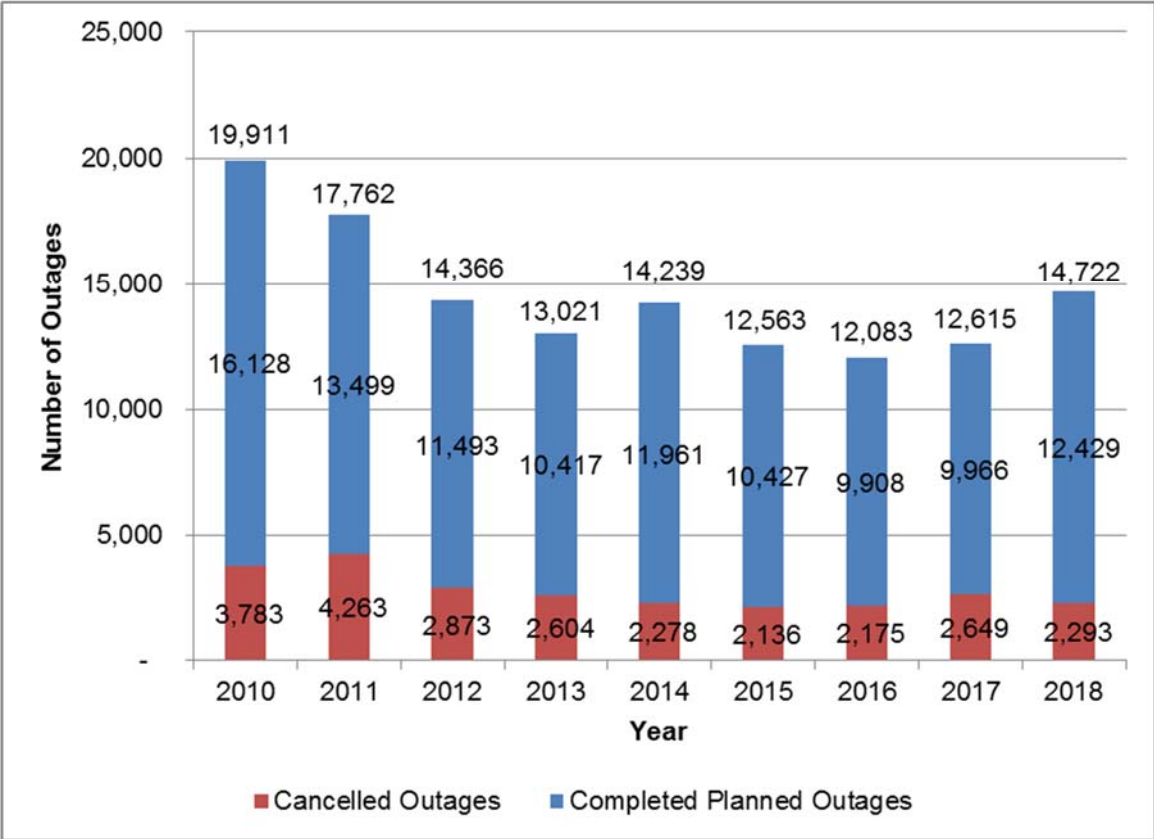
8  
9 Much of Hydro One’s transmission work depends on successfully scheduling outages.  
10 Outages can be time consuming to coordinate for Hydro One and can cause business  
11 interruptions and inconvenience to Hydro One’s transmission customers. As discussed in  
12 Exhibit F-01-05 at section 3.1, through a number of ongoing efforts Hydro One has  
13 successfully reduced the number of planned bulk electric system outages by  
14 approximately 30 percent since 2010, despite a growing work program. Decreases in  
15 planned outages were mainly attributable to: Hydro One’s line and station centric  
16 approach which allows the company to complete more work per outage; work-bundling  
17 initiatives; and improved planning through better communication within the company,  
18 with customers and with the IESO.

19  
20 Outages sometimes have to be cancelled and rescheduled. Cancelled outages can be  
21 costly to Hydro One and its transmission customers and re-scheduling outages around  
22 customer schedules and system requirements can be time-consuming and difficult. The  
23 number of cancelled outages have fallen since 2010 for many of the reasons listed in the  
24 paragraph above including reductions in the number of total outages and greater  
25 coordination between the Ontario Grid Control Centre (OGCC), the IESO, transmission  
26 customers and the executing lines of business (see Figure 1). In particular, in 2016 Hydro  
27 One’s OGCC analysed reasons for cancelled outages less than five days from execution,  
28 identified cancellations that Hydro One had the ability to mitigate and improved its

Witness: Andrew Spencer

1 processes accordingly, including improving its coordination efforts with customers and  
2 improving preparation at the field level from an equipment and staffing perspective.

3



4

5 **Figure 1 - Planned and Cancelled Outages Year-Over-Year**

6

7

8 **3.2.2 REDUCING MAINTENANCE BACKLOG, STATIONS**

9

10

11 Starting in 2015, Hydro One developed a reconciliation process for the transmission  
12 stations O&M work program, which is a major contributor to transmission O&M  
expense. The new process ensures that work released is aligned with the funding levels  
and any backlogs are managed at an appropriate level at the start of the budget year. A

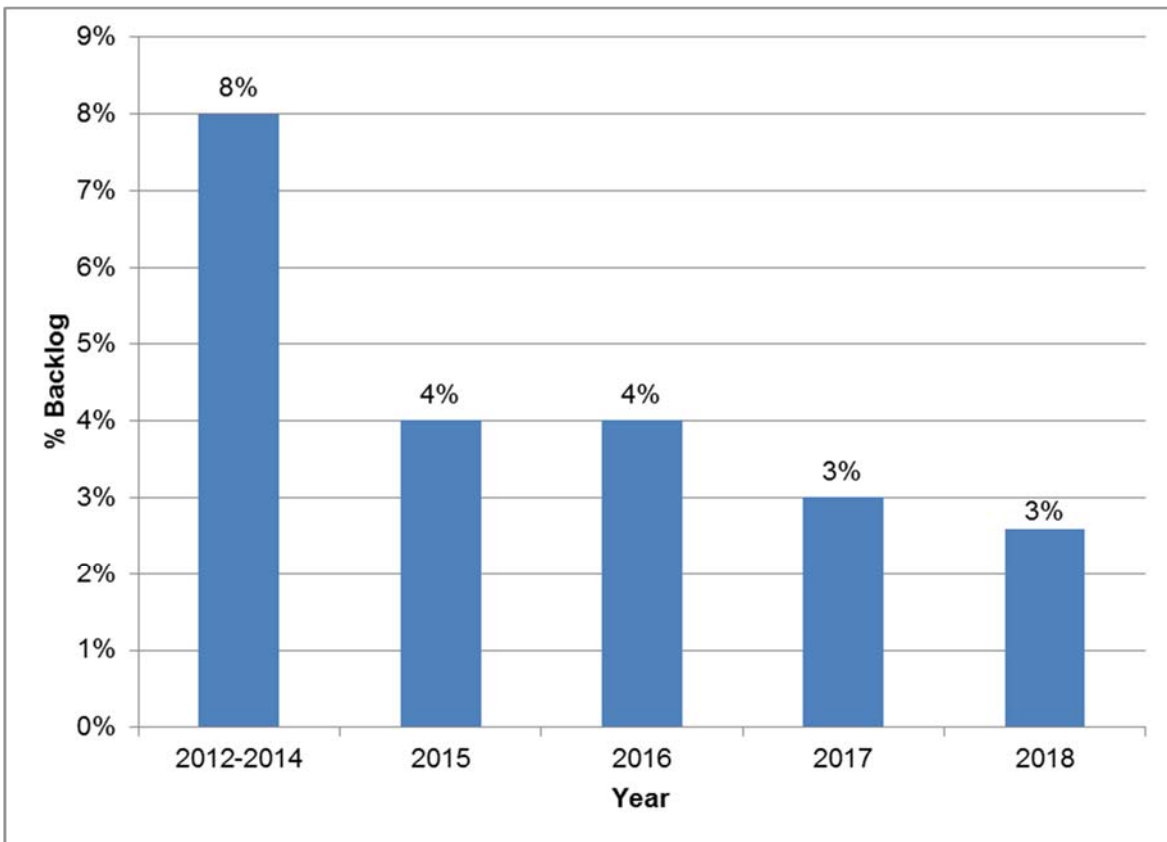
13

Witness: Andrew Spencer

1 quarterly review is performed to analyze trends and make adjustments to ensure  
2 completion of the work program.

3

4 Hydro One maintains a pipeline of O&M work equal to about 5 percent of funded jobs to  
5 replace cancelled work and manage backlogs. Figure 2 below displays the backlog of  
6 work from 2012 to 2018. Where the backlog is less than 5 percent, the work program was  
7 completed along with some of the pipeline work. In recent years, the preventive  
8 maintenance backlog has been prioritized and completed.



9

**Figure 2 - Preventative Maintenance Backlog**

1       **3.2.3   INTERNAL REPORTING**

2  
3 Hydro One is enhancing its existing internal reporting processes and introducing new  
4 reports to provide more visibility into cost efficiency and productivity performance. For  
5 example:

- 6       • Enhanced reporting is being implemented for the program closure process.  
7       Reports monitor the status of work to ensure that work orders are closed on  
8       completion on a more consistent and thorough basis;
- 9       • The stations scheduling and planning tool has improved KPI reporting on  
10      scheduling compliance. The tool and associated reporting allow visibility into  
11      scheduling performance and efficiency; and
- 12      • ‘Lessons learned’ are documented to ensure that evolving knowledge is  
13      incorporated into existing processes and future programs.

14  
15       **3.3    IMPROVED MANAGEMENT OF EQUIPMENT INVENTORY**

16  
17       **3.3.1   LOGISTICS SUPPORT**

18  
19 This section describes Hydro One’s inventory strategy for two types of materials: critical  
20 equipment and commonly used maintenance inventory. Critical capital equipment  
21 includes major transmission equipment and parts such as transformers, breakers and  
22 bushings that are critical to the operation of the transmission system and require  
23 significant lead time for delivery. Hydro One pre-orders critical equipment, such as  
24 transformers, and maintains inventory for emergency situations. In the event a  
25 transformer unexpectedly fails, Hydro One restores power to customers in a timely  
26 fashion by implementing a temporary contingency plan and replacing the transformer by  
27 drawing on its existing inventory. Without a ready inventory of transformers, Hydro One  
28 would have to order a replacement at the time of failure and operate under its

Witness: Andrew Spencer



1 contingency plan until the new transformer arrived. This could take many months or in  
2 some cases up to a year and would require running the system on contingency for an  
3 extended period of time which could have potential negative reliability impacts.

4  
5 Hydro One also maintains an inventory of commonly used maintenance related parts and  
6 equipment for O&M programs, such as tapchangers and switches. These inventories are  
7 automatically maintained within a set range. If inventory reaches the minimum level for a  
8 particular piece of equipment, an order is automatically generated. This approach reduces  
9 bottlenecks associated with vendor lead times and generally results in better bulk pricing.

### 10 11 **3.3.2 LOCAL MATERIAL STOCKING**

12  
13 Hydro One implemented a cost savings initiative to stock frequently used materials at  
14 strategic locations to reduce costs associated with travel to purchase items, thereby  
15 effectively utilizing strategic sourcing initiatives that take advantage of volume discounts.  
16 The benefits from this initiative include increased wrench time, reduced fleet costs and  
17 reduced administrative duties.

### 18 19 **3.3.3 USE OF RECONDITIONED OIL**

20  
21 Hydro One initiated a cost saving measure by using re-conditioned oil in transformers.  
22 The re-conditioned oil meets all standard requirements. This initiative results in lower  
23 costs and environmental benefits.

24  
25 O&M savings associated with this initiative are budgeted at \$0.5 million per year for  
26 each year in the test period.

1     **3.4     LEVERAGING TECHNOLOGY**

2  
3     **3.4.1    LEVERAGING TECHNOLOGY IN LINES**

4  
5     **3.4.1.1    LINEVUE**

6  
7     The LineVue tool is a piece of equipment used for assessing the condition of conductors  
8     and shield wires. The tool is more efficient than traditional methods of conductor  
9     sampling because it requires neither an outage nor cutting/splicing wires to provide  
10    information about the conductor. As a result, it reduces circuit unavailability, particularly  
11    on radial circuits. The sampling costs have decreased approximately 10 percent and as a  
12    result more samples have been completed annually improving reliability, because with  
13    more sampling the risk of outage is reduced. Use of the tool enables a less intrusive  
14    sampling process and a potential reduction in trouble calls from spliced wires.

15  
16     **3.4.1.2    TABLET USE FOR HELICOPTER AND FOOT PATROL, AND**  
17     **WOOD POLE CONDITION ASSESSMENT**

18  
19    Line and junction foot patrols are the main ground-based preventive maintenance activity  
20    used to detect, correct and/or report defects that exist on transmission line structures,  
21    conductors, junctions and Right-Of-Ways (“ROW”). Staff have been equipped with  
22    tablets loaded with appropriate asset data and are able to update data and report on  
23    defects in real time. Greater access to data enables Hydro One to cost effectively manage  
24    work, develop programs, identify trends/emerging issues, establish priorities and make  
25    future projections.

Witness: Andrew Spencer

1       **3.4.2    LEVERAGING TECHNOLOGY IN FORESTRY**

2

3               **3.4.2.1    LIDAR TECHNOLOGY PILOT**

4

5       Hydro One is looking to incorporate next generation technologies, including Light  
6       Detection and Ranging (“LiDAR”) into the Transmission Vegetation Management  
7       Program. LiDAR is a remote sensing technology that is used by utilities to obtain  
8       accurate geospatial images and measurements of circuits and the vegetation surrounding  
9       them. LiDAR technology has been increasingly adopted within the utility industry to  
10      patrol transmission lines and assess the vegetation growth.

11

12      Hydro One has completed two LiDAR pilot projects in 2013 and 2016. As a result of  
13      these pilot projects, Hydro One has begun implementing LiDAR technology to obtain  
14      accurate measurements of circuits and the surrounding vegetation. Potential benefits and  
15      concerns associated with the technology and the value it offers the work program are  
16      currently being reviewed.

17

18               **3.4.2.2    TRANSMISSION BRUSH CONTROL**

19

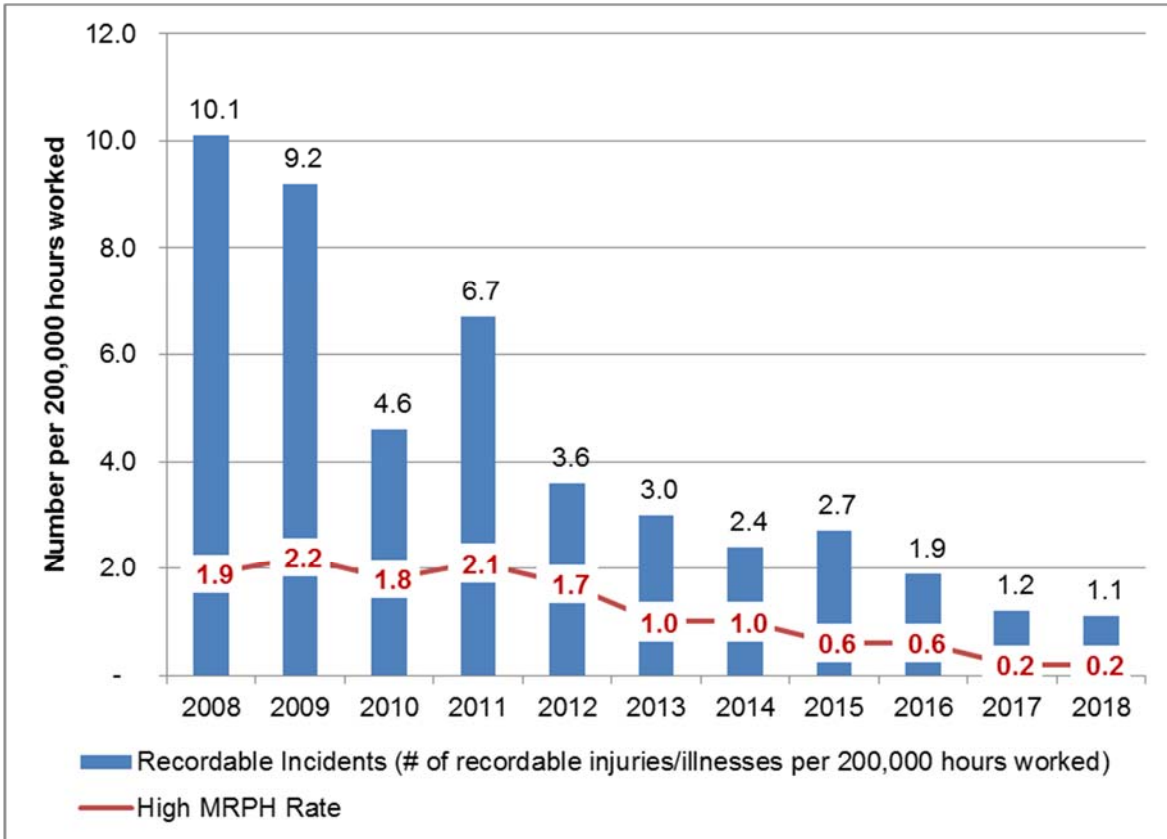
20      Forestry services has been establishing greater control of its ROW corridors by tackling  
21      legacy issues including overgrown brush corridors, narrow/encroached ROWs and  
22      tackling urban corridor challenges which had not been addressed for several years. A  
23      renewed focus on working to Transmission standards, achieving NERC compliance and  
24      reducing backlog helped to achieve greater control of these corridors. The unit costs  
25      peaked in 2013 before improving in 2016 and 2017. Because of the efforts made in recent  
26      years, the amount of work on the same corridors have reduced for the next optimal cycle  
27      treatment (either six years in the South & East or eight years in the North).

1 In 2018, the transmission brush control unit costs are tracking 2015 and 2016 values  
2 primarily due to the fact that Forestry is continuing to return to the same corridors that  
3 were completed prior to 2013.

4  
5 O&M savings for the Transmission brush control program is budgeted at \$1.2 million for  
6 2020 and 2022, and \$2.7 million for 2021 compared to 2015 unit costs. The variance in  
7 2021 is mainly attributable to the fact that in previous cycle, mechanical methods were  
8 used to bring certain corridors back to the standard by getting rid of legacy brush issues.  
9 In 2021, Hydro One is coming back to the next cycle on the same corridor and therefore  
10 costs to maintain are comparatively less.

11  
12 **4. SAFETY INITIATIVES**

13  
14 Hydro One continually launches safety-related improvement initiatives, in-line with the  
15 value the company places on safety. As shown in Figure 3, these initiatives have resulted  
16 in a steady decrease to the recordable injury frequency per 200,000 hours of work by the  
17 groups primarily accountable for the execution of the O&M work program, Stations and  
18 Forestry Services. The most severe incidents are classified as high Maximum Reasonable  
19 Potential for Harm (high MRPH) and have also shown an improving trend over recent  
20 years.



**Figure 3 - Recordable Injury Frequency per 200,000 Hours Worked (O&M Work Execution Strategy Only)**

Hydro One continues to focus on the implementation of its annual health, safety and environment (HSE) initiatives and programs to improve its health and safety culture including the Journey to Zero, Leadership Commitments and the engagement of employees.

The overall safety theme in 2019 is “Safety Culture Brand Campaign” which emphasizes human performance and distractions as the largest contributing cause for most incidents with the goal of improving risk-based decision making. Every year Hydro One conducts safety risk assessments to identify the risks that are most probable and have the highest impact with a view to developing initiatives to address them. The safety campaign was

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1 developed by Hydro One with support from a third-party expert and will launch a new  
2 Safety Brand in the first quarter, along with training and communications for five Human  
3 Success principles that each Hydro One employee will receive. As well Hydro One will  
4 focus on the development of leadership by providing training for all managers in  
5 communication skills for the positive delivery of safety messages in the field.  
6 Throughout the year in monthly Safety Communication Packages themed topics will  
7 focus on high risk practices, while providing tools and guidance to eliminate and bring  
8 awareness to our highest risk activities. In 2019, the focus will be on the following areas:  
9 People Development, Leadership Skills, Human Success Principles and the reduction of  
10 lacerations.

11  
12 Hydro One continues to conduct safety roll-outs to the field crews in both the first and  
13 third quarters of the year. The safety roll-outs allow senior management to reinforce the  
14 company's commitment to safety and ensure that corporate targets and goals are  
15 communicated consistently. The safety roll-outs focus on driver safety, including Hydro  
16 One Safety Rules governing driving, vehicle collision avoidance practices and  
17 techniques; job planning; and recent incidents to provide lessons learned using real and  
18 relatable examples.

19  
20 There is an increased focus to have visible leadership in the field; an increased manager  
21 presence during work place observations as well as actively seeking opportunities for  
22 coaching/mentoring. Managers and above are expected to participate in the workplace  
23 safety observations and in-cab assessments of their staff supervisors and increase site  
24 visits to provide additional feedback to staff on their work practices from a safety  
25 perspective.

26 Hydro One has made improvements to the job planning function with the overall goal of  
27 improving engagement at the working level. Weekly safety bulletins are distributed and

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1 shared with staff at the Monday morning tailboard sessions. This ensures that the  
2 discussions include relevant and fresh topics to share with staff. Once per month the  
3 topic includes driver safety tips. Daily onsite planning meetings are expected at the start  
4 of the day and after breaks to refocus field staff on critical hazards and reinforce safe and  
5 effective work practices. The use of open-ended questions is encouraged to generate  
6 good discussion and to ensure that everyone is heard. Crews participate in warm-  
7 up/stretch sessions during the course of the day as needed to reduce the occurrence of  
8 musculoskeletal injuries.

**SUMMARY OF COMMON CORPORATE COSTS - OM&A**

**1. SUMMARY OF COMMON CORPORATE OM&A**

Hydro One allocates Common Corporate OM&A costs to its distribution and transmission businesses and to each unregulated segment based on shared functions and services provided and an established cost allocation approach based on cost causality principles.

In connection with the 2019-2024 business plan, there was a significant commitment by business units to reduce corporate costs across the organization which is the primary driver of the decrease in the 2019 bridge and 2020 test year spend. The reductions were achieved primarily through a reduction in vacancies and limiting consulting contracts to critical functions, with an overall focus on building internal capabilities. Table 1, below, summarizes Hydro One's total Common Corporate OM&A costs over the historic, Bridge and Test years.

**Table 1: Summary of Total Common Corporate OM&A Costs (\$ millions)**

Description	Historical				Bridge	Test
	2015	2016	2017	2018	2019	2020
Planning	47.4	45.1	44.3	46.8	38.9	38.1
Common Corporate Functions & Services	187.5	186.6	191.2	203.4	189.8	199.8
Information Technology	142.5	143.8	145.1	125.5	117.4	118.4
Cost of External Revenue	14.2	9.1	13.8	18.8	7.6	7.3
Other OM&A*	-235.8	-242.8	-253.0	-227.2	-248.5	-256.9
<b>Total</b>	<b>155.8</b>	<b>141.7</b>	<b>141.4</b>	<b>167.3</b>	<b>105.3</b>	<b>106.7</b>
<b>Change Year over Year</b>		<b>-9.1%</b>	<b>-0.2%</b>	<b>18.3%</b>	<b>-32.8%</b>	<b>1.3%</b>

\*2017 and 2018 include the pension adjustment described in Exhibit F, Tab 2, Schedule 2.

Witness: Joel Jodoin



1 Table 2, below, summarizes Hydro One Transmission’s allocated portion of the Common  
 2 Corporate OM&A costs over the historic, Bridge and Test years.

3

4 **Table 2: Summary of Common Corporate OM&A Costs Allocated to Transmission**  
 5 **(\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Plan	Plan
Planning	31.0	37.2	32.9	35.7	32.0	36.5	31.0	35.8	25.5	25.0
Common Corporate Functions & Services	95.7	96.9	92.9	96.4	90.2	98.3	96.0	97.5	87.9	92.8
Information Technology	55.1	63.5	56.8	63.5	58.5	59.8	50.4	57.6	45.6	46.7
Cost of External Revenue	8.8	6.7	4.8	6.8	3.6	5.0	8.4	5.0	3.9	3.9
Other OM&A*	-116.8	-134.0	-127.3	-131.1	-142.8	-149.7	-130.9	-148.5	-133.6	-138.1
<b>Total</b>	<b>73.9</b>	<b>70.2</b>	<b>60.1</b>	<b>71.3</b>	<b>41.5</b>	<b>49.9</b>	<b>54.9</b>	<b>47.5</b>	<b>29.4</b>	<b>30.3</b>
<b>Change Year over Year</b>			<b>-18.7%</b>		<b>-30.9%</b>		<b>32.3%</b>		<b>-38.1%</b>	<b>3.1%</b>
<b>Variance to Plan</b>	<b>3.6</b>		<b>-11.3</b>		<b>-8.4</b>		<b>7.4</b>			

6 \*OEB-directed reductions for compensation are reflected in this line item. 2017 and 2018 include the pension  
 7 adjustment described in Exhibit F, Tab 2, Schedule 2.

8

9 Hydro One Common Corporate OM&A costs are comprised of the following: Common  
 10 Corporate Functions and Services (“CCF&S”) as detailed in Exhibit F, Tab 2, Schedule  
 11 2; Planning as detailed in Exhibit F, Tab 2, Schedule 3; Information Technology (“IT”) as  
 12 detailed in Exhibit F, Tab 2, Schedule 4; Cost of Sales - External Work as detailed in  
 13 Exhibit F, Tab 2, Schedule 5; and Other OM&A as detailed in Exhibit F, Tab 2, Schedule  
 14 2.

Witness: Joel Jodoin

1 Hydro One uses a centralized shared services model to deliver common services to its  
2 transmission and distribution businesses, as well as to its affiliated companies, as further  
3 described in Attachment 1 to Exhibit F, Tab 2, Schedule 6. The centralized shared  
4 services model is an effective and widely used method of delivering common corporate  
5 services to multiple subsidiaries and/or multiple business units. Since 2009, Hydro One  
6 has been applying a cost allocation methodology developed by Black & Veatch  
7 Corporation (“B&V”) that utilizes a breakdown of activities and drivers to allocate  
8 common costs between Hydro One business units and affiliated companies. In 2017,  
9 Hydro One commissioned B&V to validate the methodology for allocating common costs  
10 among the business entities using the common services. Further details are provided in  
11 Exhibit F, Tab 2, Schedule 6.

## 12 13 **2. VARIANCE EXPLANATION**

14  
15 Actual Planning costs for 2016-2018 were lower than plan amounts primarily due to a  
16 June 2016 pension revaluation that reduced pension contribution operating expenses as  
17 further detailed in Exhibit F, Tab 2, Schedule 3. Customers are not paying for a higher  
18 level of pension contribution than the actual contributions as there is a regulatory account  
19 to track the variance between forecast and actual contributions.

20  
21 The 2019 bridge year forecast expenditures represents a decrease of \$10.3 million  
22 relative to the 2018 plan; and a decrease of \$5.5 million relative to the 2018 actuals,  
23 mainly attributable to an organizational realignment which has clarified accountabilities,  
24 consolidating and streamlining processes and operations within Planning.

25  
26 These reductions are anticipated to be sustainable over the long-term and contribute to  
27 the 2020 test year forecast expenditure decrease of \$10.8 million relative to the 2018  
28 plan, and the \$6 million decrease relative to 2018 actuals.

Witness: Joel Jodoin

1 Total CCF&S actual costs have increased by approximately \$12 million from 2015 to  
2 2020 as shown in Table 1, Exhibit F, Schedule 2, Tab 2, primarily due to higher costs for  
3 Corporate Management, Human Resources, Internal Audit and Real Estate and Facilities  
4 services. Over the same time horizon, the allocation of CCF&S costs to Transmission has  
5 decreased by \$2.9 million. This is largely a result of the impact of reducing “business  
6 transformation” costs to pre-IPO levels, as detailed in Exhibit F, Tab 2, Schedule 2.  
7 Furthermore, the impact of Bill 2 has been reflected within the associated allocations to  
8 the Transmission Business. Specifically, and consistent with what has been filed in the  
9 2018-2022 Distribution Rate application (EB-2017-049) currently before the Board,  
10 compensation costs associated with the Executive Leadership Team have not been  
11 allocated to Transmission. As well, reductions in the bridge and test years are impacted  
12 by the corporate cost reductions, as previously described.

13  
14 IT OM&A expenditures were lower than plan in 2018 mainly due to lower third-party  
15 contracting costs and savings from productivity initiatives. Forecast costs in the Bridge  
16 year and planned costs in the Test year are lower primarily due to further productivity  
17 savings resulting from the renegotiation of the Inergi Outsourcing agreement, as detailed  
18 in Exhibit F, Tab 2, Schedule 4; productivity details are presented in TSP section 1.6.

19  
20 For Cost of External Revenue, the 2018 actual figure is higher than 2020 plan by \$4.5  
21 million primarily due to higher storm response in 2018 related to the California fire  
22 restoration and unplanned costs for Hydro One affiliate businesses (offset by Other  
23 External Revenue defined in E-02-01), as detailed in Exhibit F, Tab 2, Schedule 5.

24  
25 As a result of applying the Black & Veatch overhead methodology, as described in  
26 Exhibit F, Schedule 1, Tab 2, the overhead recovery (Other OM&A) is below historical  
27 levels in the 2019 bridge year and 2020 test year. Other OM&A in 2019 is also impacted  
28 by the estimated one-time recovery of insurance proceeds. The Other OM&A spend in

- 1 2020 reflects increased environmental provision related to PCB replacement work.
- 2 Corporate cost variances are outlined and further explained in Exhibit F, Tab 2, Schedule
- 3 2.

**Appendix 2-N  
Shared Services and Corporate Cost Allocation**

Year: **2015**

**Shared Services**

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$ x 1000
HONI	Remotes	Supply Chain Services	Cost of services	76	76
HONI	Telecom	Supply Chain Services	Cost of services	200	200
HONI	Remotes	Lease of IT Assets	Shared Asset Allocation	300	300
HONI	Telecom	Lease of IT Assets	Shared Asset Allocation	663	663
HONI	Remotes	Utility Operation Services	Cost of services	2,077	2,077
HONI	B2M	Lines and Forestry Services	Cost of services	700	700
HONI	B2M	Network Operations	Cost of services	280	280
HONI	Hydro One SSM	Network Operations	Cost of services	-	-
HONI	B2M	Managing Director	Cost of services	-	-
Remotes	HONI	Meter and Lines and Training Work	Cost of services	213	213
Telecom	HONI	Business and Power System Operations	Cost of services	16,515	16,515

**Corporate Cost Allocation**

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$ x 1000
HOI	HONI	General Counsel & Secretary	CCC Allocation Model	94%	780
HOI	HONI	President/CEO/Chairman /Board	CCC Allocation Model	97%	3,667
HOI	HONI	Chief Financial Office Services	CCC Allocation Model	92%	688
HOI	Remotes	General Counsel & Secretary	CCC Allocation Model	3%	21
HOI	Remotes	President/CEO/Chairman /Board	CCC Allocation Model	1%	19
HOI	Remotes	Chief Financial Office Services	CCC Allocation Model	1%	8
HOI	Telecom	General Counsel & Secretary	CCC Allocation Model	1%	8
HOI	Telecom	President/CEO/Chairman /Board	CCC Allocation Model	1%	28
HOI	Telecom	Chief Financial Office Services	CCC Allocation Model	2%	17
HOI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	B2M	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	B2M	Chief Financial Office Services	CCC Allocation Model	0%	-
HOI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	Hydro One SSM	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	Hydro One SSM	Chief Financial Office Services	CCC Allocation Model	0%	-
HOI	Brampton	General Counsel & Secretary	CCC Allocation Model	2%	17
HOI	Brampton	President/CEO/Chairman /Board	CCC Allocation Model	1%	36
HOI	Brampton	Chief Financial Office Services	CCC Allocation Model	3%	26
HONI	HOI	General Counsel & Secretary	CCC Allocation Model	1%	262
HONI	HOI	Financial Services	CCC Allocation Model	0%	46
HONI	HOI	Corporate Services	CCC Allocation Model	0%	2
HONI	HOI	Telecommunication Services	CCC Allocation Model	0%	-
HONI	HOI	Other Services	CCC Allocation Model	0%	-
HONI	Remotes	General Counsel & Secretary	CCC Allocation Model	1%	317
HONI	Remotes	Financial Services	CCC Allocation Model	0%	182
HONI	Remotes	Corporate Services	CCC Allocation Model	0%	291
HONI	Remotes	Telecommunication Services	CCC Allocation Model	1%	148
HONI	Remotes	Other Services	CCC Allocation Model	0%	407
HONI	Telecom	General Counsel & Secretary	CCC Allocation Model	0%	100
HONI	Telecom	Financial Services	CCC Allocation Model	1%	327
HONI	Telecom	Corporate Services	CCC Allocation Model	0%	273
HONI	Telecom	Telecommunication Services	CCC Allocation Model	2%	290
HONI	Telecom	Other Services	CCC Allocation Model	1%	1,375
HONI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	61
HONI	B2M	Financial Services	CCC Allocation Model	0%	100
HONI	B2M	Corporate Services	CCC Allocation Model	0%	52
HONI	B2M	Telecommunication Services	CCC Allocation Model	0%	-
HONI	B2M	Other Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	-
HONI	Hydro One SSM	Financial Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	Corporate Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	Other Services	CCC Allocation Model	0%	-
HONI	Brampton	General Counsel & Secretary	CCC Allocation Model	1%	200
HONI	Brampton	Financial Services	CCC Allocation Model	1%	258
HONI	Brampton	Corporate Services	CCC Allocation Model	0%	34
HONI	Brampton	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Brampton	Other Services	CCC Allocation Model	0%	-

**Legend**

"HOI"	Hydro One Inc.
"HONI"	Hydro One Networks Inc.
"Brampton"	Hydro One Brampton Networks Inc.
"B2M"	B2M Limited Partnership
"Telecom"	Hydro One Telecom Inc.
"Hydro One SSM"	Hydro One Sault Ste. Marie LP (formerly Great Lakes Power Transmission LP)
"Remotes"	Hydro One Remote Communities Inc.
"HONI Dx"	Hydro One Distribution
"HONI Tx"	HONI's transmission business

**Appendix 2-N  
Shared Services and Corporate Cost Allocation**

Year: **2016**

**Shared Services**

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$ x 1000
HONI	Remotes	Supply Chain Services	Cost of services	76	76
HONI	Telecom	Supply Chain Services	Cost of services	200	200
HONI	Remotes	Lease of IT Assets	Shared Asset Allocation	280	280
HONI	Telecom	Lease of IT Assets	Shared Asset Allocation	660	660
HONI	Remotes	Utility Operation Services	Cost of services	1,859	1,859
HONI	B2M	Lines and Forestry Services	Cost of services	500	500
HONI	B2M	Network Operations	Cost of services	281	281
HONI	Hydro One SSM	Network Operations	Cost of services	-	-
HONI	B2M	Managing Director	Cost of services	102	102
Remotes	HONI	Meter and Lines and Training Work	Cost of services	459	459
Telecom	HONI	Business and Power System Operations	Cost of services	17,210	17,210

**Corporate Cost Allocation**

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$ x 1000
HOI	HONI	General Counsel & Secretary	CCC Allocation Model	93%	872
HOI	HONI	President/CEO/Chairman /Board	CCC Allocation Model	56%	5,970
HOI	HONI	Chief Financial Office Services	CCC Allocation Model	25%	475
HOI	Remotes	General Counsel & Secretary	CCC Allocation Model	3%	23
HOI	Remotes	President/CEO/Chairman /Board	CCC Allocation Model	0%	48
HOI	Remotes	Chief Financial Office Services	CCC Allocation Model	1%	22
HOI	Telecom	General Counsel & Secretary	CCC Allocation Model	1%	9
HOI	Telecom	President/CEO/Chairman /Board	CCC Allocation Model	1%	87
HOI	Telecom	Chief Financial Office Services	CCC Allocation Model	2%	45
HOI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	B2M	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	B2M	Chief Financial Office Services	CCC Allocation Model	0%	-
HOI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	4
HOI	Hydro One SSM	President/CEO/Chairman /Board	CCC Allocation Model	0%	35
HOI	Hydro One SSM	Chief Financial Office Services	CCC Allocation Model	2%	43
HOI	Brampton	General Counsel & Secretary	CCC Allocation Model	2%	17
HOI	Brampton	President/CEO/Chairman /Board	CCC Allocation Model	0%	35
HOI	Brampton	Chief Financial Office Services	CCC Allocation Model	1%	25
HONI	HOI	General Counsel & Secretary	CCC Allocation Model	3%	930
HONI	HOI	Financial Services	CCC Allocation Model	0%	72
HONI	HOI	Corporate Services	CCC Allocation Model	0%	-
HONI	HOI	Telecommunication Services	CCC Allocation Model	0%	-
HONI	HOI	Other Services	CCC Allocation Model	0%	-
HONI	Remotes	General Counsel & Secretary	CCC Allocation Model	1%	335
HONI	Remotes	Financial Services	CCC Allocation Model	1%	267
HONI	Remotes	Corporate Services	CCC Allocation Model	0%	288
HONI	Remotes	Telecommunication Services	CCC Allocation Model	1%	135
HONI	Remotes	Other Services	CCC Allocation Model	0%	354
HONI	Telecom	General Counsel & Secretary	CCC Allocation Model	0%	105
HONI	Telecom	Financial Services	CCC Allocation Model	1%	407
HONI	Telecom	Corporate Services	CCC Allocation Model	0%	316
HONI	Telecom	Telecommunication Services	CCC Allocation Model	2%	331
HONI	Telecom	Other Services	CCC Allocation Model	1%	1,430
HONI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	63
HONI	B2M	Financial Services	CCC Allocation Model	0%	102
HONI	B2M	Corporate Services	CCC Allocation Model	0%	54
HONI	B2M	Telecommunication Services	CCC Allocation Model	0%	-
HONI	B2M	Other Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	71
HONI	Hydro One SSM	Financial Services	CCC Allocation Model	0%	104
HONI	Hydro One SSM	Corporate Services	CCC Allocation Model	0%	166
HONI	Hydro One SSM	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	Other Services	CCC Allocation Model	0%	-
HONI	Brampton	General Counsel & Secretary	CCC Allocation Model	0%	-
HONI	Brampton	Financial Services	CCC Allocation Model	0%	-
HONI	Brampton	Corporate Services	CCC Allocation Model	0%	-
HONI	Brampton	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Brampton	Other Services	CCC Allocation Model	0%	-

<b>Legend</b>	"HOI"	Hydro One Inc.
	"HONI"	Hydro One Networks Inc.
	"Brampton"	Hydro One Brampton Networks Inc.
	"B2M"	B2M Limited Partnership
	"Telecom"	Hydro One Telecom Inc.
	"Hydro One SSM"	Hydro One Sault Ste. Marie LP (formerly Great Lakes Power Transmission LP)
	"Remotes"	Hydro One Remote Communities Inc.
	"HONI Dx"	Hydro One Distribution
	"HONI Tx"	HONI's transmission business

**Appendix 2-N  
Shared Services and Corporate Cost Allocation**

Year: **2017**

**Shared Services**

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$ x 1000
HONI	Remotes	Supply Chain Services	Cost of services	76	76
HONI	Telecom	Supply Chain Services	Cost of services	200	200
HONI	Remotes	Lease of IT Assets	Shared Asset Allocation	261	261
HONI	Telecom	Lease of IT Assets	Shared Asset Allocation	617	617
HONI	Remotes	Utility Operation Services	Cost of services	1,640	1,640
HONI	B2M	Lines and Forestry Services	Cost of services	500	500
HONI	B2M	Network Operations	Cost of services	292	292
HONI	Hydro One SSM	Network Operations	Cost of services	290	290
HONI	B2M	Managing Director	Cost of services	106	106
Remotes	HONI	Meter and Lines and Training Work	Cost of services	212	212
Telecom	HONI	Business and Power System Operations	Cost of services	17,450	17,450

**Corporate Cost Allocation**

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$ x 1000
HOI	HONI	General Counsel & Secretary	CCC Allocation Model	95%	1,117
HOI	HONI	President/CEO/Chairman /Board	CCC Allocation Model	88%	6,883
HOI	HONI	Chief Financial Office Services	CCC Allocation Model	84%	1,069
HOI	Remotes	General Counsel & Secretary	CCC Allocation Model	2%	28
HOI	Remotes	President/CEO/Chairman /Board	CCC Allocation Model	0%	21
HOI	Remotes	Chief Financial Office Services	CCC Allocation Model	1%	13
HOI	Telecom	General Counsel & Secretary	CCC Allocation Model	1%	12
HOI	Telecom	President/CEO/Chairman /Board	CCC Allocation Model	1%	41
HOI	Telecom	Chief Financial Office Services	CCC Allocation Model	2%	26
HOI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	B2M	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	B2M	Chief Financial Office Services	CCC Allocation Model	0%	-
HOI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	4
HOI	Hydro One SSM	President/CEO/Chairman /Board	CCC Allocation Model	0%	35
HOI	Hydro One SSM	Chief Financial Office Services	CCC Allocation Model	3%	43
HOI	Brampton	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	Brampton	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	Brampton	Chief Financial Office Services	CCC Allocation Model	0%	-
HONI	HOI	General Counsel & Secretary	CCC Allocation Model	3%	944
HONI	HOI	Financial Services	CCC Allocation Model	0%	72
HONI	HOI	Corporate Services	CCC Allocation Model	0%	-
HONI	HOI	Telecommunication Services	CCC Allocation Model	0%	-
HONI	HOI	Other Services	CCC Allocation Model	0%	-
HONI	Remotes	General Counsel & Secretary	CCC Allocation Model	1%	383
HONI	Remotes	Financial Services	CCC Allocation Model	1%	247
HONI	Remotes	Corporate Services	CCC Allocation Model	0%	269
HONI	Remotes	Telecommunication Services	CCC Allocation Model	1%	141
HONI	Remotes	Other Services	CCC Allocation Model	0%	263
HONI	Telecom	General Counsel & Secretary	CCC Allocation Model	0%	102
HONI	Telecom	Financial Services	CCC Allocation Model	1%	536
HONI	Telecom	Corporate Services	CCC Allocation Model	0%	271
HONI	Telecom	Telecommunication Services	CCC Allocation Model	2%	284
HONI	Telecom	Other Services	CCC Allocation Model	1%	964
HONI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	63
HONI	B2M	Financial Services	CCC Allocation Model	0%	105
HONI	B2M	Corporate Services	CCC Allocation Model	0%	57
HONI	B2M	Telecommunication Services	CCC Allocation Model	0%	-
HONI	B2M	Other Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	71
HONI	Hydro One SSM	Financial Services	CCC Allocation Model	0%	104
HONI	Hydro One SSM	Corporate Services	CCC Allocation Model	0%	166
HONI	Hydro One SSM	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	Other Services	CCC Allocation Model	0%	-
HONI	Brampton	General Counsel & Secretary	CCC Allocation Model	0%	-
HONI	Brampton	Financial Services	CCC Allocation Model	0%	-
HONI	Brampton	Corporate Services	CCC Allocation Model	0%	-
HONI	Brampton	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Brampton	Other Services	CCC Allocation Model	0%	-

<b>Legend</b>	"HOI"	Hydro One Inc.
	"HONI"	Hydro One Networks Inc.
	"Brampton"	Hydro One Brampton Networks Inc.
	"B2M"	B2M Limited Partnership
	"Telecom"	Hydro One Telecom Inc.
	"Hydro One SSM"	Hydro One Sault Ste. Marie LP (formerly Great Lakes Power Transmission LP)
	"Remotes"	Hydro One Remote Communities Inc.
	"HONI Dx"	Hydro One Distribution
	"HONI Tx"	HONI's transmission business

**Appendix 2-N  
Shared Services and Corporate Cost Allocation**

Year: **2018**

**Shared Services**

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$ x 1000
HONI	Remotes	Supply Chain Services	Cost of services	76	76
HONI	Telecom	Supply Chain Services	Cost of services	200	200
HONI	Remotes	Lease of IT Assets	Shared Asset Allocation	327	327
HONI	Telecom	Lease of IT Assets	Shared Asset Allocation	441	441
HONI	Remotes	Utility Operation Services	Cost of services	1,649	1,649
HONI	B2M	Lines and Forestry Services	Cost of services	1,800	1,800
HONI	B2M	Network Operations	Cost of services	300	300
HONI	Hydro One SSM	Network Operations	Cost of services	880	880
HONI	B2M	Managing Director	Cost of services	108	108
Remotes	HONI	Meter and Lines and Training Work	Cost of services	212	212
Telecom	HONI	Business and Power System Operations	Cost of services	17,970	17,970

**Corporate Cost Allocation**

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$ x 1000
HOI	HONI	General Counsel & Secretary	CCC Allocation Model	50%	1,275
HOI	HONI	President/CEO/Chairman /Board	CCC Allocation Model	42%	5,005
HOI	HONI	Chief Financial Office Services	CCC Allocation Model	34%	755
HOI	Remotes	General Counsel & Secretary	CCC Allocation Model	0%	1
HOI	Remotes	President/CEO/Chairman /Board	CCC Allocation Model	0%	28
HOI	Remotes	Chief Financial Office Services	CCC Allocation Model	1%	22
HOI	Telecom	General Counsel & Secretary	CCC Allocation Model	0%	1
HOI	Telecom	President/CEO/Chairman /Board	CCC Allocation Model	1%	56
HOI	Telecom	Chief Financial Office Services	CCC Allocation Model	2%	45
HOI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	B2M	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	B2M	Chief Financial Office Services	CCC Allocation Model	0%	-
HOI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	4
HOI	Hydro One SSM	President/CEO/Chairman /Board	CCC Allocation Model	0%	35
HOI	Hydro One SSM	Chief Financial Office Services	CCC Allocation Model	2%	43
HOI	Brampton	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	Brampton	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	Brampton	Chief Financial Office Services	CCC Allocation Model	0%	-
HONI	HOI	General Counsel & Secretary	CCC Allocation Model	5%	1,531
HONI	HOI	Financial Services	CCC Allocation Model	3%	1,046
HONI	HOI	Corporate Services	CCC Allocation Model	0%	618
HONI	HOI	Telecommunication Services	CCC Allocation Model	0%	-
HONI	HOI	Other Services	CCC Allocation Model	0%	-
HONI	Remotes	General Counsel & Secretary	CCC Allocation Model	1%	288
HONI	Remotes	Financial Services	CCC Allocation Model	1%	372
HONI	Remotes	Corporate Services	CCC Allocation Model	0%	324
HONI	Remotes	Telecommunication Services	CCC Allocation Model	1%	145
HONI	Remotes	Other Services	CCC Allocation Model	1%	564
HONI	Telecom	General Counsel & Secretary	CCC Allocation Model	1%	154
HONI	Telecom	Financial Services	CCC Allocation Model	2%	618
HONI	Telecom	Corporate Services	CCC Allocation Model	0%	432
HONI	Telecom	Telecommunication Services	CCC Allocation Model	1%	258
HONI	Telecom	Other Services	CCC Allocation Model	1%	1,242
HONI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	65
HONI	B2M	Financial Services	CCC Allocation Model	0%	106
HONI	B2M	Corporate Services	CCC Allocation Model	0%	58
HONI	B2M	Telecommunication Services	CCC Allocation Model	0%	-
HONI	B2M	Other Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	71
HONI	Hydro One SSM	Financial Services	CCC Allocation Model	0%	104
HONI	Hydro One SSM	Corporate Services	CCC Allocation Model	0%	166
HONI	Hydro One SSM	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	Other Services	CCC Allocation Model	0%	-
HONI	Brampton	General Counsel & Secretary	CCC Allocation Model	0%	-
HONI	Brampton	Financial Services	CCC Allocation Model	0%	-
HONI	Brampton	Corporate Services	CCC Allocation Model	0%	-
HONI	Brampton	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Brampton	Other Services	CCC Allocation Model	0%	-

**Legend**

"HOI"	Hydro One Inc.
"HONI"	Hydro One Networks Inc.
"Brampton"	Hydro One Brampton Networks Inc.
"B2M"	B2M Limited Partnership
"Telecom"	Hydro One Telecom Inc.
"Hydro One SSM"	Hydro One Sault Ste. Marie LP (formerly Great Lakes Power Transmission LP)
"Remotes"	Hydro One Remote Communities Inc.
"HONI Dx"	Hydro One Distribution
"HONI Tx"	HONI's transmission business



**Appendix 2-N  
Shared Services and Corporate Cost Allocation**

Year: **2019**

**Shared Services**

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$ x 1000
HONI	Remotes	Supply Chain Services	Cost of services	76	76
HONI	Telecom	Supply Chain Services	Cost of services	200	200
HONI	Remotes	Lease of IT Assets	Shared Asset Allocation	327	327
HONI	Telecom	Lease of IT Assets	Shared Asset Allocation	441	441
HONI	Remotes	Utility Operation Services	Cost of services	1,700	1,700
HONI	B2M	Lines and Forestry Services	Cost of services	600	600
HONI	B2M	Network Operations	Cost of services	300	300
HONI	Hydro One SSM	Network Operations	Cost of services	880	880
HONI	B2M	Managing Director	Cost of services	111	111
Remotes	HONI	Meter and Lines and Training Work	Cost of services	212	212
Telecom	HONI	Business and Power System Operations	Cost of services	18,000	18,000

**Corporate Cost Allocation**

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$ x 1000
HOI	HONI	General Counsel & Secretary	CCC Allocation Model	16%	402
HOI	HONI	President/CEO/Chairman /Board	CCC Allocation Model	23%	3,653
HOI	HONI	Chief Financial Office Services	CCC Allocation Model	5%	194
HOI	Remotes	General Counsel & Secretary	CCC Allocation Model	0%	6
HOI	Remotes	President/CEO/Chairman /Board	CCC Allocation Model	0%	7
HOI	Remotes	Chief Financial Office Services	CCC Allocation Model	0%	21
HOI	Telecom	General Counsel & Secretary	CCC Allocation Model	0%	1
HOI	Telecom	President/CEO/Chairman /Board	CCC Allocation Model	0%	22
HOI	Telecom	Chief Financial Office Services	CCC Allocation Model	1%	43
HOI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	B2M	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	B2M	Chief Financial Office Services	CCC Allocation Model	0%	-
HOI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	4
HOI	Hydro One SSM	President/CEO/Chairman /Board	CCC Allocation Model	0%	35
HOI	Hydro One SSM	Chief Financial Office Services	CCC Allocation Model	1%	43
HOI	Brampton	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	Brampton	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	Brampton	Chief Financial Office Services	CCC Allocation Model	0%	-
HONI	HOI	General Counsel & Secretary	CCC Allocation Model	5%	1,377
HONI	HOI	Financial Services	CCC Allocation Model	5%	1,415
HONI	HOI	Corporate Services	CCC Allocation Model	3%	5,878
HONI	HOI	Telecommunication Services	CCC Allocation Model	0%	-
HONI	HOI	Other Services	CCC Allocation Model	0%	-
HONI	Remotes	General Counsel & Secretary	CCC Allocation Model	1%	196
HONI	Remotes	Financial Services	CCC Allocation Model	0%	123
HONI	Remotes	Corporate Services	CCC Allocation Model	0%	265
HONI	Remotes	Telecommunication Services	CCC Allocation Model	1%	129
HONI	Remotes	Other Services	CCC Allocation Model	0%	431
HONI	Telecom	General Counsel & Secretary	CCC Allocation Model	0%	142
HONI	Telecom	Financial Services	CCC Allocation Model	1%	209
HONI	Telecom	Corporate Services	CCC Allocation Model	0%	387
HONI	Telecom	Telecommunication Services	CCC Allocation Model	2%	276
HONI	Telecom	Other Services	CCC Allocation Model	1%	866
HONI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	66
HONI	B2M	Financial Services	CCC Allocation Model	0%	108
HONI	B2M	Corporate Services	CCC Allocation Model	0%	60
HONI	B2M	Telecommunication Services	CCC Allocation Model	0%	-
HONI	B2M	Other Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	71
HONI	Hydro One SSM	Financial Services	CCC Allocation Model	0%	104
HONI	Hydro One SSM	Corporate Services	CCC Allocation Model	0%	166
HONI	Hydro One SSM	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	Other Services	CCC Allocation Model	0%	-
HONI	Brampton	General Counsel & Secretary	CCC Allocation Model	0%	-
HONI	Brampton	Financial Services	CCC Allocation Model	0%	-
HONI	Brampton	Corporate Services	CCC Allocation Model	0%	-
HONI	Brampton	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Brampton	Other Services	CCC Allocation Model	0%	-

<b>Legend</b>	"HOI"	Hydro One Inc.
	"HONI"	Hydro One Networks Inc.
	"Brampton"	Hydro One Brampton Networks Inc.
	"B2M"	B2M Limited Partnership
	"Telecom"	Hydro One Telecom Inc.
	"Hydro One SSM"	Hydro One Sault Ste. Marie LP (formerly Great Lakes Power Transmission LP)
	"Remotes"	Hydro One Remote Communities Inc.
	"HONI Dx"	Hydro One Distribution
	"HONI Tx"	HONI's transmission business

**Appendix 2-N  
Shared Services and Corporate Cost Allocation**

Year: 2020

**Shared Services**

Name of Company		Service Offered	Pricing Methodology	Price for the Service	Cost for the Service
From	To			\$	\$ x 1000
HONI	Remotes	Supply Chain Services	Cost of services	76	76
HONI	Telecom	Supply Chain Services	Cost of services	200	200
HONI	Remotes	Lease of IT Assets	Shared Asset Allocation	327	327
HONI	Telecom	Lease of IT Assets	Shared Asset Allocation	441	441
HONI	Remotes	Utility Operation Services	Cost of services	1,700	1,700
HONI	B2M	Lines and Forestry Services	Cost of services	600	600
HONI	B2M	Network Operations	Cost of services	300	300
HONI	Hydro One SSM	Network Operations	Cost of services	880	880
HONI	B2M	Managing Director	Cost of services	111	111
Remotes	HONI	Meter and Lines and Training Work	Cost of services	212	212
Telecom	HONI	Business and Power System Operations	Cost of services	18,000	18,000

**Corporate Cost Allocation**

Name of Company		Service Offered	Pricing Methodology	% of Corporate Costs Allocated	Amount Allocated
From	To			%	\$ x 1000
HOI	HONI	General Counsel & Secretary	CCC Allocation Model	16%	411
HOI	HONI	President/CEO/Chairman /Board	CCC Allocation Model	22%	3,685
HOI	HONI	Chief Financial Office Services	CCC Allocation Model	5%	198
HOI	Remotes	General Counsel & Secretary	CCC Allocation Model	0%	6
HOI	Remotes	President/CEO/Chairman /Board	CCC Allocation Model	0%	7
HOI	Remotes	Chief Financial Office Services	CCC Allocation Model	0%	21
HOI	Telecom	General Counsel & Secretary	CCC Allocation Model	0%	1
HOI	Telecom	President/CEO/Chairman /Board	CCC Allocation Model	0%	23
HOI	Telecom	Chief Financial Office Services	CCC Allocation Model	1%	44
HOI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	B2M	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	B2M	Chief Financial Office Services	CCC Allocation Model	0%	-
HOI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	4
HOI	Hydro One SSM	President/CEO/Chairman /Board	CCC Allocation Model	0%	35
HOI	Hydro One SSM	Chief Financial Office Services	CCC Allocation Model	1%	43
HOI	Brampton	General Counsel & Secretary	CCC Allocation Model	0%	-
HOI	Brampton	President/CEO/Chairman /Board	CCC Allocation Model	0%	-
HOI	Brampton	Chief Financial Office Services	CCC Allocation Model	0%	-
HONI	HOI	General Counsel & Secretary	CCC Allocation Model	5%	1,391
HONI	HOI	Financial Services	CCC Allocation Model	5%	1,451
HONI	HOI	Corporate Services	CCC Allocation Model	3%	5,599
HONI	HOI	Telecommunication Services	CCC Allocation Model	0%	-
HONI	HOI	Other Services	CCC Allocation Model	0%	-
HONI	Remotes	General Counsel & Secretary	CCC Allocation Model	1%	198
HONI	Remotes	Financial Services	CCC Allocation Model	0%	127
HONI	Remotes	Corporate Services	CCC Allocation Model	0%	270
HONI	Remotes	Telecommunication Services	CCC Allocation Model	1%	129
HONI	Remotes	Other Services	CCC Allocation Model	0%	434
HONI	Telecom	General Counsel & Secretary	CCC Allocation Model	0%	143
HONI	Telecom	Financial Services	CCC Allocation Model	1%	216
HONI	Telecom	Corporate Services	CCC Allocation Model	0%	395
HONI	Telecom	Telecommunication Services	CCC Allocation Model	2%	276
HONI	Telecom	Other Services	CCC Allocation Model	1%	887
HONI	B2M	General Counsel & Secretary	CCC Allocation Model	0%	66
HONI	B2M	Financial Services	CCC Allocation Model	0%	108
HONI	B2M	Corporate Services	CCC Allocation Model	0%	60
HONI	B2M	Telecommunication Services	CCC Allocation Model	0%	-
HONI	B2M	Other Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	General Counsel & Secretary	CCC Allocation Model	0%	71
HONI	Hydro One SSM	Financial Services	CCC Allocation Model	0%	104
HONI	Hydro One SSM	Corporate Services	CCC Allocation Model	0%	166
HONI	Hydro One SSM	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Hydro One SSM	Other Services	CCC Allocation Model	0%	-
HONI	Brampton	General Counsel & Secretary	CCC Allocation Model	0%	-
HONI	Brampton	Financial Services	CCC Allocation Model	0%	-
HONI	Brampton	Corporate Services	CCC Allocation Model	0%	-
HONI	Brampton	Telecommunication Services	CCC Allocation Model	0%	-
HONI	Brampton	Other Services	CCC Allocation Model	0%	-

<b>Legend</b>	"HOI"	Hydro One Inc.
	"HONI"	Hydro One Networks Inc.
	"Brampton"	Hydro One Brampton Networks Inc.
	"B2M"	B2M Limited Partnership
	"Telecom"	Hydro One Telecom Inc.
	"Hydro One SSM"	Hydro One Sault Ste. Marie LP (formerly Great Lakes Power Transmission LP)
	"Remotes"	Hydro One Remote Communities Inc.
	"HONI Dx"	Hydro One Distribution
	"HONI Tx"	HONI's transmission business

1                   **COMMON CORPORATE FUNCTIONS AND SERVICES AND**  
2   **OTHER OM&A**

3  
4       **1.       INTRODUCTION**

5  
6       Hydro One has identified certain functions that provide common services to all business  
7       units: corporate management, finance, human resources, corporate affairs and  
8       outsourcing services, general counsel and corporate secretariat, regulatory affairs,  
9       security management, internal audit, and real estate and facilities. Hydro One determined  
10      that these functions could be shared effectively by all business units, avoiding costly and  
11      unnecessary duplication. These functions are referred to as Common Corporate Functions  
12      and Services” (“CCF&S”).

13  
14      The allocation of CCF&S costs between Hydro One Transmission, Hydro One  
15      Distribution, its shareholder and other affiliates is determined by the common cost  
16      allocation methodology described in Exhibit F, Tab 2, Schedule 6. The allocation of these  
17      costs between Hydro One and its affiliates is governed by affiliate service level  
18      agreements and is further described in Exhibit E, Tab 2, Schedule 2.

19  
20      This Exhibit discusses CCF&S costs and other OM&A expenses, comprised of credits  
21      associated with capitalized overhead, environmental provisions, indirect depreciation and  
22      other costs.

**2. VARIANCE EXPLANATION**

Table 1, below, outlines the total CCF&S costs for Hydro One between 2015 and 2018 the 2019 Bridge Year, and the 2020 Test Year.

**Table 1: Summary of Total Common Corporate Functions and Services OM&A  
 (\$ millions)**

Description	Historical				Bridge	Test
	2015	2016	2017	2018	2019	2020
	Actual	Actual	Actual	Actual	Forecast	Forecast
Corporate Management	16.4	16.1	27.6	32.6	26.5	26.9
Finance	39.1	38.1	34.6	38.3	34.6	35.8
Human Resources	13.6	15.6	17.9	21.5	23.9	24.3
Corporate Affairs and Outsourcing Services	17.3	15.2	13.4	12.2	10.5	10.6
General Counsel and Secretariat	8.6	10.1	8.5	9.6	9.1	9.1
Regulatory Affairs	24.1	23.3	21.0	20.6	19.9	20.3
Security Management	4.2	4.6	4.4	5.2	4.0	4.2
Internal Audit	4.2	4.9	6.8	5.6	5.8	6.2
Real Estate and Facilities	60.0	58.6	56.9	57.9	55.5	62.5
<b>Total CCF&amp;S Costs</b>	<b>187.5</b>	<b>186.6</b>	<b>191.2</b>	<b>203.4</b>	<b>189.8</b>	<b>199.8</b>
<b>Change Year over Year</b>		<b>-0.5%</b>	<b>2.5%</b>	<b>6.4%</b>	<b>-10.4%</b>	<b>5.3%</b>

Total CCF&S costs increased by approximately \$12 million from 2015 through 2020, primarily due to the following factors:

- Higher Corporate Management costs since 2015 due to increases in compensation resulting from the recruitment of senior managers with proven track-records of delivering on targeted commercial objectives (under this new leadership, incremental productivity savings are expected to significantly offset these increased costs as identified in TSP Section 1.6). The impact to customers of this has been substantially mitigated through the reduction of “business

1 transformation” costs to pre-IPO levels as well as incorporating the impact of Bill  
2 2 legislation;

- 3 • Higher Internal Audit costs from 2015 to 2020 resulting from an increased  
4 staffing requirement to address an expanding work program to support  
5 construction capital project audit capabilities; and
- 6 • Higher historical Human Resources costs from 2015 to 2017 were primarily due  
7 to increased training costs for (a) building and sustaining new compensation  
8 structures; (b) a renewed focus on performance management; and (c) a renewed  
9 focus on change management intended to maximize the value of corporate change  
10 initiatives. Higher costs in 2017 to 2020 are mainly due to a renewed investment  
11 in human resources talent. In order to meet new stakeholder demands and greater  
12 expectations for human resource services, Hydro One has recruited additional  
13 external resources that will enable the function to deliver on what is needed to  
14 support the execution of the overall business strategy.

15

16 Table 2 below, outlines the amounts that have been allocated to Hydro One Transmission  
17 during the same time period.

1 **Table 2: Summary of Common Corporate Functions and Services OM&A**  
 2 **Allocated to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Corporate Management	2.8	2.8	3.9	2.8	6.2	7.2	3.9	7.1	2.4	2.4
Finance	22.9	25.3	21.5	24.9	20.0	21.9	22.3	19.4	18.8	19.4
Human Resources	6.8	6.9	8.3	6.5	9.2	7.6	11.1	7.3	11.9	12.2
Corporate Affairs and Outsourcing Services	7.7	5.9	7.6	5.9	4.1	8.7	4.6	9.9	5.3	5.3
General Counsel and Secretariat	5.0	5.4	5.6	5.4	4.8	5.5	5.9	5.6	4.3	4.3
Regulatory Affairs	10.5	9.3	9.4	9.8	8.7	9.6	9.5	9.8	8.8	9.0
Security Management	2.0	2.2	2.2	2.1	2.4	2.2	2.9	2.3	2.4	2.5
Internal Audit	2.6	2.4	2.7	2.4	3.7	3.3	3.2	3.4	3.0	3.1
Real Estate and Facilities	35.5	36.6	31.7	36.6	31.2	32.2	32.7	32.7	31.1	34.6
<b>Total CCF&amp;S Costs</b>	<b>95.7</b>	<b>96.9</b>	<b>92.9</b>	<b>96.4</b>	<b>90.2</b>	<b>98.3</b>	<b>96.0</b>	<b>97.5</b>	<b>87.9</b>	<b>92.8</b>
<b>Change Year over Year</b>			<b>-2.9%</b>		<b>-3.0%</b>		<b>6.4%</b>		<b>-10.4%</b>	<b>5.6%</b>
<b>Variance to Plan</b>	<b>-1.1</b>		<b>-3.4</b>		<b>-8.1</b>		<b>-1.5</b>			

3  
 4 The changes in the Hydro One Transmission portion of CCF&S costs are largely due to  
 5 the same factors noted above for changes in total CCF&S costs. The allocation of cost to  
 6 transmission in the 2020 test year is lower than 2015 actuals despite inflationary  
 7 pressures. This is the result of Hydro One's application of 'transformation costs' to pre-  
 8 IPO levels, Bill 2 legislation and corporate cost reductions previously described in  
 9 Exhibit F, Tab 2, Schedule 1, page 1. Table 3, below, shows the detailed breakdown  
 10 between labour, non-labour and where appropriate, other costs included in the CCF&S  
 11 costs for the Bridge and Test period.

1 **Table 3: Summary of Corporate Common Costs (“CCC”) (\$ millions)**

Description	Cost Type	Total Costs		Transmission Portion	
		2019	2020	2019	2020
		Forecast	Forecast	Forecast	Forecast
Corporate Management	Labour	18.6	19.1	1.1	1.1
Corporate Management	Non-Labour	7.8	7.8	1.3	1.3
<b>Corporate Management</b>	<b>Total</b>	<b>26.5</b>	<b>26.9</b>	<b>2.4</b>	<b>2.4</b>
Finance	Inergi LP	10.1	10.6	5.5	5.8
Finance	Labour	20.3	20.8	10.8	11.0
Finance	Non-Labour	4.3	4.4	2.5	2.5
<b>Finance</b>	<b>Total</b>	<b>34.6</b>	<b>35.8</b>	<b>18.8</b>	<b>19.4</b>
Human Resources	Labour	20.1	20.7	10.0	10.3
Human Resources	Non-Labour	3.8	3.6	1.9	1.9
<b>Human Resources</b>	<b>Total</b>	<b>23.9</b>	<b>24.3</b>	<b>11.9</b>	<b>12.2</b>
Corporate Affairs and Outsourcing Services	Labour	8.0	8.1	4.1	4.2
Corporate Affairs and Outsourcing Services	Non-Labour	2.5	2.5	1.2	1.1
<b>Corporate Affairs and Outsourcing Services</b>	<b>Total</b>	<b>10.5</b>	<b>10.6</b>	<b>5.3</b>	<b>5.3</b>
General Counsel and Secretariat	Labour	5.3	5.4	2.4	2.5
General Counsel and Secretariat	Non-Labour	3.8	3.8	1.9	1.9
<b>General Counsel and Secretariat</b>	<b>Total</b>	<b>9.1</b>	<b>9.1</b>	<b>4.3</b>	<b>4.3</b>
Regulatory Affairs	Labour	8.2	8.3	4.4	4.5
Regulatory Affairs	Non-Labour	11.7	11.9	4.3	4.5
<b>Regulatory Affairs</b>	<b>Total</b>	<b>19.9</b>	<b>20.3</b>	<b>8.8</b>	<b>9.0</b>
Security Management	Labour	3.7	3.8	2.3	2.3
Security Management	Non-Labour	0.3	0.4	0.1	0.2
<b>Security Management</b>	<b>Total</b>	<b>4.0</b>	<b>4.2</b>	<b>2.4</b>	<b>2.5</b>
Internal Audit	Labour	4.9	5.2	2.4	2.6
Internal Audit	Non-Labour	0.9	0.9	0.5	0.5
<b>Internal Audit</b>	<b>Total</b>	<b>5.8</b>	<b>6.2</b>	<b>3.0</b>	<b>3.1</b>
Real Estate and Facilities	Labour	6.7	6.7	5.9	5.9
Real Estate and Facilities	Non-Labour	2.8	2.9	2.2	2.2
Real Estate and Facilities	Facility	46.1	52.9	23.0	26.5
<b>Real Estate and Facilities</b>	<b>Total</b>	<b>55.5</b>	<b>62.5</b>	<b>31.1</b>	<b>34.6</b>
<b>Amount charged to Transmission customers</b>		<b>189.8</b>	<b>199.8</b>	<b>87.9</b>	<b>92.8</b>

2 \*The Facility Cost Type in Table 3 relates to work program costs that make up part of the CCF&S total as opposed to

3 labour or non-labour costs.

**2.1 CORPORATE MANAGEMENT**

Corporate Management represents those functions responsible for providing overall strategic direction to Hydro One. Corporate Management costs relate to the Board of Directors, the Chief Executive Officer (“CEO”), the Treasurer, the Chief Financial Officer (“CFO”), the Ombudsman, and the General Counsel and Corporate Secretariat as advisors to the Board of Directors and corporate officers on overall strategic matters. Table 4 presents the details of Hydro One’s total Corporate Management costs.

**Table 4: Summary of Total Corporate Management OM&A (\$ millions)**

Description	Historical				Bridge	Test
	2015	2016	2017	2018	2019	2020
					Forecast	Forecast
President/CEO Office	5.8	2.6	5.9	8.9	5.3	5.5
Chair Office	0.3	0.3	0.2	0.4	0.3	0.3
Corporate Common LTD	-	-	-	0.9	1.1	1.2
Ombudsman Office	0.1	1.3	0.7	0.9	1.0	1.0
CFO Office	1.1	2.6	2.2	3.6	2.3	2.3
Investor Relations	0.6	0.3	0.6	1.0	2.0	2.0
EVP Strategy Office	-	0.8	8.7	6.2	6.4	6.5
Treasurer's Office	-	-	-	-	-	-
Board	3.7	3.2	4.1	5.4	3.2	3.2
Corp. Secretary	0.3	0.3	0.4	0.6	0.5	0.5
General Counsel – VP	0.5	1.7	1.7	2.4	2.0	2.1
Donations	0.9	0.9	1.1	1.4	1.6	1.6
Value Growth	3.0	2.1	2.0	0.9	0.8	0.8
<b>Total Corporate Management</b>	<b>16.4</b>	<b>16.1</b>	<b>27.6</b>	<b>32.6</b>	<b>26.5</b>	<b>26.9</b>
<b>Change Year over Year</b>		<b>-1.80%</b>	<b>71.4%</b>	<b>18.1%</b>	<b>-24.1%</b>	<b>1.5%</b>



1 The General Counsel and Corporate Secretary costs included in the Corporate  
2 Management costs in Table 4, above, are specifically for the Chief Legal Officer and  
3 Corporate Secretary. These costs are separate from the specific line item for General  
4 Counsel and Secretariat costs in Table 1, above, which cover the rest of the department  
5 costs. Total CCF&S costs reflected in Table 1 increase relative to 2015 partly as a result  
6 of higher Corporate Management costs. A large part of this increase is in departments  
7 that are not recoverable from transmission or distribution customers. These are costs  
8 associated with the EVP Strategy Office, corporate donations and Investor Relations. The  
9 balance of the overall increase is largely due to increased salaries in this grouping. Hydro  
10 One has reduced the portion of costs recovered from customers related to “business  
11 transformation” to pre-IPO levels with annual escalation. Hydro One has also included  
12 the impacts of Bill 2 into the allocation of all corporate costs.

13

14 Details of the Hydro One Transmission portion of the Corporate Management costs are  
15 listed in Table 5 on the following page.

1 **Table 5: Summary of Corporate Management OM&A Allocated to Transmission**  
 2 **(\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
President/CEO Office	1.2	0.8	0.6	0.8	2.1	2.6	1.4	2.4	0.3	0.3
Chair Office	0.1	0.2	0.1	0.2	0.1	1	0.1	1	0.2	0.2
Corporate Common LTD	-	-	0.4	-	0.8	0.6	0.5	0.6	0.6	0.6
Ombudsman Office	0	-	0.4	-	0.2	-	0.1	-	0.0	0.0
CFO Office	0.3	0.4	0.8	0.4	0.8	1.1	0.6	1.1	0.1	0.1
Investor Relations	-	-	-	-	-	-	-	-	-	-
EVP Strategy Office	-	-	-	-	-	-	-	-	-	-
Treasurer's Office	-	-	-	-	-	-	-	-	-	-
Board	-	0.9	0.8	0.9	1.4	1.4	0.8	1.4	1.1	1.1
Corp. Secretary	1.0	0.2	0.1	0.2	0.1	0.3	0.1	0.3	0.2	0.2
General Counsel – VP	-	0.2	0.7	0.2	0.6	0.3	0.4	0.3	0.0	0.0
Donations	-	-	-	-	-	-	-	-	-	-
Value Growth	0.2	-	-	-	0.0	-	-	-	-	-
<b>Total Corporate Management</b>	<b>2.8</b>	<b>2.8</b>	<b>3.9</b>	<b>2.8</b>	<b>6.2</b>	<b>7.2</b>	<b>3.9</b>	<b>7.1</b>	<b>2.4</b>	<b>2.4</b>
<b>Change Year over Year</b>			<b>39.30%</b>		<b>58.97%</b>		<b>-37.1%</b>		<b>-38.8%</b>	<b>0.42%</b>
<b>Variance to Plan</b>	<b>-0.16</b>		<b>1.2</b>		<b>-1.1</b>		<b>-2.3</b>			

3  
 4 The spend in Corporate Management costs that is allocated to transmission in the bridge  
 5 and test years are lower than plan and actuals in all historical years presented. Hydro One  
 6 has also included an allocation for corporate common long term disability (“LTD”) costs  
 7 separately which were previously not planned. As demonstrated in Table 5, Hydro One  
 8 has reduced the portion of costs recovered from customers related to “business  
 9 transformation” to pre-IPO levels with annual escalation and has also included the  
 10 impacts of Bill 2 into the allocation of all corporate costs.

Witness: Joel Jodoin

1 **2.2 FINANCE**

2

3 Hydro One’s Finance division provides strategic advice and services related to planning,  
 4 processing, recording, reporting and monitoring of all financial transactions occurring  
 5 within the Company. The Finance division performs the following functions: corporate  
 6 controller services, corporate tax services, treasury services, and business planning and  
 7 financial support. Table 6 provides an overview of the Hydro One Transmission portion  
 8 of finance costs.

9

10 **Table 6: Summary of Finance Costs Allocated to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
<b>Total</b>	<b>22.9</b>	<b>25.3</b>	<b>21.5</b>	<b>24.9</b>	<b>20.0</b>	<b>21.9</b>	<b>22.3</b>	<b>19.4</b>	<b>18.8</b>	<b>19.4</b>
<b>Change Year over Year</b>			<b>-5.9%</b>		<b>-7.0%</b>		<b>11.2%</b>		<b>-11.7%</b>	<b>3.2%</b>
<b>Variance to Approved</b>	<b>-2.4</b>		<b>-3.4</b>		<b>-1.8</b>		<b>2.8</b>			
Staff Movements:										
Business Performance to Reg Affairs & Planning		-0.6		-1.1		-1.0		-1.0		
Internal Controls to Financial Reporting (“ICFR”) to Audit						-0.4		-0.5		
<b>Equivalent Costs</b>	<b>22.9</b>	<b>24.7</b>	<b>21.5</b>	<b>23.8</b>	<b>20.0</b>	<b>20.5</b>	<b>22.3</b>	<b>17.9</b>	<b>18.8</b>	<b>19.4</b>

11

12 Over the years, there have been minor transfers of resources between groups. For  
 13 comparability, the equivalent plan figure has been normalized as though these group  
 14 transfers were anticipated and is shown at the bottom of the table. After normalizing for  
 15 group transfers, actual costs are decreasing year over year and are within plan levels from  
 16 2015 through 2017. The forecast for bridge and test years show reductions from 2017  
 17 plan and actual values related to the corporate costing reductions which are discussed in  
 18 Exhibit F, Tab 2, Schedule 1. The actual cost in 2018 is higher relative to the prior year  
 19 actuals primarily due to higher insurance claims.

Witness: Joel Jodoin

1 The Finance department performs multiple functions, which are described in the  
2 subsections below.

3

4 **2.2.1 CORPORATE CONTROLLER**

5

6 The Corporate Controller function provides leadership and direction regarding financial  
7 reporting, corporate and regulatory accounting, accounting and internal control policies,  
8 and procedures to ensure statutory and regulatory compliance and consistency with  
9 GAAP. The group is also accountable for the pay and expense management functions;  
10 ensuring payroll runs are on time and accurate, and the automated expense reporting tool  
11 is working as designed.

12

13 This group oversees the development of actual financial information and manages  
14 reporting processes for appropriate audiences or stakeholders. This group is also  
15 responsible for managing and providing direction to the Company on internal financial  
16 control matters, employing measures such as “organization authority registers” and  
17 financial policies and procedures. It also provides leadership in respect of the Company’s  
18 compliance obligations pursuant to Ontario securities laws, including the Multi-  
19 Jurisdictional Disclosure System rules for a foreign-issuer registered with the U.S.  
20 Securities Exchange Commission.

21

22 Many routine financial services are outsourced to Inergi LP, such as accounts payable,  
23 accounts receivable, fixed asset accounting, general accounting, planning budgeting and  
24 reporting and pension support, human resources pay services, and a number of  
25 administrative services. The costs of these outsourced services comprise a major portion  
26 of the corporate controller costs and are detailed in Exhibit F, Tab 3, Schedule 1.

1 The Corporate Controller group manages increasingly complex statutory and regulatory  
2 filing requirements (e.g. external reporting, regulatory reporting, reporting related to debt  
3 and equity offerings). These requirements are continually evolving and require timely and  
4 accurate compliance. Timely compliance helps to maintain the Company's positive  
5 standing within the capital markets, which helps to keep financing costs down. The  
6 Corporate Controller group is also responsible for adherence to regulatory and accounting  
7 principles, which ensures the accuracy of financial reporting. Additionally, the  
8 Management Accounting and Reporting Services group fulfills internal financial  
9 reporting requirements.

10  
11 **2.2.2 CORPORATE TAX**

12  
13 Corporate Tax services manage the tax affairs (i.e., compliance, audits, and planning) for  
14 each corporate entity, partnership and trust within the Hydro One group of companies.  
15 This includes matters related to corporate income taxes, excise tax, debt retirement  
16 charge, land transfer tax, non-resident withholding tax, payroll and the employer health  
17 tax. Corporate Tax services ensure that internal and external tax compliance requirements  
18 are met. Moreover, tax consulting services are provided to other departments with respect  
19 to payroll tax, taxable benefits, agreements, financing, and all transactions and  
20 information related to tax costs for regulatory purposes.

1       **2.2.3   TREASURY**

2

3   Treasury costs are associated with the following activities:

- 4       • Executing on borrowing plans and issuing commercial paper and long-term debt;
- 5       • Ensuring compliance with securities regulations, banks and debt covenants;
- 6       • Managing the Company's daily liquidity position, controlling cash and managing  
7       the Company's bank accounts;
- 8       • Settling all transactions and managing relationships with creditors; and
- 9       • Communicating with debt investors, banks and credit rating agencies.

10

11   A portion of the Treasury budget is recovered through the cost of long-term debt, as  
12   described in Exhibit G, Tab 1, Schedule 2 and outlined in Exhibit G, Tab 1, Schedule 4.

13

14   Included in Treasury costs are expenses for the negotiation and purchase of insurance  
15   policies, and claims management and settlement. These expenses cover premiums paid  
16   for corporate shared services insurance coverage and the cost to self-insure against  
17   liability exposures that are either not covered by insurance policies or fall below the  
18   specified deductibles.

19

20   Table 7, below, shows the premiums for all of Hydro One Inc.'s insurance policies and  
21   the cost of self-insurance for the 2015-2020 period. Premiums paid for Corporate  
22   Functions and Services Insurance Policies are liability policies that cannot be readily  
23   assigned to a specific line of business. Self-insurance costs for the 2018 and 2019 period  
24   reflect the Company's risk exposures, its long-term history of claims, the deductible on  
25   the liability policies, and liability payments to third parties. The main contributor to self-  
26   insurance costs are third-party claims, which can fluctuate from year to year.

1 **Table 7: Summary of Insurance Costs Allocated to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Premiums paid for Corporate Functions and Services Insurance Policies *	1.2	1.0	0.7	1.0	0.8	1.1	1.1	1.2	1.2	0.2
Self-insurance Cost	1.5	1.2	1.1	1.1	0.2	0.7	1.4	0.7	0.6	0.6
<b>Total **</b>	<b>2.7</b>	<b>2.2</b>	<b>1.8</b>	<b>2.1</b>	<b>1.0</b>	<b>1.8</b>	<b>2.5</b>	<b>1.9</b>	<b>1.8</b>	<b>1.9</b>
<b>Change Year over Year</b>			<b>-33.3%</b>		<b>-44.4%</b>		<b>150.0%</b>		<b>-28.0%</b>	<b>5.6%</b>
<b>Variance to Plan</b>	<b>0.50</b>		<b>(0.30)</b>		<b>(0.80)</b>		<b>0.60</b>			

2 *\*The cost of other insurance coverage that applies to only certain lines of business is captured and reported by the*  
 3 *lines of business where coverage is applicable*

4

5 **2.2.4 CHIEF RISK OFFICER**

6

7 The Chief Risk Officer’s department provides an enterprise wide approach to managing  
 8 risk and embeds risk management into the strategy of the organization. Corporate Risk  
 9 provides uniform processes to assist decision makers in the understanding of uncertainty  
 10 and how it can be measured, mitigated and exploited, leading to informed choices,  
 11 prioritized actions, and resources allocation in line with Hydro One’s risk appetite and  
 12 tolerances.

13

14 **2.2.5 BUSINESS PLANNING AND FINANCIAL SUPPORT**

15

16 The business planning and financial support group is responsible for establishing and  
 17 leading the annual business planning and budgeting processes. Additionally, the group is  
 18 also responsible for the following functions:

- 19 • Performing business case reviews, business valuations, transaction support;
- 20 • Developing and maintaining financial models;

Witness: Joel Jodoin

- 1 • Providing analytical support for a variety of financial planning and reporting
- 2 processes; and
- 3 • Compiling forecast information for the appropriate audiences or stakeholders.

4

5 **2.3 HUMAN RESOURCES**

6

7 The Human Resources department ensures that Hydro One has the policies, systems, and

8 programs to attract, manage, engage, and retain a high-performing workforce to execute

9 business strategy. The department provides human resources consulting, leadership

10 development and recruiting, diversity and inclusion and resourcing programs,

11 compensation and benefits services, and labour relations services.

12

13 Table 8, below, provides an overview of the Hydro One Transmission portion of human

14 resources-costs.

15

16 **Table 8: Summary of Human Resources Costs Allocated to Transmission**

17 **(\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
<b>Total</b>	6.8	6.9	8.3	6.5	9.2	7.6	11.1	7.3	11.9	12.2
<b>Change Year over Year</b>			22.7%		10.1%		20.8%		10.6%	2.0%
<b>Variance to Plan</b>	-0.1		1.8		1.5		3.8			

18

19 In 2017 the human resource function began a transformation that will modernize its core

20 processes. This multi-year program has three strategic priorities that support the

21 Company’s overall strategy. They are Operational Excellence, Customer Centric

22 Commercial culture and Organizational Competency Development. The transformation

23 has four guiding principles that will shape the modern human resources function:

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- 1       • Build agility in the operating model;
- 2       • Simplify and optimize business processes;
- 3       • Embrace analytics and;
- 4       • Employee Experience matters.

5

6       Collectively, projects that embody these priorities and principles will shape  
7       improvements in how Hydro One selects employees for their roles, builds their skills and  
8       opportunities for growth, engages and motivate them to perform at the highest level, and  
9       values their contribution to the Company's success.

10

11       Cost increases from 2015 through to 2017, were primarily due to increased costs for: (a)  
12       building and sustaining new compensation structures; (b) a renewed focus on  
13       performance management; and (c) a renewed focus on change management initiatives  
14       intended to maximize the value of corporate change initiatives.

15

16       Higher costs in 2018 and forecasted for 2019 and 2020 are due to a renewed investment  
17       in human resources talent. In order to meet new demands and greater expectations for  
18       human resource products and services, Hydro One has recruited additional external  
19       resources that will enable the function to deliver on what is needed to support the  
20       execution of the overall business strategy.

21

22       The Human Resources department performs multiple functions, which are described in  
23       the subsections below.

1       **2.3.1   EMPLOYEE AND LABOUR RELATIONS**

2  
3       Hydro One's Employee and Labour Relations group is comprised of Human Resource  
4       Business Partners. Human Resource Business Partners provides strategic advice and  
5       guidance to managers, supervisors, and employees on a myriad of issues related to human  
6       resources policies and procedures, collective agreement administration, staffing, and  
7       other large initiatives that impact staff. The Labour Relations function provides strategic  
8       advice, guidance, and training to managers regarding collective agreements and labour  
9       legislation, and manages the grievance and arbitration process. Hydro One is a party to 25  
10      collective agreements and a number of mid-term agreements and letters of understanding.  
11      The Labour Relations function negotiates and administers all such agreements and letters  
12      of understanding that deal with labour relations. The centralized Service Center is the  
13      initial point of contact for advice and support on a wide range of human resources topics  
14      such as recruitment, benefits, pensions, compensation, payroll, collective agreement  
15      administration, legislation, HR policies, and procedures.

16  
17      **2.3.2   TOTAL REWARDS AND TALENT MANAGEMENT**

18  
19      The Total Rewards function manages compensation (including equity based  
20      compensation programs) and benefits for all Hydro One's employees and pensioners.  
21      This function provides regular, strategic reports to senior management on topics such as  
22      retirement demographics, headcount, overtime, and data for OEB submissions. This  
23      function facilitates the Company's participation in industry-wide compensation, benefit,  
24      and pension surveys. It also administers Hydro One's pension plan for approximately  
25      7,100 pensioners and the benefits program for all employee groups.

26      The Talent Management function recommends and administers policy in areas related to  
27      external hiring, leadership development, and performance and talent management. This

1 function manages all of Hydro One's management and leadership development activities,  
2 including the assessment of high-potential succession candidates, succession planning  
3 and miscellaneous specialized one-off hiring initiatives, as may be required. The Talent  
4 Management function also manages Hydro One's principal cyclical hiring and on-  
5 boarding processes, Hydro One's new graduate training and development program, and  
6 co-op hiring.

### 7 8 **2.3.3 CHANGE MANAGEMENT**

9  
10 The Organizational Change Management department supports organizational culture  
11 change initiatives (i.e. launch of Corporate Values) in support of the strategic plan and  
12 human resource strategy. The team also supports the Lines of Business in realizing the  
13 benefits of major projects by using a structured, people-focused approach to drive  
14 adoption of change. The team is an enabler for transforming the Company into the  
15 customer-centric commercial entity the Company strategy envisions. The Change  
16 Management group also leads the organizations Diversity and Inclusion Strategy and  
17 initiatives.

### 18 19 **2.4 CORPORATE AFFAIRS AND OUTSOURCING SERVICES**

20  
21 Table 9, below, provides an overview of the Hydro One Transmission portion of  
22 Corporate Affairs and Outsourcing Services costs.

1 **Table 9: Summary of Corporate Affairs and Outsourcing Services Costs Allocated**  
 2 **to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Indigenous Relations	1.4	1.9	1.6	1.9	0.6	2.6	1.1	2.7	1.5	1.5
Corporate Affairs and Government Relations	4.7	2.4	5.5	2.4	2.9	5.4	3.1	5.4	3.5	3.5
Outsourcing Services	1.6	1.7	0.5	1.7	0.6	0.7	0.4	1.8	0.3	0.3
Total*	7.7	5.9	7.6	5.9	4.1	8.7	4.6	9.9	5.3	5.3
Change Year over Year			-1.3%		-46.1%		12.3%		8.2%	0%
Variance to Plan	1.8		1.7		-4.6		-5.3			

3

4 Overall spending for Indigenous Relations is consistent with past years and the forecast  
 5 for bridge and test years have been adjusted accordingly.

6

7 The Outsourcing Services department spend has been lower than plan due to lower non-  
 8 labour spend for support in renegotiation of outsourced contracts in 2016-2018. The plan  
 9 values in the bridge and test years for Outsourcing Services and Corporate Affairs have  
 10 been adjusted to reflect outcomes of the corporate costing reductions previously  
 11 described.

12

13 The Indigenous Relations, Corporate Affairs and Outsourcing Services departments are  
 14 further described below.

15

16 **2.4.1 INDIGENOUS RELATIONS**

17

18 Hydro One is committed to working with Indigenous peoples in a spirit of cooperation  
 19 and shared responsibility. Hydro One acknowledges that Indigenous peoples have unique  
 20 historic and cultural relationships with their land and a unique knowledge of the natural  
 21 environment. Forging meaningful relationships with Indigenous peoples based upon trust,

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1 confidence, and accountability is vital to achieving Hydro One's corporate objectives.  
2 Hydro One recognizes distinctions between and among First Nations, Inuit, and the  
3 Métis.

4  
5 Hydro One provides electricity distribution services to 88 First Nation communities. The  
6 Company's transmission assets are located within the traditional territories of First  
7 Nations and on-reserve lands of 23 First Nations communities served by Hydro One.

8  
9 The main objective of the Indigenous Relations team is to develop and maintain mutually  
10 beneficial long-term relationships with Indigenous communities that are serviced by  
11 Hydro One. The team's core mandate includes: (i) undertaking procedural aspects of  
12 consultation, as required by law guided by leading industry practices, in the early stages  
13 of, and throughout, projects that may have an impact on Indigenous rights; (ii) ensure  
14 Hydro One's employees have the skills, training and resources necessary to perform their  
15 duties with respect to developing and advancing relationships with Indigenous peoples  
16 that demonstrate mutual respect and understanding of the unique rights of Indigenous  
17 peoples; (iii) support efforts to increase of procurement opportunities for Indigenous  
18 businesses; (iv) support efforts to increase Indigenous representation in all levels in  
19 Hydro One's workforce.

20  
21 The team develops and maintains relationships across all Hydro One lines of business to  
22 provide ongoing advice and support on matters related to Indigenous communities which  
23 include developing Indigenous relations integration plans, promoting opportunities and  
24 undertaking outreach activities with: (a) Human Resources for Indigenous workforce  
25 acquisition, retention and development, employment and training opportunities; (b)  
26 Supply Chain for Indigenous procurement and business development opportunities; (c)  
27 Customer Care for First Nations customer service matters such as the Get Local First  
28 Nations Initiative; (d) Real Estate for First Nations permitting matters and to seek good

Witness: Joel Jodoin

1 faith resolution of transmission and distribution line issues on First Nation reserve lands  
2 in a fair manner; (e) Provincial Lines and Forestry for various access and communication  
3 protocol matters and contract opportunities; (f) Environmental Engineering and Project  
4 Support for consultation and project impact mitigation opportunities; (g) Conservation  
5 Demand Management for delivering the First Nations Conservation Program and the  
6 Affordability Fund on reserve lands; (h) Corporate Affairs for Indigenous communities  
7 grants and sponsorship opportunities; (i) Strategy and Corporate Development for  
8 developing innovative energy projects such as net metering, micro grid and electrical  
9 vehicle charging station projects and; (j) Planning for transmission and distribution assets  
10 management and network connections and development matters such as the First  
11 Nations' electrical system reliability strategy initiative.

12  
13 Overall Hydro One works proactively to build relationships with Indigenous peoples  
14 based on understanding, respect and mutual trust and respects the rights of Indigenous  
15 peoples including the Aboriginal and treaty rights of Aboriginal peoples as recognized  
16 and affirmed in section 35 of the *Constitution Act, 1982*.

17  
18 Bridge and Test year costs are expected to remain consistent with historical actual levels.

#### 20 **2.4.2 CORPORATE AFFAIRS AND GOVERNMENT RELATIONS**

21  
22 The Corporate Affairs and Government Relations function develops customer  
23 communication material to ensure customers are aware of the Company's programs,  
24 upgrades, planned power outages, and power quality. The team is also accountable for  
25 customer education, media relations, and web communications for Hydro One's  
26 corporate website.

1 The Government Relations function also manages the Company's relationship with key  
2 external stakeholders, such as the government, Ministry of Environment, energy  
3 regulators, elected officials, municipal associations, industry associations, and energy  
4 sector stakeholders, in order to address customer needs. The team is responsible for  
5 providing various lines of business with public affairs and community relations advice  
6 during the environmental, legal, and regulatory approvals phases of a project to ensure  
7 requirements are met and public consultations are conducted. The team leads public  
8 consultation, environmental assessments, and community engagement functions in  
9 support of new development projects, maintenance, and forestry programs.

10  
11 The bridge and test year forecasts have been reduced relative to 2018 plan and are  
12 consistent with maintaining spend at historical levels.

### 13 14 **2.4.3 OUTSOURCING SERVICES**

15  
16 Outsourcing Services is accountable for governing the Inergi LP outsourcing agreement  
17 by ensuring that contracted services are delivered and that Hydro One maintains a  
18 collaborative working relationship with the supplier. It is also responsible for managing  
19 the design, development, and implementation of new service delivery agreements with  
20 Hydro One's outsourcing suppliers (e.g., re-tendering or potential new outsourcing). The  
21 services outsourced currently include: infrastructure management, application  
22 development and maintenance, settlements, payroll, finance and accounting, and source  
23 to pay.

### 24 25 **2.5 GENERAL COUNSEL AND CORPORATE SECRETARIAT**

26  
27 Table 10, below, provides an overview of the Transmission portion of General Counsel  
28 and Corporate Secretariat costs.

Witness: Joel Jodoin

1 **Table 10: Summary of General Counsel and Corporate Secretariat Costs Allocated**  
 2 **to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
<b>Total</b>	5.0	5.4	5.6	5.4	4.8	5.5	5.9	5.6	4.3	4.3
<b>Change Year over Year</b>			12.0%		-14.3%		22.9%		-27.1%	0%
<b>Variance to Plan</b>	-0.4		0.2		-0.7		0.3			

3

4 Historical actuals are in line with plan levels. The higher spend in 2018 relative to the  
 5 prior year is related to an expected increase in consulting related costs. The bridge and  
 6 test years have been adjusted to reflect the outcome of the corporate costing reductions  
 7 previously described, bringing the 2020 test year level to amounts less than those  
 8 incurred and planned in 2015.

9

10 The General Counsel and Corporate Secretariat group provides legal advice and direction  
 11 to Hydro One and its affiliates, as well as overall guidance in the areas of corporate  
 12 structure, governance, business ethics, and the Hydro One Code of Conduct. The group  
 13 performs the following primary functions:

- 14 • Ensuring compliance with law and providing legal services relating to all of  
 15 Hydro One's activities, including the Company's major borrowing and financing  
 16 initiatives, regulatory matters, mergers and acquisitions, litigation, transmission  
 17 and distribution operations, employer-related activities, corporate governance-  
 18 related matters, and health, safety and environment activities;
- 19 • Providing corporate secretariat services, which includes supporting the Chair of  
 20 the Board of Directors, the Board of Directors, and its committees and advising  
 21 on a variety of board-related matters, such as best practices and emerging trends  
 22 and issues in the area of corporate governance; and

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- 1       • Providing advice and direction with regard to Hydro One’s Code of Conduct,  
2       ensuring appropriate actions are taken to resolve known or suspected violations.

3

4       The level of required legal and corporate secretarial services is driven by capital and  
5       OM&A activities and increasing regulatory and legislative oversight. Most of the legal  
6       work is performed in-house. External legal services are retained when in-house expertise  
7       is not available or when the workload exceeds the capacity of the internal legal group.

8

9       **2.6     REGULATORY AFFAIRS**

10

11       Hydro One’s Regulatory Affairs division manages the Company’s relationships with  
12       regulatory bodies such as the OEB, the IESO, and the NEB. It is responsible for  
13       developing regulatory strategy and coordinating submissions to these organizations and  
14       participating in regulatory initiatives.

15

16       Table 11, below, provides an overview of the Transmission portion of Regulatory Affairs  
17       costs.

**Table 11: Summary of Regulatory Affairs Costs Allocated to Transmission**

(\$ millions)

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Regulatory Affairs	3.2	3.7	3.3	3.6	4.3	4.5	5.5	4.5	4.5	4.6
OEB / Other Costs	7.3	5.6	6.1	6.1	4.4	5.1	4.0	5.4	4.3	4.4
<b>Total</b>	<b>10.5</b>	<b>9.3</b>	<b>9.4</b>	<b>9.8</b>	<b>8.7</b>	<b>9.6</b>	<b>9.5</b>	<b>9.8</b>	<b>8.8</b>	<b>9.0</b>
<b>Change Year over Year</b>			<b>-10.5%</b>		<b>-7.4%</b>		<b>9.2%</b>		<b>-20.0%</b>	<b>2.3%</b>
<b>Variance to Plan</b>	<b>1.2</b>		<b>-0.4</b>		<b>-0.9</b>		<b>-0.3</b>			
Staff Movements:										
Business Performance from Finance to Regulatory		0.6		0.6		0.2		0.2		
Reliability Standards Readiness and Strategy from Planning to Regulatory						0.5		0.5		
<b>Equivalent Costs</b>	<b>10.5</b>	<b>9.9</b>	<b>9.4</b>	<b>10.4</b>	<b>8.7</b>	<b>10.3</b>	<b>9.5</b>	<b>10.5</b>	<b>8.8</b>	<b>9.0</b>

Over the years, there have been minor transfers of resources between groups. For comparability, the equivalent plan figure has been normalized as though these group transfers were anticipated and is shown at the bottom of the table. After normalizing for group transfers, actual costs are at or below plan levels in 2015 through 2018, and decrease in the bridge and test years.

The Regulatory Affairs division performs compliance, applications, pricing and load forecasting, and regulatory reporting. These functions are described in this section.

### 2.6.1 COMPLIANCE AND SUPPORT

The regulatory Compliance function ensures Hydro One's compliance with the regulations and policies of the OEB, the IESO, and the NEB as they apply to Hydro One's distribution and transmission businesses. The Reliability Standards group moved from the Planning area to Regulatory Affairs in August 2017. This move has better

Witness: Joel Jodoin

1 aligned Hydro One's Compliance Assurance activities. The Compliance and Support  
2 group also manages the filing of information with Regulatory bodies, such as the  
3 Reporting and Record-keeping Requirements (“RRR”) of the OEB.

#### 4 5 **2.6.2 APPLICATIONS**

6  
7 The Applications function coordinates, prepares, and processes regulatory applications  
8 and provides support to witnesses in regulatory proceedings and business support staff.  
9 These services are provided for a wide range of regulatory applications, including  
10 distribution and transmission revenue requirement applications, transmission leave-to-  
11 construct applications, and applications related to mergers, acquisitions, amalgamations,  
12 divestitures, and area and system supply planning.

#### 13 14 **2.6.3 PRICING AND LOAD FORECASTING**

15  
16 This function provides pricing and cost allocation analysis and support for rate  
17 applications. This work entails developing rates for transmission and distribution tariffs  
18 and supporting the preparation and defense of rate proposals. The function also assists  
19 with the implementation of approved transmission and distribution rates.

20  
21 The load forecasting and load data management functions are included within the  
22 Regulatory Affairs group. Load forecasts are developed to enable system planning and  
23 financial planning which underpin Hydro One's financial forecasts. The load forecast  
24 function provides load forecast data including the capture of conservation and demand  
25 management impacts. This function also provides analytical support for conservation and  
26 demand management projects and provides load research analysis. Load forecast staff  
27 supports the Company's business units and the IESO with forecasting analysis and  
28 evaluation, covering matters such as time-of-use, bypass, and embedded generation.

Witness: Joel Jodoin

1       **2.6.4    ONTARIO ENERGY BOARD (OEB) / OTHER COSTS**

2

3       The OEB/Other costs include the external costs associated with applications filed with  
4       regulatory bodies. Specifically, these costs stem from the provision of notice, stakeholder  
5       and consultation activities, provision of expert studies and witnesses, hearing-related  
6       expenses, intervenor cost awards, and miscellaneous items such as printing and shipping.  
7       Over the Test period, Hydro One anticipates filing two major revenue requirement  
8       applications, several facility applications, as well as filings related to real estate, and  
9       regional planning efforts.

10

11       The OEB/Other costs also include Hydro One's share of the OEB's costs, including  
12       expenses related to the OEB's quarterly assessments, proceedings and intervenor cost  
13       awards, and regulatory license assessments.

14

15       Under the *Ontario Energy Board Act, 1998*, the OEB is required to recover all of its  
16       annual operating costs. Almost all of its costs are recovered from gas and electricity  
17       distributors and electricity transmitters. A small fraction of OEB costs are recovered from  
18       the IESO and Ontario Power Generation and from licensing fees and penalties. OEB  
19       costs that are subject to recovery include expenses related to staff, office space,  
20       administration and overheads. These costs are allocated to one of five categories:  
21       electricity distribution, electricity transmission, gas distribution, IESO, and Ontario  
22       Power Generation. Hydro One's share of OEB costs is derived from the allocations to  
23       electricity distribution and transmission.

**2.7 SECURITY MANAGEMENT**

Table 12, below, provides an overview of the Transmission portion of Security Management costs.

**Table 12: Summary of Security Management Costs Allocated to Transmission (\$ millions)**

Description	Historical						Bridge	Test		
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
<b>Total</b>	2.0	2.2	2.2	2.1	2.4	2.2	2.9	2.3	2.4	2.5
<b>Change Year over Year</b>			10.0%		9.1%		20.7%		-20.0%	4.2%
<b>Variance to Plan</b>	-0.2		0.1		0.2		0.6			

Historical actuals are consistent with plan levels. 2018 actuals are above historical due to higher than planned labour costs. The bridge and test year forecast shows increases from historical plan levels in order to fund additional staffing to meet Hydro One's security requirements which are discussed on the following page.

The Security Management function encompasses Cyber Security, Physical Security, Emergency Preparedness, Crisis Management and NERC Compliance. The primary mandate of the function is the protection of assets (including people, property, Information Technology and information), development and maintenance of business continuity and emergency preparedness and response plans, and to support the reliable delivery of electricity. Security Management adds value by establishing security standards for the enterprise, operating a cyber-operations security function and works on an enterprise basis with all lines of business to provide advice, coordination and solutions to achieve the security standards. This supports the reliable delivery of electricity, the

Witness: Joel Jodoin

1 protection of Hydro One's assets, and the resumption of business in the event of an all-  
2 hazards (i.e. natural, technological or human-caused) incident. Effective asset protection  
3 and recovery can be the primary differentiating factor between success and failure for  
4 Hydro One's business objectives.

5

6 The Security Program at Hydro One is continually being enhanced with new capabilities  
7 that are required to meet the following requirements:

- 8 • To remain appropriately positioned against an evolving threat landscape that is  
9 increasing in complexity and sophistication. This requires Hydro One to augment  
10 and deploy new protective technologies and processes to safeguard assets;
- 11 • To meet increasing regulatory and legislative requirements, which in turn, drive  
12 the need for additional security capabilities and compliance requirements and;
- 13 • The increasing expectations of customers and stakeholders that entrust Hydro One  
14 to safeguard their sensitive information.

15

16 The increase in costs in 2018 and continuing forward represent additional staff in  
17 Security Operations to achieve and sustain the three requirements listed above.

18

## 19 **2.8 INTERNAL AUDIT**

20

21 Table 13, below, provides an overview of the Transmission portion of Internal Audit  
22 costs.

1 **Table 13: Summary of Internal Audit Costs Allocated to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
<b>Total</b>	<b>2.6</b>	<b>2.4</b>	<b>2.7</b>	<b>2.4</b>	<b>3.7</b>	<b>3.3</b>	<b>3.2</b>	<b>3.4</b>	<b>3.0</b>	<b>3.1</b>
<b>Change Year over Year</b>			<b>3.8%</b>		<b>37.0%</b>		<b>-13.5%</b>		<b>-9.1%</b>	<b>3.3%</b>
<b>Variance to Plan</b>	<b>0.2</b>		<b>0.3</b>		<b>0.4</b>		<b>-0.2</b>			
Staff Movements:										
ICFR from Finance						0.4		0.5		
<b>Equivalent Costs</b>	<b>2.6</b>	<b>2.4</b>	<b>2.7</b>	<b>2.4</b>	<b>3.7</b>	<b>3.7</b>	<b>3.2</b>	<b>3.9</b>	<b>3.0</b>	<b>3.1</b>

2

3 The increase in the costs from 2015 through 2017 is the result of an increased need for  
 4 improved Internal Audit capability and capacity due to more stringent governance needs.  
 5 Additionally, there have been minor transfers of resources between groups. For  
 6 comparability, the equivalent plan figure has been normalized in 2017-2018 as though  
 7 these group transfers were anticipated and is shown at the bottom of the table. After  
 8 normalizing for group transfers, actual costs are in line with or below plan levels in these  
 9 years. The bridge and test year forecast has been reduced as a result of the corporate  
 10 costing reductions previously described.

11

12 The Internal Audit group reports on a functional basis to the Audit Committee of the  
 13 Board of Directors and administratively to the CFO. It provides independent and  
 14 objective assurance and consulting services designed to add value and improve Hydro  
 15 One's operations. The group's mandate is to provide independent assurance to  
 16 management of the Company and to the Board of Directors that internal controls are  
 17 designed and operating effectively in areas of material business risk, both financial and  
 18 non-financial, and to follow-up and report on timeliness and effectiveness of management  
 19 actions to address findings from past audits.

Witness: Joel Jodoin

1 The Internal Audit group helps Hydro One accomplish its objectives by bringing a  
 2 systematic and disciplined approach to evaluating and improving the effectiveness of risk  
 3 management, internal control, and governance processes.

4

5 **2.9 REAL ESTATE AND FACILITIES**

6

7 Table 14, below, provides an overview of the Hydro One Transmission portion of Real  
 8 Estate and Facilities costs.

9

10 **Table 14: Summary of Real Estate and Facilities Costs Allocated to Transmission**  
 11 **(\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Real Estate	6.9	7.9	6.7	8.0	6.5	7.6	7.4	7.6	7.4	7.4
Facilities	28.6	28.7	24.9	28.6	24.7	24.6	25.3	25.1	23.7	27.2
<b>Total</b>	<b>35.5</b>	<b>36.6</b>	<b>31.7</b>	<b>36.6</b>	<b>31.2</b>	<b>32.2</b>	<b>32.7</b>	<b>32.7</b>	<b>31.1</b>	<b>34.6</b>
<b>Change Year over Year</b>			<b>-10.7%</b>		<b>-1.6%</b>		<b>4.8%</b>		<b>-8.3%</b>	<b>11.3%</b>
<b>Variance to Approved</b>	<b>-1.1</b>		<b>-4.9</b>		<b>-1.0</b>		<b>0.0</b>			

12

13 Real Estate and Facilities OM&A funding for the test years is required for the facilities  
 14 work program that responds to current and future anticipated work space accommodation  
 15 needs. This includes new facilities in the field. The funding requirements in these years  
 16 mainly reflect fixed operating costs for Facilities.

17

18 Table 14 includes historical performance, where notably the ongoing net cost has  
 19 decreased from 2015 levels. The historical Facilities spend has been largely within plan  
 20 levels. The reduction in the 2019 bridge year is due to managed deferrals in facility  
 21 cleaning and maintenance at head office and field locations. These managed deferrals are

Witness: Joel Jodoin



1 temporary in nature and Hydro One plans to return to historical maintenance levels in the  
2 test period.

3  
4 **2.9.1 REAL ESTATE SERVICES**

5  
6 The Real Estate Services function manages Hydro One's land rights portfolio across the  
7 Province. This involves maintaining rights across over 200,000 acres of owned corridor,  
8 easement and "statutory right" properties, as well as acquiring any new rights needed to  
9 ensure the safe and reliable operation of the transmission and distribution system. This  
10 function also oversees the management of Hydro One's rights associated with  
11 distribution and transmission lands, stations and other property.

12  
13 The Real Estate Services key work activities include:

- 14 • Managing the acquisition of new real estate rights, which supports the Company's  
15 distribution and transmission development and reinforcement project initiatives  
16 across the province, including those designed to accommodate renewable power  
17 sources on the grid, which aligns with the Renewed Regulatory Framework  
18 ("RRF") outcomes of Operational Effectiveness and Public Policy  
19 Responsiveness;
- 20 • Managing the provincial secondary land use program on behalf of the Ministry of  
21 Infrastructure, Infrastructure Ontario (leasing transmission corridor lands to  
22 external parties);
- 23 • Managing easement, other rights agreements on public/private sector, railway and  
24 other lands;
- 25 • Managing First Nation land use permit settlements on reserve lands;
- 26 • Managing about 500,000 unregistered, low-voltage, real estate rights agreements;
- 27 • Providing specialized real estate service activities including managing property  
28 tax payments to municipalities; and

Witness: Joel Jodoin

1       • Maintaining the property records in the Geographic Information System (“GIS”)  
2 More specific support is provided on an ad-hoc basis. This includes provision of land  
3 ownership information, damage claim settlement, road access, and other rights  
4 acquisitions. Specialized real estate services are provided as necessary. This includes  
5 assessment appeals, payment of property taxes on lands/buildings, and employee  
6 relocation services as required.

7  
8       **2.9.2 FACILITIES**  
9

10 The Facilities work program addresses all aspects of Company work space requirements.  
11 This involves managing Company-owned facilities and a portfolio of leased facilities as  
12 well as overseeing the construction of new facilities. The work program focuses on  
13 ensuring compliance with laws and applicable codes, for example: (a) employee  
14 workspace at sites across the province including head office, administrative and service  
15 centres, the Ontario Grid Control Center (“OGCC”), and other work locations, such as  
16 the London Call Centre, and (b) storage and garage facilities that meet business  
17 requirements.

18  
19 The Facilities function is accountable for:

- 20       • The management of 50 contract lease agreements for workspace rented from other  
21 parties, including renewals and contractual obligations undertaken regarding  
22 payment of rent, operating expenses, and taxes;
- 23       • The coordination of activities related to the ongoing management, operation,  
24 maintenance, and inspection of 90 administrative/service centres, OGCC;
- 25       • Managing support services for head office space, such as the provision of office  
26 supplies, coordinating office moves, and providing tenant services; and
- 27       • Developing accommodation strategies and acquiring new employee/trades  
28 workspace in line with operational requirements.

1 Facilities expenses include, but are not limited to, leasing costs, contract management  
2 costs for head office, as well as costs for administrative facilities, service centres, and  
3 other work locations. A significant portion of the workload needs are met by engaging  
4 outsourcing partners, such as Brookfield Global Integrated Solutions, as described in  
5 Exhibit F, Tab 3, Schedule 1. Facilities costs are largely driven by space needs which are  
6 determined by Hydro One's work programs, business and regulatory requirements, and  
7 fixed cost contractual obligations.

8  
9 The majority of the Facilities work program costs are fixed. The Facilities work program  
10 is driven by fixed-cost contractual obligations, which arise primarily through lease  
11 agreements. For example, rent, operating and tax costs are fixed by lease agreements.  
12 Other costs are set by Hydro One's contracts with service providers for facility  
13 maintenance and other services. It is expected that fixed facility cost components (such as  
14 utilities, property taxes, operational costs) will continue to rise.

15  
16 **3. TEST YEAR FORECAST**

17  
18 **3.1 CUSTOMER FOCUS OUTCOMES**

19  
20 Corporate Affairs funding helps Hydro One improve overall customer satisfaction (as  
21 described in the Performance Measurement for Continuous Improvement at TSP Section  
22 1.5). Relationships with Indigenous communities, key external stakeholders, and local  
23 communities will continue to evolve, which will result in improved engagement during  
24 all stages of Hydro One development projects. Considerable focus will be placed on a  
25 renewed commitment to exceeding customers' expectations and to operational  
26 excellence. Hydro One's average customer satisfaction performance over the past five  
27 years (2014 to 2018) was 84 per cent. Over the term of the Application, Hydro One plans

Witness: Joel Jodoin

1 to exceed its historical average, targeting 88 per cent overall customer satisfaction (as  
2 outlined in the Hydro One Proposed Transmission Scorecard at TSP Section 1.5).

3

### 4 **3.2 OPERATIONAL EFFECTIVENESS OUTCOMES**

5

6 Productivity and employee engagement are areas of focus for the new management team.  
7 With ongoing improvements in engagement, workforce performance improvements are  
8 anticipated. Hydro One will continue to execute on established productivity initiatives  
9 and has committed to finding new initiatives in the test years. Productivity is further  
10 described in the TSP, Tab 1, Schedule 6.

11

### 12 **3.3 PUBLIC POLICY RESPONSIVENESS OUTCOMES**

13

14 The Audit function at Hydro One ensures internal processes are performing as expected  
15 and ensures compliance with related codes, standards and regulations.

16

### 17 **3.4 FINANCIAL PERFORMANCE OUTCOMES**

18

19 The CCF&S groups, specifically the Corporate Management group, manage the  
20 Company as a whole to perform as well as possible. Hydro One has recruited leaders with  
21 a proven track record of results at executive compensation levels consistent with the  
22 market (see Exhibit F, Schedule 4 Tab 1). Executive compensation is largely variable to  
23 ensure that the executives are incented to deliver on the stated RRF-compliant outcomes  
24 described at TSP Section 1.5.

1 **4. OTHER OM&A**

2

3 Other OM&A expenses are comprised of credits associated with capitalized overhead,  
 4 environmental provisions, indirect depreciation and other costs as listed in Table 15.

5

6

**Table 15: Transmission Other OM&A (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Capitalized Overhead	-116.9	-123.3	-117.1	-120.3	-125.0	-133.2	-124.5	-134.7	-114.1	-119.4
Environmental Provision	-7.3	-6.3	-7.4	-6.0	-8.2	-11.6	-6.8	-10.0	-6.8	-12.6
Indirect Depreciation	-5.5	-6.4	-5.5	-6.7	-5.6	-5.7	-5.1	-5.8	-5.2	-5.3
Other	13.0	2.0	2.8	2.0	-4.0	0.8	5.4	2.0	-7.5	-0.9
<b>Total</b>	<b>-116.8</b>	<b>-134.0</b>	<b>-127.3</b>	<b>-131.1</b>	<b>-142.8</b>	<b>-149.7</b>	<b>-130.9</b>	<b>-148.5</b>	<b>-133.6</b>	<b>-138.1</b>
<b>Change Year over Year</b>			<b>9.0%</b>		<b>12.2%</b>		<b>8.3%</b>		<b>-10.0%</b>	<b>3.4%</b>
<b>Variance to Plan</b>	<b>17.2</b>		<b>3.8</b>		<b>6.9</b>		<b>17.5</b>			

7

8 **4.1 CAPITALIZED OVERHEAD CREDIT**

9

10 Capitalized overheads represent the portion of allocated Common Corporate and/or  
 11 business unit functions and services that support capital work. These costs are included in  
 12 Common Corporate services and the budgets of other lines of business. OM&A expenses  
 13 are thus reduced by the capitalized amounts.

14

15 Capitalized OM&A costs are charged to capital work based on a capital overhead rate  
 16 derived from the allocation and capitalization studies performed by Black & Veatch, as  
 17 described in Exhibit C, Tab 8, Schedule 2. As the capital work program increases, more  
 18 overheads are capitalized.

Witness: Joel Jodoin

1     **4.2     ENVIRONMENTAL PROVISION**

2  
3     In 2001, Hydro One first recognized a liability on its balance sheet for the present value  
4     of the future estimated environmental expenditures needed to manage the risks associated  
5     with two legacy environmental issues inherited from Ontario Hydro. These risks  
6     pertained to polychlorinated biphenyls and two chemically contaminated lands. Future  
7     expenditures are required to inspect, test and remediate the contamination. Environmental  
8     work is initially recognized in the Sustaining OM&A work program and is detailed in  
9     Exhibit F, Tab 1, Schedule 3. The amount is then removed from OM&A as the costs are  
10    charged to the balance sheet provision. The offsetting environmental regulatory asset is  
11    amortized based on the pattern of expenditure. The resultant impact on revenue  
12    requirement of this environmental work is nil, since the amortization expense is grouped  
13    with “Depreciation and Amortization” on the operating statement.

14  
15    **4.3     INDIRECT DEPRECIATION**

16  
17    Transportation and Work Equipment (“TWE”) charges in the OM&A work programs  
18    include depreciation expense associated with the asset being used. For accounting  
19    classification purposes, it is necessary to remove this depreciation amount from OM&A  
20    work programs and appropriately charge it as a depreciation expense. This credit is  
21    relatively flat year over year.

1    **4.4    OTHER COSTS**

2

3    These costs represent material unexpected or non-recurring expenses. For example, they  
4    include items such as adjustments to provisions, vacation reserves, Gregorian or fiscal  
5    calendar adjustments, and inventory adjustments. In 2015, the large increase in OM&A  
6    was mainly due to project write-offs. Other costs are relatively flat through the period  
7    with the exception of the 2019 test year which includes planned insurance recovery  
8    proceeds.

**COMMON CORPORATE COSTS OM&A – PLANNING**

**1. SUMMARY OF PLANNING OM&A**

As described in the Transmission System Plan (“TSP”), Hydro One plans its transmission and distribution businesses using an asset management model. These plans are designed to maintain or replace, as necessary, transmission and distribution assets in a cost-effective manner, so that they continue to function as originally designed, providing safe and reliable service to Hydro One’s customers.

The total costs associated with the planning function for the historical, Bridge and Test year are shown in Table 1.

**Table 1: Summary of Total Common Corporate OM&A – Planning (\$ millions)**

Description	Historical				Bridge	Test
	2015	2016	2017	2018	2019	2020
Planning	47.4	45.1	44.3	46.8	38.9	38.1

Of these total costs, Table 2 shows the amounts that have been allocated to Hydro One Transmission during the same time period.

**Table 2: Summary of Common Corporate OM&A – Planning Allocated to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Planning	31.0	37.2	32.9	35.7	32.0	36.5	31.0	35.8	25.5	25.0
Change Year over Year			6.1%		-2.8%		-3.0%		-13.8%	-1.9%
Variance to Plan	-6.2		-2.8		-4.5		-4.7		-10.3	

Witness: Bruno Jesus



1 Planning plays a critical role specifying investments in Hydro One's transmission and  
 2 distribution businesses. Despite planning a growing transmission and distribution work  
 3 program beyond 2018, ongoing efforts have allowed Planning to control costs, as a  
 4 percentage of the work planned and awarded for execution as shown in Table 3.

5  
 6

**Table 3: Total Planning Costs to Work Release/Award (\$ Millions)**

	Historical				Bridge	Test
	2015	2016	2017	2018	2019**	2020**
Total Common Corporate OM&A - Planning Costs, Excluding Insurance*	41.3	39.0	38.2	40.4	32.5	31.5
Transmission & Distribution Work Planned/Awarded	1,851	2,040	1,960	2,022	2,044	2,253
<b>Planning Costs to Work Planned, (%)</b>	<b>2.2</b>	<b>1.9</b>	<b>1.9</b>	<b>2.0</b>	<b>1.6</b>	<b>1.4</b>

7  
 8  
 9

*\*Insurance costs from Table 4 below*

*\*\*Work Planned/Awarded contingent on final Distribution Decisions and subject to change*

10 **2. OVERVIEW**

11  
 12  
 13  
 14  
 15  
 16  
 17  
 18  
 19  
 20  
 21  
 22

Focused on delivering outcomes valued by customers, the Planning organization develops the corporation's investment plan (including its transmission and distribution system plans), manages Hydro One's investment strategies, scopes network expansions and new or modified customer connections, and undertakes the asset management of transmission and distribution assets. Planning's accountabilities promote the Renewed Regulatory Framework ("RRF") outcomes of operational effectiveness, customer focus, and public policy responsiveness by: addressing transmission customers' needs for new or modified connections and reliability requirements, initiating investments that enable public policy, maintaining asset condition and improving system reliability performance and responding to changing industry and regulatory standards and broader policy initiatives.

1 Planning's activities include:

- 2 • identifying potential asset and system needs by monitoring equipment condition  
3 and reliability performance;
- 4 • scoping and developing candidate investments to address asset and customer  
5 needs and business requirements, including maintaining asset condition and  
6 improving long-term reliability;
- 7 • coordinating planning with customers, including responding to customer requests  
8 for new or expanded connections and addressing customer concerns regarding  
9 reliability or power quality to enable customer growth;
- 10 • leading coordinated infrastructure planning through the bulk and regional  
11 planning process described in the TSP, Section 1.2;
- 12 • conducting the investment planning process described in the TSP, Section 2.1;
- 13 • developing functional standards to optimize the life-cycle costs of transmission  
14 and distribution assets while maintaining system safety and reliability as assets  
15 age and deteriorate;
- 16 • managing the investment development and investment release processes, and  
17 engaging with service delivery units to enable the effective execution of specific  
18 investments;
- 19 • performing analytics, producing reports and conducting special studies in such  
20 areas as reliability performance
- 21 • obtaining customer feedback regarding potential investments;
- 22 • supporting the redirection of funds and re-prioritizing investments in response to  
23 unforeseen events and work execution opportunities, and integrating changes into  
24 future investment plans;
- 25 • interfacing and collaborating with neighbouring utilities, regulatory and planning  
26 authorities on matters of planning direction, requirements, policy and guidance;

Witness: Bruno Jesus

- 1       • leading continuous improvement initiatives to ensure an integrated approach to  
2       data, systems, and processes and implementing enhancements to support tools,  
3       leading to improved asset management approaches;
- 4       • providing expertise on various national and international industry entities, forums  
5       and standard-setting bodies including the International Council on Large Electric  
6       Systems, the Canadian Electricity Association, North American Electric  
7       Reliability Corporation (“NERC”), the Northeast Power Coordinating Council,  
8       the Independent Electricity System Operator (“IESO”), the International  
9       Electrotechnical Commission, the Institute of Electrical and Electronics  
10      Engineers, the National Institute of Standards and Technology and the North  
11      American Transmission Forum;
- 12      • overseeing the development, implementation and maintenance of research,  
13      development and demonstration initiatives that address operational and strategic  
14      challenges in conjunction with industry and research organizations such as the  
15      Electric Power Research Institute and the Centre for Energy Advancement  
16      through Technological Innovation; and
- 17      • providing technical support to conduct investigations and specialized studies and  
18      developing technical solutions for Hydro One stakeholders, such as power system  
19      disturbance investigations, short circuit studies, power quality and harmonic  
20      assessments, delivery point and system reliability analysis, stray voltage  
21      investigations, geomagnetic disturbance research, and reliability performance  
22      assessments.

23

24      In addition to these activities, Planning staff actively participate in reliability standards  
25      development processes in order to monitor and track the status of all proposed new and  
26      revised reliability standards. Planning staff also serve as the transmitter representative on  
27      the IESO Technical Panel, which reviews and recommends amendments to the Ontario  
28      wholesale electricity market rules and advises the IESO board of directors on specific

1 technical issues related to the operation of the Ontario electricity market.

2  
3 Included in Common Corporate Operations, Maintenance & Administration (“OM&A”),  
4 Hydro One Transmission has allocated its share of Planning amounts for property, boiler  
5 and machinery insurance. The costs are provided in Table 4:  
6

7 **Table 4: Property, Boiler and Machinery Insurance (\$ millions)**

Description	Historical				Bridge	Test
	2015	2016	2017	2018	2019	2020
Property, Boiler, and Machinery Insurance	6.1	6.1	6.1	6.4	6.4	6.6

8  
9 **3. VARIANCE EXPLANATION**

10  
11 Through the Test years, the workload within the Planning organization is anticipated to  
12 increase due to an increasingly complex power system planning environment that is  
13 reflected in the TSP. The planning environment is also challenged by the introduction of  
14 more complex and stringent compliance requirements, regulatory and performance  
15 expectations, and industry standards and codes.  
16

17 Despite continued cost pressures and inflation, Hydro One’s planning costs are expected  
18 to be controlled, as indicated in Table 1, through management and cost efficiency  
19 initiatives. In Table 1, the reduction in costs over the 2015 to 2020 period of about 20 per  
20 cent is primarily due to organizational realignment within Planning and an updated  
21 actuarial pension valuation, which reduced operating expenses across Hydro One. Table  
22 2 also illustrates these effects on Hydro One Transmission against the approved yearly  
23 totals. Further background on the pension adjustment is provided in Exhibit F, Tab 5,  
24 Schedule 1.

Witness: Bruno Jesus

1 The 2019 bridge year forecast expenditures represents a decrease of \$10.3 million  
2 (transmission allocation) relative to the 2018 plan; and a decrease of \$5.5 million relative  
3 to 2018 actuals. This decrease is mainly attributable to an organizational realignment  
4 which has clarified accountabilities, consolidating and streamlining processes and  
5 operations within Planning.

6  
7 These reductions are anticipated to be sustainable over the long-term and contribute to  
8 the 2020 test year forecast expenditure decrease of \$10.8 million relative to the 2018  
9 plan, and a \$6.0 million decrease relative to the 2018 actuals.

10  
11 The Test year forecast reflects a 1.9 per cent decrease relative to the bridge year forecast,  
12 and reflects an ongoing effort to control costs against inflation and other cost pressures  
13 while improving reliability, which is consistent with the feedback received through the  
14 customer engagement process. A summary of the initiatives driving the Test year  
15 forecast is detailed in section 4 below.

#### 16 17 **4. TEST YEAR FORECAST**

##### 18 19 **4.1 CUSTOMER FOCUS OUTCOMES**

20  
21 The Planning organization recognizes the importance of providing service that responds  
22 to customers' needs and preferences and strives to address these needs in meaningful  
23 ways, including:

- 24 • participating in formal customer engagement workshops with large transmission  
25 and distribution customers including: local distribution companies ("LDCs"),  
26 large distribution accounts ("LDAs") and commercial and industrial customers,  
27 where these needs and preferences were identified;

- 1 • evaluating alternative investment strategies with a focus on reliability and safety  
2 while minimizing cost impacts, in alignment with the 2017 customer engagement  
3 survey results as detailed in section TSP Section 1.3; and
- 4 • developing investments to respond to specific customer needs and preferences,  
5 including power quality monitoring and improvement investments, performance  
6 improvement investments to address reliability outliers and targeted  
7 enhancements for large transmission customers. Further information on these  
8 investments is included in the TSP Section 3.3.7, Investment Summary  
9 Documents SS-01 to SS-16.

#### 11 **4.2 OPERATIONAL EFFECTIVENESS OUTCOMES**

12  
13 The complexity of the planning environment continues to evolve to address stringent  
14 compliance and legal requirements, including: the removal of PCB contaminated oil  
15 above 50 parts per million (ppm) from Hydro One's system by 2025; regulatory and  
16 performance expectations including enhanced customer engagement requirements; the  
17 regional planning process; and industry standards and codes.

18  
19 The workload within the Planning organization has increased over the last five years and  
20 is anticipated to increase further through to the Test year and forecast period as discussed  
21 in TSP Section 1.1 and the Exhibit F, Tab 1, Schedule 3. Despite inflation and continued  
22 cost pressures associated with planning a growing work program, Hydro One intends to  
23 control its planning function costs through ongoing process improvements including:

- 24 • enhanced collaborative planning to provide greater upfront visibility to  
25 investments under development;
- 26 • staff training and development; and
- 27 • an integrated approach to data, systems, and processes, leading to improved asset  
28 management practices.

Witness: Bruno Jesus

1     **4.3     PUBLIC POLICY RESPONSIVENESS**

2

3     The Planning organization continues to support the achievement of public policy  
4     objectives through the identification and development of investments that deliver on  
5     obligations mandated by government and regulatory bodies, including participation in the  
6     regional planning process endorsed by the OEB. These include investments to address  
7     load growth as identified in IESO needs and screening assessments and regional  
8     infrastructure plans. For example the addition of a second transformer station at Horner  
9     TS. Additional information on this investment is included in TSP Section 3.6, ISD SA-  
10    02. This and other investments are consistent with Section 3.3, c) of the Transmission  
11    System Code, as they are in line with the Regional Planning process which is further  
12    discussed in TSP Section 1.2.

1                   **COMMON CORPORATE COSTS OM&A - INFORMATION**  
2   **TECHNOLOGY**

3  
4           **1.       SUMMARY OF INFORMATION TECHNOLOGY OM&A**

5  
6           Information Technology (“IT”) refers to the computer systems (hardware, software, and  
7           applications) as well as the data and voice communication systems that support Hydro  
8           One’s business processes to allow employees perform their work. IT systems enable the  
9           achievement of Hydro One customer satisfaction Performance Metric and Operation  
10          Effective outcomes outlined in the TSP Section 1.5, Figure 1.

11  
12          IT work programs include both OM&A and capital items, involving: the ongoing  
13          maintenance and sustainment of existing and newly commissioned applications and  
14          technologies; the development and implementation of new technologies or systems; the  
15          provision of business telecom services; and the overall management and control of the  
16          information technology program. IT capital plans are addressed in the TSP.

17  
18          Technology costs are managed through Hydro One’s IT governance process, which  
19          allows planners to look proactively at IT strategy, project expenditures, and service  
20          delivery, and align technology spending with business and corporate objectives. Senior  
21          business managers provide guidance, direction and support to the decision-making for  
22          corporate technology decisions.

23  
24          Table 1 provides a summary of Hydro One’s total IT OM&A expenditures for the period  
25          2015 to 2020. The total includes costs allocated to Hydro One’s transmission, distribution  
26          and unregulated accounting segments.

Witness: Lincoln Frost-Hunt



1 **Table 1: Summary of Total IT OM&A for Hydro One (\$ millions)**

Description	Historical				Bridge	Test
	2015	2016	2017	2018	2019	2020
	Actual	Actual	Actual	Actual	Forecast	Forecast
IT Sustainment	87.2	82.5	86.8 <sup>1</sup>	73.9	72.5	72.5
IT Development	18.0	22.1 <sup>2</sup>	19.0	15.2	10.2	11.4
IT Security	-	-	3.0	3.9	4.7	5.0
Business Telecom	17.3	18.1	18.1 <sup>1</sup>	18.2	17.7	17.6
IT Management & Project Control	20.0	21.1	18.2	14.3	12.3	11.9
<b>Total</b>	<b>142.5</b>	<b>143.8</b>	<b>145.1</b>	<b>125.5</b>	<b>117.4</b>	<b>118.4</b>

2 <sup>1</sup> Hydro One's 2017-2018 transmission cost of service application (EB-2016-0160) included costs allocated to Hydro  
 3 One's transmission and distribution accounting segments and excluded costs allocated to its unregulated accounting  
 4 segment.

5 <sup>2</sup> The 2016 figure reflects the increase in spending required to support an increased capital portfolio.  
 6

7 Table 2 is a summary of IT OM&A expenditures allocated to Hydro One Transmission  
 8 for the period 2015 to 2020.  
 9

10 **Table 2: Summary of IT OM&A Allocated to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
IT Sustainment	30.6	33.4	30.0	33.0	31.8	29.5	27.1	29.2	26.6	26.6
IT Development	5.4	7.3	6.2	7.8	6.7	8.0	5.1	7.2	2.2	3.5
IT Security	-	-	-	-	1.1	1.3	1.4	1.3	1.7	1.8
Business Telecom	8.3	9.5	9.4	9.7	9.5	9.7	9.1	9.7	8.8	8.8
IT Management & Project Control	10.8	13.3	11.2	13.0	9.4	11.3	7.7	10.2	6.3	6.0
<b>Total</b>	<b>55.1</b>	<b>63.5</b>	<b>56.8</b>	<b>63.5</b>	<b>58.5</b>	<b>59.8</b>	<b>50.4</b>	<b>57.6</b>	<b>45.6</b>	<b>46.7</b>
<b>Change Year over Year</b>			<b>3.1%</b>		<b>3.0%</b>		<b>-13.7%</b>		<b>-8.4%</b>	<b>2.4%</b>
<b>Variance to Plan</b>	<b>(8.4)</b>		<b>(6.7)</b>		<b>(1.3)</b>		<b>(7.1)</b>		<b>(12.0)</b>	

1 **2. VARIANCE EXPLANATION**

2

3 **2.1 IT SUSTAINMENT**

4

5 Sustainment costs support Hydro One IT applications and infrastructure. Some of these  
 6 costs are paid to Inergi LP (“Inergi”) as part of the current outsourcing contract that was  
 7 renegotiated in 2018 for a 3 year term with improved services to Hydro One. The  
 8 remaining costs are for third-party software or hardware license and maintenance fees.

9

10 Table 3 shows the specific expenditures for IT sustainment.

11

12 **Table 3: IT Sustainment OM&A Allocated to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Base IT Sustainment Services	23.8	25.1	22.0	24.4	23.1	22.0	17.5	21.4	18.0	18.0
Third Party Contracts	6.8	8.3	8.0	8.6	8.7	7.5	9.6	7.8	8.6	8.6
<b>Total</b>	<b>30.6</b>	<b>33.4</b>	<b>30.0</b>	<b>33.0</b>	<b>31.8</b>	<b>29.5</b>	<b>27.1</b>	<b>29.2</b>	<b>26.6</b>	<b>26.6</b>
<b>Change Year over Year</b>			<b>-2.0%</b>		<b>6.0%</b>		<b>-14.8%</b>		<b>0.8%</b>	<b>0.0%</b>
<b>Variance to Plan</b>	<b>(2.8)</b>		<b>(3.0)</b>		<b>2.3</b>		<b>(2.1)</b>		<b>(2.6)</b>	

13

14 Historical actuals are largely in line with Plan expenditures. The proposed IT  
 15 Sustainment OM&A expenditure for the 2020 Test year is 1.8% lower and 8.9% lower  
 16 than the 2018 actual expenditure and 2018 Plan amounts respectively. This decrease is  
 17 largely attributable to savings from productivity and procurement initiatives. No cost  
 18 increase is proposed for IT Sustainment OM&A expenditure for the 2020 Test year  
 19 relative to 2019 forecast amount. The 2017 actual expenditure was \$2.3 million or 7.8%

Witness: Lincoln Frost-Hunt

1 larger than Plan amounts primarily due to Third Party Contracts and lower productivity  
2 savings.

3  
4 “Base IT Sustainment Services” refers to the IT services outsourced to Inergi. Base IT  
5 services can be broken down into four categories:

- 6  
7 1. Application maintenance – Work to maintain, address and fix matters associated  
8 with approximately 800 business software applications used by the various  
9 business units across the province;
- 10 2. Data centre services – The operations, maintenance, and management of hardware  
11 (servers, mainframe, storage area network and data storage devices), operating  
12 systems, associated applications and infrastructure located at the data centre  
13 (production and backup) facilities;
- 14 3. Distributed server sustainment – Support services to maintain and operate the  
15 application and file servers used to run business applications and administration  
16 systems such as file sharing, e-mail exchange, web hosting and security  
17 monitoring systems; and
- 18 4. Help desk and desk-side support – Daily management and maintenance services  
19 delivered to employees across the province by telephone, remotely, or through  
20 field technicians.

21  
22 Cost declines starting in 2016 through to the 2020 Test year are attributable to several  
23 productivity initiatives described in TSP Section 1.6.

24  
25 Third Party Contract costs are comprised of fees related to hardware maintenance and  
26 software license and maintenance fees paid to third-party vendors of IT applications and  
27 infrastructure. Hydro One’s usage and payment of fees is typically subject to annual  
28 audits by third-party vendors.

Witness: Lincoln Frost-Hunt

1 No cost increase is proposed for Third Party Contract fees in the 2020 test year relative to  
2 2017 actual expenditure, 2018 actual expenditure and 2019 forecast amount respectively.  
3 Third Party Contract fees in 2016 were higher relative to 2015 due to purchase of support  
4 for items that were previously unsupported, higher Enterprise software license fees and  
5 higher usage volumes. In 2017, costs increased further due to to licensing costs for  
6 expanded functions of the enterprise systems, such as the SAP platform and corporate  
7 customer initiatives such as Opower. In 2018, costs increases were due to extended  
8 support on end-of-life legacy hardware and software applications that are scheduled to be  
9 refreshed. Costs are expected to stabilize in 2019 and 2020.

## 10 11 **2.2 IT DEVELOPMENT**

12  
13 The development budget covers application upgrades, enhancements, and the OM&A  
14 portions of capital projects. The funds are required to maintain applications at vendor-  
15 supported levels and to support enhancements to those applications. These funds are  
16 divided into three categories, as illustrated in Table 4:

- 17  
18 1. Enhancements - include changes to SAP and Non-SAP systems to meet  
19 legal/regulatory requirements, to deliver business functionality that meets the  
20 objectives of the business, and to further Hydro One's application rationalization  
21 strategy;
- 22 2. Upgrades - necessary software releases, periodic version upgrades, and  
23 application replacements that do not meet the total capital threshold of \$2 million;  
24 and
- 25 3. Capital Projects - business process re-engineering costs, such as training and  
26 change management costs, that are required when new or revised IT applications  
27 are introduced but are not capitalized as per Hydro One's accounting practices.

1 **Table 4: IT Development OM&A Allocated to Transmission (\$ millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Enhancements	2.0	3.1	1.9	3.3	2.5	2.9	1.9	2.9	0.8	1.8
Upgrades	2.7	2.9	3.2	3.4	2.8	3.2	2.2	3.0	0.8	1.2
Capital Projects	0.7	1.3	1.1	1.1	1.4	1.9	1.0	1.3	0.6	0.5
<b>Total</b>	<b>5.4</b>	<b>7.3</b>	<b>6.2</b>	<b>7.8</b>	<b>6.7</b>	<b>8.0</b>	<b>5.1</b>	<b>7.2</b>	<b>2.2</b>	<b>3.5</b>
<b>Change Year over Year</b>			<b>14.8%</b>		<b>8.1%</b>		<b>-23.9%</b>		<b>-55.1%</b>	<b>59.1%</b>
<b>Variance to Plan</b>	<b>(1.9)</b>		<b>(1.6)</b>		<b>(1.3)</b>		<b>(2.1)</b>		<b>(5.0)</b>	

2  
 3 Historical actuals for IT Development are trending up due to increased cost of upgrades  
 4 and increased capital project-related spending attributable to increased IT project  
 5 spending, which is reflected in TSP Section 3.3. The proposed IT Development OM&A  
 6 expenditure for the 2020 Test year is 31.4% lower than the 2018 actual expenditure and  
 7 51.4% lower than 2018 Plan amounts. This decrease is largely attributable to one-time  
 8 cost reductions to Enhancements and Upgrades in 2018 and 2019 forecast amounts that  
 9 are not sustainable, lower expenditures to support the capital portfolio and savings from  
 10 productivity initiatives.

11  
 12 Enhancement costs for 2018 and 2019 reflect implementation of increased IT security  
 13 spend. The decrease in enhancement costs for 2016 through 2020 is due to savings from  
 14 productivity initiatives.

15  
 16 Starting in 2015 through to the 2019 Bridge year, costs of upgrades will increase due to  
 17 the software refresh program and minor upgrades to keep other applications and  
 18 infrastructure in a vendor-supported state. Hydro One has offset the increase with  
 19 productivity initiatives that have kept 2016 actual, 2017 actual, 2018 actual and 2019  
 20 forecast cost of upgrades below Plan amounts. 2018 actual expenditure and 2019 forecast

1 OM&A cost for upgrades were below Plan amounts due to advancement of 2020-2023  
 2 Hardware/Software Refresh and Maintenance capital spend to 2018-2019, which is  
 3 reflected in ISD-GP-07 - the advancement of capital spend into the 2018-2019, resulted  
 4 in a reduced OM&A spend. Return to sustainable spending forecasted in 2021.

5

6 The lower 2017 actual for capital project-related spending is attributable to lower IT  
 7 capital project spending in 2017, which is reflected in the TSP Section 3.3.

8

9 **2.3 IT SECURITY**

10

11 As threats of cyber-attacks increase, Hydro One is increasing its focus on the security of  
 12 its computer and data systems. Table 5 reflects new IT Security costs to remediate and  
 13 improve security capabilities in accordance with an increased threat landscape and  
 14 industry practices. Funding will drive: continuous improvement in the security awareness  
 15 program; security threat intelligence and analysis through improved machine-to-machine  
 16 threat information exchange with providers like the Canadian Cyber Threat Exchange  
 17 and Electricity Information Sharing and Analysis Center; increase vulnerability testing by  
 18 vendors to validate the security controls implemented to protect Hydro One’s assets and  
 19 identify potential risks for remediation; and application security remediation.

20

21 **Table 5: IT Security OM&A Allocated to Transmission (\$ Millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
IT Security	-	-	-	-	1.1	1.2	1.4	1.3	1.7	1.8
<b>Change Year over Year</b>	-	-	-	-	-	-	27.3%		-22.7%	5.9%
<b>Variance to Plan</b>	-	-	-	-	-0.1		0.1		0.4	

1 IT security funding will improve the overall security posture, efficiency and productivity  
2 under a consolidated 24x7 security event management team that provides proactive  
3 monitoring, security incident management and situational awareness of IT threats. It will  
4 also improve data security by monitoring, protecting and providing data security  
5 awareness. Vulnerabilities will be identified and remediated. This funding will also  
6 implement governance and compliance protocols, reflecting legal requirements (such as  
7 Bill 198 and North American Electric Reliability Corporation Critical Infrastructure  
8 Protection, NERC CIP) and corporate standards, to prevent unauthorized access to data  
9 and IT systems.

10  
11 The proposed IT Security OM&A expenditure for the 2020 Test year is 20.0% higher and  
12 38.5% higher than the 2018 actual expenditure and 2018 Plan amounts respectively.  
13 Starting in 2018 through to the 2020 Test year, Security OM&A costs are expected to  
14 increase due to spend related to improving Security Culture within Hydro One. The 2018  
15 actual expenditure is 7.7% higher than 2018 Plan and 27.3% higher than 2017 Actual  
16 amounts primarily due to inclusion of third-party security event monitoring fees for two  
17 instances - Corporate and Power System assets. Costs are expected to stabilize in 2019  
18 and 2020.

19  
20  
21 **2.4 BUSINESS TELECOM**

22  
23 Business telecom costs cover data and voice telecommunications services and associated  
24 operation and maintenance of Hydro One's telecom network, which is comprised of a  
25 mixture of company-owned and leased facilities and equipment. Changes in costs vary  
26 with the addition of data and voice telecom capacity at sites throughout the province and  
27 security-related services for the expanding telecom network. These costs are primarily  
28 costs for third-party services. They are reflected in Table 6.

1 **Table 6: Business Telecom OM&A Allocated to Transmission (\$ Millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Operations and Carrier Management	3.6	3.9	4.1	4.1	4.2	4.1	4.0	4.2	4.0	4.0
Field Services	0.9	1.0	0.9	1.0	1.0	0.9	1.0	0.9	0.9	0.9
Voice and Data Networks Services	3.8	4.6	4.2	4.6	4.1	4.2	3.9	4.1	3.7	3.7
Mobility Services <sup>1</sup>	-	-	0.2	-	0.2	0.5	0.2	0.5	0.2	0.2
<b>Total</b>	<b>8.3</b>	<b>9.5</b>	<b>9.4</b>	<b>9.7</b>	<b>9.5</b>	<b>9.7</b>	<b>9.1</b>	<b>9.7</b>	<b>8.8</b>	<b>8.8</b>
<b>Change Year over Year</b>			<b>13.3%</b>		<b>1.1%</b>		<b>-4.2%</b>		<b>-2.2%</b>	<b>0.0%</b>
<b>Variance to Plan</b>	<b>(1.2)</b>		<b>(0.3)</b>		<b>(0.2)</b>		<b>(0.6)</b>		<b>(0.9)</b>	

2 <sup>1</sup> Mobility Services costs moved to IT from each business division's non-labour costs starting in 2016.

3

4 Historical actuals for Business Telecom are relatively flat in spite of adding mobility  
 5 services expenditures. The proposed Business Telecom OM&A expenditure for the 2020  
 6 Test year is 3.3% and 9.3% lower than the 2018 actual expenditure and 2018 plan  
 7 amounts respectively. This decrease is primarily due to savings from productivity and  
 8 procurement initiatives. No cost increase is proposed for Business Telecom OM&A  
 9 expenditure for the 2020 Test year relative to 2019 forecast amount. Business Telecom  
 10 OM&A actual expenditure for 2015 was lower than the Plan amount due to a change in  
 11 the allocation of cost to Hydro One Transmission.

12

13 Business Telecom costs are divided into four categories:

- 14 1. Operations and Carrier Management – Telecommunications management services  
 15 provided by Hydro One Telecom Inc. (“Hydro One Telecom”) to provide  
 16 telecommunications monitoring and network operations for Hydro One’s power  
 17 system and business operations;

Witness: Lincoln Frost-Hunt



- 1           2. Field Services - Maintenance and repair of voice and data telecom equipment.
- 2           Field services also include the handling of connection changes for moves,
- 3           additions, changes, and deletions (“MACDs”);
- 4           3. Voice and Data Network Services - Use of third-party voice and data circuits and
- 5           equipment; and
- 6           4. Mobility Services – Mobile phone services.

7

8           Operations and Carrier Management costs are stable from 2016 through 2020. Hydro  
9           One Telecom will play a critical role in security event monitoring for Hydro One’s  
10          critical networks and information systems.

11

12          There is no year-over-year cost increase for Field Services from 2016 through to the 2020  
13          Test year.

14

15          The costs for Voice and Data Network Services decrease in 2018 through to the 2020  
16          Test year due to savings from productivity initiatives.

17

18          Starting in 2016, Mobility Services costs have been included in the IT OM&A budget.  
19          Previously, the Mobility Services costs were embedded in each business unit’s costs. A  
20          centralized mobility services operation results in costs savings, service simplification and  
21          improved governance. In 2020, there is no increase in this line item. The actual costs for  
22          2017, 2018 and forecasted costs for 2019 reflect savings from a negotiated mobility  
23          contract rate reduction.

24

## 25          **2.5 IT MANAGEMENT & PROJECT CONTROL**

26

27          The IT Management and Project Control function develops and implements IT strategies,  
28          policies and processes, IT architectural standards for application interoperability,

1 infrastructure capacity, network security, regulatory compliance, and IT governance. IT  
 2 Management and Project Control responsibilities include hardware procurement, training,  
 3 detailing vendor responsibilities, architecture development, and research services. Table  
 4 7 reflects the historical and projected spending for this function over the Bridge and Test  
 5 years.

6

7 **Table 7: IT Management & Project Control OM&A Allocated to Transmission**  
 8 **(\$ Millions)**

Description	Historical								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
IT Management	10.2	12.5	10.7	12.2	8.8	10.5	7.3	9.4	5.9	5.4
Projects Support and Control	0.6	0.8	0.5	0.8	0.6	0.8	0.4	0.8	0.4	0.6
<b>Total</b>	<b>10.8</b>	<b>13.3</b>	<b>11.2</b>	<b>13.0</b>	<b>9.4</b>	<b>11.3</b>	<b>7.7</b>	<b>10.2</b>	<b>6.3</b>	<b>6.0</b>
<b>Change Year over Year</b>			<b>3.7%</b>		<b>-16.1%</b>		<b>-18.1%</b>		<b>-13.7%</b>	<b>-4.8%</b>
<b>Variance to Plan</b>	<b>(2.5)</b>		<b>(1.8)</b>		<b>(1.9)</b>		<b>(2.5)</b>		<b>(3.9)</b>	

9

10 Historical actuals for IT Management & Project Control are trending down. The proposed  
 11 IT Management & Project Control OM&A expenditure for the 2020 Test year is 22.1%,  
 12 41.2% and 4.8% lower than the 2018 actual expenditure, 2018 Plan and 2019 Forecast  
 13 amounts respectively. Hydro One attributes this decreasing trend to an updated actuarial  
 14 pension valuation, which reduced operating expenses across the company, lower  
 15 headcount and increased labour recovery related to IT capital projects portfolio expenses.  
 16 These expenses are divided into two categories:

17

- 18 1. IT Management – Costs of planning, coordination and management of Hydro  
 19 One’s IT infrastructure, outsourced services and IT projects; and

1           2. Project Support and Control – Costs pertaining to standard project management  
2           services for the delivery of all projects impacting information systems, which are  
3           closely related to IT development work.

4

5 Ongoing efforts to control costs have allowed Hydro One to forecast lower 2020 IT  
6 Management costs. There is no year-over-year cost increase for Project Support and  
7 Control costs from 2016 through to the 2020 Test year.

8

9           **3. TEST YEAR FORECAST**

10

11 As outlined in TSP Section 1.3, Hydro One customers have indicated that keeping costs  
12 as low as possible is a priority. Before asking customers to pay more, Hydro One is  
13 reducing costs and increasing its productivity. The result is an investment plan that  
14 aligns customer preferences, asset needs and rate impact. As discussed throughout this  
15 Exhibit, Hydro One IT has been a source of a number of productivity initiatives that offer  
16 customers value for money.

17

18           **3.1 CUSTOMER FOCUS OUTCOMES**

19

20 The proposed IT OM&A expenditures reduce the risk of prolonged IT system outages  
21 and reduce the costs of unplanned investments. IT OM&A expenditures ensure key  
22 systems and generated data are available to support customer service programs and work  
23 management programs. For example:

- 24           • Customer information systems enable the effective management of key  
25           relationships with customers, aggregation of meter data in support of customer  
26           billing and execution of settlement functions for Hydro One customers through  
27           reliable, secure and cost-effective information systems. It enables the achievement

1 of Hydro One customer satisfaction Performance Metric outlined in the TSP  
2 Section 1.4, Table 8; and

- 3 • Work management systems enable timely connection of customers, outage  
4 management and demand-related activities. It enables the achievement of  
5 Operation Effective outcomes outlined in the TSP Section 1.5, Figure 1.

### 6 7 **3.2 OPERATIONAL EFFECTIVENESS OUTCOMES**

8  
9 Operational effectiveness includes reliability and cost of service. Application and  
10 infrastructure reliability requirements are determined by business criticality. These  
11 systems are engineered to deliver reliability at a determined support level.

12  
13 Reliability of service is defined in terms of a support level (“SL”) designation assigned to  
14 an application after it is placed into service. The SL contains a set of characteristics and  
15 expectations that determine the standards to which these systems will be subsequently  
16 maintained. Hydro One IT ensures that all systems are designed and operated such that  
17 their target service level is met in the most cost-effective manner possible.

18  
19 “Cost of service” is defined as IT spending as a percentage of total company operating  
20 expenses. For the purposes of this metric, “IT spending” includes both OM&A and  
21 capital expenditures. “Operating Expenses” includes OM&A, cost of power and  
22 depreciation.

23  
24 IT spending as a percentage of operating expenses is an indicator of the size of a  
25 company’s IT budget (see Table 8). Higher IT spending could indicate inefficiencies,  
26 such as unmanaged demand and inefficient contract management. Alternatively, it could  
27 indicate a company’s strategy to use IT investments to enable broader operational  
28 productivity (possibly reducing other business operating expenses) and/or other business

Witness: Lincoln Frost-Hunt

1 objectives. IT touches most business processes. The percentage of IT spending as a  
2 percentage of total company Operating Expenses is a useful metric that ensures Hydro  
3 One builds and sustains the IT capabilities it needs while keeping costs down.

4  
5 **Table 8: IT Spend As Percentage of Operating Expense\***

Description	Historical				Bridge	Test
	2015	2016	2017	2018	2019 Forecast	2020 Forecast
IT spend as % of operating expense	3.6%	4.5%	4.6%	4.6%	4.8%	4.1%

6 *\*Tracking for this measure began in 2015.*

7  
8 The 2016 figure reflects the increase in IT capital spend required to support an increase  
9 capital portfolio in comparison to 2015 and 2017. The 2018 result reflects the increase  
10 in IT capital spend required to support an increase capital portfolio in comparison to  
11 2015, 2016 and 2017.

12  
13 2017, 2018, 2019 and 2020 figures reflect lower costs of power<sup>1</sup> related to Fair Hydro  
14 Plan. 2017 cost of power is 16.1% lower than 2016 and 16.7% lower than 2015. 2018  
15 cost of power is 15.4% lower than 2016 and 16.0% lower than 2015. 2019 cost of power  
16 is 25.1% lower than 2016 and 25.6% lower than 2015. 2020 cost of power is 24.2% lower  
17 than 2016 and 24.7% lower than 2015.

18  
19 **3.3 PRODUCTIVITY INITIATIVES**

20  
21 Hydro One has made significant investments in enterprise class technology to improve its  
22 operational effectiveness. Among the most notable investments are SAP, Microsoft and

---

<sup>1</sup> Cost of power from Hydro One Limited Annual Reports.

1 GIS. These systems provide direct connections between customers and Hydro One  
2 responsible groups, on matters such as connection requests, service and power quality  
3 and enable several other functions that serve customers on a 24x7 basis. The enterprise  
4 systems also provide the backbone of business operations within finance, human  
5 resources, supply chain, as well as asset management and work management. The  
6 reliability of these systems is critical in keeping Hydro One running effectively and  
7 improving customer satisfaction levels.

8

9 The list of productivity initiatives driving the OM&A savings in IT are described in TSP  
10 Section 1.6.

1                   **COMMON CORPORATE COSTS OM&A - COST OF SALES -**  
 2   **EXTERNAL WORK**

3  
 4       **1. OVERVIEW**

5  
 6       This Exhibit details the cost of sales for Hydro One Transmission’s unregulated revenues.  
 7       Hydro One directly tracks these costs, which include station maintenance activities,  
 8       engineering and construction work and other smaller activities that are competitive  
 9       services requested by customers and are individually priced. Exhibit E, Tab 2, Schedule 1  
 10       describes the categories of external business and associated revenues over the 2015 to  
 11       2020 period, which also relates to the level of external costs.

12  
 13       Hydro One does not directly track costs for all its unregulated service revenues for  
 14       secondary land use and other external revenues. These costs are embedded in the  
 15       company’s Common Corporate costs.

16  
 17       The cost of sales for the 2015 to 2020 period is provided in Table 1.

18  
 19                   **Table 1: Cost of Sales – Transmission External Work (\$ millions)**

Description	Historic								Bridge	Test
	2015		2016		2017		2018		2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Station Maintenance	7.7	6.5	3.8	6.6	2.9	4.8	2.9	4.8	3.5	3.5
Engineering and Construction	0.3		0.3		0.3		0.1		0.3	0.3
Other	0.7	0.2	0.7	0.2	0.4	0.2	5.4	0.2	0.1	0.1
<b>Total</b>	<b>8.8</b>	<b>6.7</b>	<b>4.8</b>	<b>6.8</b>	<b>3.6</b>	<b>5.0</b>	<b>8.4</b>	<b>5.0</b>	<b>3.9</b>	<b>3.9</b>
<b>Change Year over Year</b>			<b>-45.5%</b>		<b>-25.0%</b>		<b>133%</b>		<b>21.8%</b>	<b>0.0%</b>
<b>Variance to Plan</b>	<b>2.0</b>		<b>(2.0)</b>		<b>(1.4)</b>		<b>3.4</b>			

Witness: Joel Jodoin

1 The costs categories reflected in Table 1 are consistent with the work categories  
2 identified in Exhibit E, Tab 2, Schedule 1, but do not include the secondary land use  
3 category and a portion of the “other external work” described in that Exhibit.

4  
5 The costing of external work is calculated the same way as for internal work as described  
6 in Exhibit E, Tab 2, Schedule 1 and Exhibit C, Tab 9, Schedule 1.

7  
8 **2. VARIANCE EXPLANATION**

9  
10 The 2020 Test year compared to the 2019 bridge figure is consistent.

11  
12 The 2020 Test year compared to the 2018 actual figure is lower by \$4.5 million primarily  
13 due to higher storm response in 2018 related to the California fire restoration and  
14 unplanned work for Hydro One subsidiaries.

15  
16 **2.1 STATION MAINTENANCE**

17  
18 Cost for station maintenance is directly related to the volume of work performed by  
19 Hydro One to support Ontario’s key generating suppliers: Ontario Power Generation Inc.,  
20 Siemens Westinghouse Inc. and Bruce Power LP.

21  
22 **2.2 ENGINEERING AND CONSTRUCTION**

23  
24 Cost for engineering and construction is directly related to the volume of work performed  
25 by Hydro One for the upgrading of revenue meters at various sites within the province  
26 per IESO requirements.

Witness: Joel Jodoin



1    **2.3    OTHER**

2

3    Other costs represent the cost of work performed for Hydro One's affiliates and other  
4    miscellaneous cost of goods sold that are not included in external revenues. See Exhibit  
5    E, Tab 2, Schedule 1.

1                   **COMMON CORPORATE COSTS, COST ALLOCATION**  
2                                   **METHODOLOGY**

3  
4 Hydro One allocates Common Corporate Costs to its Distribution and Transmission  
5 businesses and to each Hydro One affiliate based on clearly articulated shared functions  
6 and services and an established cost allocation approach based on cost causality  
7 principles.

8  
9 The Common Corporate Costs OM&A includes the provision of CCF&S, Customer  
10 Service Exhibit F, Tab 2, Schedule 2, Asset Management Planning Exhibit F, Tab 2,  
11 Schedule 3, Information Technology Exhibit F, Tab 2, Schedule 4. CCF&S are described  
12 fully, including historical actuals, in Exhibit F, Tab 2, Schedule 2 and include Corporate  
13 Management, Finance, Human Resources, Corporate Affairs, General Counsel &  
14 Secretariat, Regulatory Affairs, Security Management, Internal Audit and Real Estate &  
15 Facilities.

16  
17 **1. ALLOCATION METHODOLOGY**

18  
19 Since 2004, in connection with each cost of service application, Hydro One has  
20 commissioned a Common Cost Allocation Study from Black and Veatch (“B&V”) to  
21 recommend a best practice methodology to allocate common corporate costs among the  
22 business entities using the common services and to provide a final report. The adopted  
23 methodology represents industry best practice, identifying appropriate cost drivers to  
24 reflect cost causality and benefits received. The 2018 B&V report is Attachment 1 to this  
25 Exhibit.

26  
27 As part of the 2018 B&V study, the cost drivers used to allocate the common corporate  
28 costs in the EB-2017-0049 Proceeding were updated to incorporate current information.

Witness: Joel Jodoin

1 Hydro One’s Planning, Operating and Customer Service groups conducted a time study  
 2 that is detailed in Section V of the 2018 B&V report. The time study for these groups  
 3 spanned a four-week period, as described in Attachment 1 to this Exhibit.

4

5 Hydro One accepts the results of the 2018 B&V study as a reasonable and fair approach  
 6 to the assignment of common corporate costs among the business entities using the  
 7 common services. This methodology is based on the R. J. Rudden Associates (Rudden)  
 8 Study, accepted by the Board in Distribution rate decision RP-2005-0020/EB-2005-0378.

9

10 **2. 2019 BRIDGE YEAR ALLOCATED AMOUNTS**

11

12 Table 1 below provides the annual allocation of 2019 Bridge Year CCF&S costs, to all  
 13 business units.

14

15 **Table 1: Allocation of 2019 Bridge Year CCF&S Costs (\$ millions)**

	<b>Total</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Hydro One Telecom</b>	<b>Hydro One Remote Communities Inc.</b>	<b>Bruce to Milton</b>	<b>Hydro One Sault Ste. Marie</b>	<b>Hydro One Inc.</b>
Corporate Management	<b>26.5</b>	2.4	3.0	0.1	-	-	0.1	20.9
Finance	<b>34.6</b>	18.8	13.7	0.6	0.2	0.1	0.1	1.2
Human Resources	<b>23.9</b>	11.9	9.8	0.4	0.2	-	-	1.6
Corporate Affairs and Outsourcing Services	<b>10.5</b>	5.3	5.0	-	0.1	-	-	0.1
General Counsel and Secretariat	<b>9.1</b>	4.3	3.5	0.1	0.1	-	0.1	1.0
Regulatory Affairs	<b>19.9</b>	8.8	10.5	-	0.1	-	-	0.4
Security Management	<b>4.0</b>	2.4	1.5	-	-	-	-	-
Internal Audit	<b>5.8</b>	3.0	2.7	-	-	-	-	0.2
Real Estate and Facilities	<b>55.5</b>	31.1	24.4	-	-	-	-	-
<b>Total CCF&amp;S Costs</b>	<b>189.8</b>	<b>87.9</b>	<b>74.1</b>	<b>1.2</b>	<b>0.7</b>	<b>0.2</b>	<b>0.3</b>	<b>25.4</b>

1 **3. 2020 TEST YEAR ALLOCATED AMOUNTS**

2

3 Table 2 below provides the annual allocation of 2020 Test Year CCF&S costs, to all  
 4 business units.

5

6 **Table 2: Allocation of 2020 Test Year CCF&S Costs (\$ millions)**

	<b>Total</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Hydro One Telecom</b>	<b>Hydro One Remote Communities Inc.</b>	<b>Bruce to Milton</b>	<b>Hydro One Sault Ste. Marie</b>	<b>Hydro One Inc.</b>
Corporate Management	<b>26.9</b>	2.4	3.0	0.1	-	-	0.1	21.3
Finance	<b>35.8</b>	19.4	14.1	0.6	0.2	0.1	0.1	1.3
Human Resources	<b>24.3</b>	12.2	10.0	0.4	0.2	-	-	1.6
Corporate Affairs and Outsourcing Services	<b>10.6</b>	5.3	5.1	-	0.1	-	-	0.1
General Counsel and Secretariat	<b>9.1</b>	4.3	3.5	0.1	0.1	-	0.1	1.0
Regulatory Affairs	<b>20.3</b>	9.0	10.8	-	0.1	-	-	0.4
Security Management	<b>4.2</b>	2.5	1.6	-	-	-	-	-
Internal Audit	<b>6.2</b>	3.1	2.8	-	-	-	-	0.2
Real Estate and Facilities	<b>62.5</b>	34.6	27.8	-	-	-	-	-
<b>Total CCF&amp;S Costs</b>	<b>199.8</b>	<b>92.8</b>	<b>78.7</b>	<b>1.2</b>	<b>0.7</b>	<b>0.2</b>	<b>0.3</b>	<b>25.8</b>

7

8 The funds allocated to the holding company (Hydro One Inc.) are non-regulated and  
 9 therefore are not recoverable from customers. The percentage allocated to Hydro One  
 10 Inc. has increased significantly from less than 4 per cent on average in the last  
 11 Transmission rate filing (EB-2016-0160 Proceeding) to approximately 18 per cent on  
 12 average for the current filing.

13

14 Table 3 below reconciles the results of the B&V methodology with the allocation of 2019  
 15 bridge CCF&S costs from Table 1.

Witness: Joel Jodoin

1 **Table 3: B&V Methodology and Common Cost Reconciliation for 2020**  
 2 **(\$ millions)**

	<b>Total</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Hydro One Telecom</b>	<b>Hydro One Remote Communities Inc.</b>	<b>Hydro One Inc.</b>
Black & Veatch Study	<b>280.9</b>	129.2	119.7	1.2	0.7	30.1
Less Planning	<b>(38.1)</b>	(25.0)	(12.7)	-	-	(0.4)
Less System Operating	<b>(43.8)</b>	(25.7)	(16.7)	-	-	(1.4)
Less Customer Service	<b>(42.6)</b>	(6.8)	(33.4)	-	(0.0)	(2.4)
Less IT Services	<b>(10.4)</b>	(5.5)	(4.8)	-	-	(0.1)
Plus Real Estate Facility N.C.M.1.50 + Security Infrastructure	<b>53.8</b>	27.2	26.6	-	-	-
Bruce to Milton Affiliate Agr		(0.2)				
Hydro One Sault Ste. Marie Affiliate Agr		(0.3)				
<b>CCF&amp;S Total</b>	<b>199.8</b>	<b>92.8</b>	<b>78.7</b>	<b>1.2</b>	<b>0.7</b>	<b>25.8</b>

3

4 **4. VARIANCE ANALYSIS**

5

6 Variance analysis with explanations is provided in Exhibit F, Tab 2, Schedule 2.

# REVIEW OF ALLOCATION OF COMMON CORPORATE COSTS (TRANSMISSION) – 2019

BLACK & VEATCH PROJECT NO. 188588

PREPARED FOR

Hydro One Networks Inc.

JANUARY 31, 2019

## Table of Contents

<b>I. SUMMARY</b> .....	<b>2</b>
A. BACKGROUND .....	2
B. HYDRO ONE ORGANIZATION .....	3
C. FUNCTIONS AND SERVICES IN COMMON CORPORATE COSTS .....	4
D. BLACK & VEATCH’S ASSIGNMENT .....	5
E. OVERVIEW OF METHODOLOGY .....	6
F. SCOPE OF WORK .....	7
G. CONCLUSIONS AND RESULTS .....	7
<b>II. STATEMENT OF APPROACH</b> .....	<b>9</b>
A. EVALUATE COST ALLOCATION METHODOLOGY .....	9
B. REVIEW APPLICATION OF COST ALLOCATION METHODOLOGY .....	9
C. PRINCIPLES OF COST ALLOCATION .....	10
D. COST DRIVERS .....	10
E. TYPES OF COST DRIVERS .....	10
<b>III. EVALUATE COST ALLOCATION METHODOLOGY</b> .....	<b>11</b>
<b>IV. REVIEW APPLICATION OF METHODOLOGY TO BP 2020-2022</b> .....	<b>12</b>
<b>V. 2017 TIME STUDY</b> .....	<b>16</b>

## List of Tables

TABLE 1 - HISTORY OF BLACK & VEATCH’S COST ALLOCATION REVIEWS FOR HYDRO ONE .....	2
TABLE 2 – HYDRO ONE BUSINESS UNITS .....	3
TABLE 3 - FUNCTIONS AND SERVICES IN COMMON CORPORATE COSTS .....	5
TABLE 4 - DISTRIBUTION OF ANNUAL COMMON CORPORATE COSTS .....	8
TABLE 5 - DIRECT ASSIGNMENTS AND COST DRIVERS FOR COMMON CORPORATE COSTS .....	14

## List of Appendices

- Exhibit A- Functions and Services in Common Corporate Costs
- Exhibit B- Types of Cost Drivers

## I. Summary

### A. BACKGROUND

Black & Veatch Canada Company (“Black & Veatch”) is pleased to submit to Hydro One Networks Inc. (“Hydro One”) this Report which describes our Review of Allocation of Common Corporate Costs (Transmission)- 2019 (“2019 Review”).

In 2004, Black & Veatch was engaged by Hydro One to recommend a best practice methodology to distribute Common Corporate Costs to Hydro One and its subsidiaries and partnership (identified in Table 2). Common Corporate Costs are the costs to provide certain functions and services (identified in Table 3), including those performed by Inergi LP, to Hydro One and its subsidiaries and partnership. Black & Veatch recommended, Hydro One adopted, and the Ontario Energy Board (“OEB”) accepted, a methodology to distribute those costs, as described in our *Report on Common Corporate Costs Methodology Review* dated May 20, 2005 (“2005 Common Costs Report”).

The OEB-accepted methodology has been applied to Hydro One’s Business Plans, and reviewed by Black & Veatch with subsequent reports issued, as follows:

**Table 1 - History of Black & Veatch’s Cost Allocation Reviews for Hydro One**

BLACK & VEATCH REVIEW	BUSINESS PLAN	BLACK & VEATCH REPORT
2006 Review	BP 2007-2011	<i>Report on Implementation of Common Corporate Costs Methodology</i> dated May 31, 2006
2008 Review	BP 2009-2013	<i>Report on Implementation of Common Corporate Costs Methodology</i> dated September 10, 2008
2009 Review	BP 2010-2014	<i>Report on Shared Services Costs Methodology</i> dated June 29, 2009
2010 Review	Updated BP 2010-2014	<i>Report on Shared Services Costs Methodology – 2011</i> dated February 26, 2010
2012 Review	BP 2012-2016	<i>Review of Shared Services Cost Allocation (Transmission) – 2012</i> dated February 1, 2012
2013 Review	BP 2014-2019	<i>Review of Allocation of Common Corporate Costs (Distribution) – 2013</i> dated September 19, 2013
2014 Review	BP 2014-2019	<i>Review of Allocation of Common Corporate Costs (Transmission) – 2014</i> dated March 17, 2014
2015 Review	BP 2017 - 2018	<i>Review of Allocation of Common Corporate Costs (Transmission)- 2015</i> dated May 4, 2016
2016 Review	BP 2018 - 2022	<i>Review of Allocation of Common Corporate Costs (Distribution) – 2016</i> dated December 21, 2016

The OEB-accepted methodology to distribute the Common Corporate Costs has been applied by Hydro One to its Business Plan for 2020-2022 (“BP 2020-2022”) data. This Report describes the



“2019 Review” that Black & Veatch performed, at Hydro One’s request, of Hydro One’s application of the methodology to its BP 2020-2022 in connection with its 2020-2022 Transmission rates application, and presents Black & Veatch’s conclusions.

## B. HYDRO ONE ORGANIZATION

Hydro One Inc. operates through the wholly-owned subsidiaries and partnership listed in Table 2. The OEB regulates, separately, the business units identified as such in Table 2. Each regulated business is required to account separately for its assets, revenues and costs, for both regulatory and financial accounting purposes.

Table 2 – Hydro One Business Units

SUBSIDIARY	BUSINESS UNIT	REGULATE D	DESCRIPTION
Hydro One Networks Inc.	Distribution	Yes	Owns and operates a distribution system which spans approximately 75% of Ontario and serves approximately 1.3 million customers.
	Transmission	Yes	Owns and operates substantially all of Ontario’s electricity transmission system.
Hydro One Remote Communities Inc	Remotes	Yes	Owns, operates, maintains and constructs generation and distribution assets used to supply of electricity to remote communities in northern Ontario.
Hydro One Telecom Inc.	Telecom	No	Sells high bandwidth telecommunication services to carriers, Internet service providers, and large public and private sector organizations.
Hydro One Inc.	Holding	Yes	Subsidiary of Hydro One Ltd. Acts as the holding company of Hydro One’s rate regulated businesses.
Hydro One Ltd.	Holding	No	Public company that owns Hydro One Inc. for the transmission and distribution rate regulated businesses and Hydro One Telecom Inc. for non-regulated business activity. Hydro One Ltd. is owned by public shareholders as well as the Province of Ontario.
Hydro One Sault Ste. Marie Limited Partnership	HOSSM	Yes	Subsidiary company of Hydro One Inc. that connects Northern Ontario to Southern Ontario and is the second-largest electricity transmitter in the Province
B2M Limited Partnership	B2M Transmission Line	Yes	Continuous transmission line between the Bruce Nuclear Power Development and Hydro One’s Milton Switching station.

### C. FUNCTIONS AND SERVICES IN COMMON CORPORATE COSTS

Hydro One provides the functions and services identified in Table 3, to the businesses identified in Table 2. Exhibit A further describes the functions and services provided. The BP 2020-2022 includes 2020 Common Corporate Costs totaling approximately \$281 million incurred to perform the relevant functions and services; and the annual total Common Corporate Costs are presented in Table 4.

Approximately 3.9% of the Common Corporate Costs are incurred under an outsourcing arrangement with Inergi LP (“Inergi”). Common Corporate Costs includes the cost included in BP 2020-2022 for sustainment activities outsourced to Inergi services pertaining to infrastructure/data centre support services, application management services, disaster recovery services, end-user services, desk-side management services and service management.

**Table 3 - Functions and Services in Common Corporate Costs**

<p><b>Hydro One Inc. Corporate Office</b></p> <ul style="list-style-type: none"> <li>■ President/CEO Office</li> <li>■ Chair</li> <li>■ CFO's Office</li> <li>■ Treasurer's Office</li> <li>■ Board of Directors</li> <li>■ Corporate Secretariat – General Counsel</li> <li>■ Pension Cost</li> <li>■ Donations</li> <li>■ Ombudsman Office</li> <li>■ Investor Relations</li> <li>■ EVP Strategy Office (Corporate Development)</li> <li>■ LDC Acquisitions (Value Growth)</li> </ul>	<p><b>Finance</b></p> <ul style="list-style-type: none"> <li>■ Treasury and Risk</li> <li>■ Corporate Controller / Accounting</li> <li>■ Management Accounting and Reporting Services</li> <li>■ Taxation</li> <li>■ Regulatory Affairs</li> <li>■ Business Planning &amp; Decision Support</li> <li>■ SVP Finance</li> <li>■ Data Governance</li> </ul>
<p><b>Operations</b></p> <ul style="list-style-type: none"> <li>■ Distribution Asset Management (Note 1)</li> <li>■ Planning and Optimization (Note 1)</li> <li>■ Reliability, Strategies, and Compliance (Note 1)</li> <li>■ System Planning (Note 1)</li> <li>■ Network Connections and Development (Note 1)</li> <li>■ System Operations (Note 1)</li> <li>■ Transmission Asset Management (Note 1)</li> <li>■ VP Planning (Note 1)</li> <li>■ COO Office – Operations (Note 1)</li> <li>■ Chief of Staff to COO</li> <li>■ Strategic Services</li> <li>■ Facilities &amp; Real Estate</li> </ul>	<p><b>Customer and Corporate Relations</b></p> <ul style="list-style-type: none"> <li>■ Customer Care Services (Note 1)</li> <li>■ Customer Strategy and Conservation (Note 1)</li> <li>■ Customer Program Delivery (Note 1)</li> <li>■ Key Account Management (Note 1)</li> <li>■ VP Customer Service (Note 1)</li> <li>■ Meter to Bill (Note 1)</li> <li>■ Corporate Affairs</li> <li>■ First Nations and Métis Relations</li> <li>■ Bad Debt and Goodwill</li> <li>■ SVP Customer and Corporate Relations</li> <li>■ Market Solutions</li> </ul>
<p><b>Information Services</b></p> <ul style="list-style-type: none"> <li>■ Corporate Projects</li> <li>■ Information Technology</li> <li>■ Security Operations</li> </ul>	<p><b>Inergi LP (outsourced services)</b></p> <ul style="list-style-type: none"> <li>■ Finance</li> <li>■ Human Resources - Pay Services</li> <li>■ Accounts Payable</li> </ul>
<p><b>People and Culture</b></p>	<p><b>General Counsel &amp; Secretariat</b></p> <ul style="list-style-type: none"> <li>■ Law Division</li> <li>■ Corporate Secretariat</li> </ul>
<p><b>Audit</b></p>	<p><b>VP Chief Risk Officer</b></p>
<p><i>Note 1- Department participated in 2017 Time Study; see Section V.</i></p>	

## D. BLACK & VEATCH'S ASSIGNMENT

For the 2019 Review, our assignment was to:

- a. Evaluate whether the existing Common Corporate Cost Allocation Methodology continues to be appropriate for Hydro One, and identify changes that are necessary or desirable.

- b. Review Hydro One's application of the OEB-accepted Common Corporate 2020-2022 Transmission rates application.
- c. Comment on the incorporation of the requirements of the Hydro One Accountability Act ("The Act") into the Common Corporate Cost Allocation Model which required Hydro One to directly assign 100% of costs for certain executives to Shareholders. (Hydro One Accountability Act, 2018, S.O. 2018, c. 10, Sched. 1).

The organization presented in Table 3 reflects the creation of new departments, realignment of departments among groups, and realignment of functions among departments, that Hydro One believes will allow it to serve its customers most effectively and efficiently, based on the current business and regulatory environment.

The Common Corporate Costs Model for BP 2020-2022 reflects these organizational changes. Black & Veatch reviewed the cost driver for each activity to determine its continued applicability, and where necessary, the development of the cost driver was updated to reflect the organizational changes.

Concurrently with this 2019 Review, Black & Veatch reviewed and issued reports on Hydro One's Overhead Capitalization Rate methodology and Common Assets allocation.

## E. OVERVIEW OF METHODOLOGY

The Black & Veatch methodology for allocating the costs of Hydro One's Common Corporate Costs was designed to address the following considerations:

- Compliance with relevant provisions of the Affiliate Relationships Code for Electricity Distributors and Transmitters ("Code")
- Cost incurrence- Are the costs needed to perform services required by the business units?
- Cost allocation- Are costs appropriately allocated among business units, based on the application of cost drivers /allocation factors supported by principles of causality?
- Cost/benefit- Do benefits received equal or exceed the cost?

An overview of the Black & Veatch cost allocation methodology is described below:

- Identify the functions and services included in Common Corporate Costs – through interviews with Hydro One personnel
- Identify activities that are performed to provide those functions and services – through interviews with Hydro One personnel
- Based on time and/or cost studies, distribute the annual departmental costs in the BP 2020-2022 among the activities performed by that department in providing the functions and services.

- Distribute the cost of each activity among the business units based on direct assignment when possible, and based on cost drivers when direct assignment is not possible.
- The guiding principle used by the Black & Veatch methodology to assign cost drivers is cost causation.

A cost driver is a formula for sharing the cost of an activity among those who cause the cost to be incurred. Cost drivers are discussed in Section D. The different types of cost drivers are described in Exhibit B.

## F. SCOPE OF WORK

Consistent with Black & Veatch's standard practice for consulting assignments, we relied on the genuineness and completeness of all documents presented to us by Hydro One, and we accepted factual statements made to us by Hydro One (e.g., headcount, budgeted amounts) subject only to their overall reasonableness and factual accuracy, but without our independent confirmation. All dollar amounts in this Report are stated in Canadian dollars.

## G. CONCLUSIONS AND RESULTS

Black & Veatch believes that Hydro One's current cost allocation methodology continues to be appropriate for Hydro One because it achieves the purposes for which it was designed (to distribute costs in a manner that is consistent with OEB precedent and regulatory practice) and promotes transparency and efficiency. This finding is qualified by the acknowledgement that in order for Hydro One to comply with the requirements of The Act, it was required to make certain non-cost based direct assignments of executive costs to Shareholder responsibility. Therefore, the model departs from a cost-based approach for those instances where such direct assignments were made. Black & Veatch finds that Hydro One's application of direct assignment to reflect the requirements of The Act are appropriate for legislative compliance purposes.

The model results therefore reflect the application of both the specific direct assignments where necessary to achieve legislative compliance and the cost based allocations for those areas outside of The Act's compliance focus. Black & Veatch notes that Hydro One management believes that the existing cost-causative methodology (for costs not directly assigned to achieve compliance with The Act), is appropriate for the company. Black & Veatch notes that the cost allocation process receives strong support from Hydro One management and is well integrated into the budgeting process and the Common Corporate Costs Model that is updated periodically to reflect current information.

Table 4 presents the results of Hydro One's distribution of the Common Corporate Costs in BP 2020-2022, annually for 2020-2022, among its Distribution, Transmission and Other businesses.

Table 4 - Distribution of Annual Common Corporate Costs

Business	2020	2021	2022
(\$ Millions)	\$	\$	\$
Transmission	\$ 129.2	\$ 132.0	\$ 134.9
Distribution	\$ 119.7	\$ 121.8	\$ 124.6
Other	\$ 32.0	\$ 32.7	\$ 33.3
<b>Total</b>	<b>\$ 280.9</b>	<b>\$ 286.5</b>	<b>\$ 292.7</b>
(% of Total)	%	%	%
Transmission	46.00%	46.09%	46.08%
Distribution	42.60%	42.51%	42.55%
Other	11.39%	11.40%	11.36%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

## II. Statement of Approach

This section presents the approaches used by Black & Veatch to evaluate whether the existing Common Corporate Cost Allocation Methodology continues to be appropriate for Hydro One, and to review Hydro One's application of the methodology to the BP 2020-2022 costs of providing the functions and services included in Common Corporate Costs.

### A. EVALUATE COST ALLOCATION METHODOLOGY

The Common Corporate Cost Allocation Methodology was first applied to Hydro One's Business Plan 2006-2010. Hydro One requested that Black & Veatch evaluate whether the methodology is still appropriate, and what changes, if any, could be considered. Black & Veatch's approach is discussed in detail in Section III.

### B. REVIEW APPLICATION OF COST ALLOCATION METHODOLOGY

In preparing the 2019 Review, Black & Veatch performed the following tasks:

- Task 1. Reviewed Hydro One's current organizational structure and identified departments that perform the functions and services included in Common Corporate Costs.
- Task 2. Identified the activities performed by each department in order to provide the functions and services identified in Task 1.
- Task 3. Determined the Common Corporate Costs in BP 2020-2022 to perform the functions and services in Task 1.
- Task 4. Identified the business units that use the functions and services included in Common Corporate Costs.
- Task 5. Distributed Common Corporate Costs (time for labour resources and cost for non-labour and Inergi resources) reflected in BP 2020-2022 for departments identified in Task 1, among the activities identified in Task 2.
- Task 6. Directly assigned activity costs to business units where a direct relationship exists.
- Task 7. For activities where less than all of the BP 2020-2022 costs were directly assigned to business units in Task 6, assigned a cost driver that reflects cost causation.
- Task 8. Populated the cost drivers.
- Task 9. Reviewed the 2017 Time Study.
- Task 10. Computed total Common Corporate Costs allocated to each business unit.
- Task 11. Performed analytical review of results.
- Task 12. Reviewed the Common Corporate Costs used to perform the computations.

## C. PRINCIPLES OF COST ALLOCATION

There are two methods to allocate or distribute shared costs among a utility's business units – Direct Assignment and Allocation. *Direct Assignment* is used when it can be reasonably determined that all or a portion of an activity is performed for a particular business unit. Direct Assignment is completed through the use of time studies or time surveys; where participants either fill out a daily time sheet or provide an indication of how their time is spent throughout the year. Approximately 74% of Common Corporate Cost in the BP 2020-2022 was assigned directly to one or more of Hydro One's business units.

*Allocation* is used when more than one business unit uses an activity, but the portions of the activity that each uses cannot be directly established through a time study or time survey. In this case, a cost driver must be assigned to distribute the costs of the activity. A cost driver is a formula for sharing the cost of an activity among those entities that cause the cost to be incurred. The principles used by Black & Veatch to assign cost drivers are discussed in Section II.D below.

## D. COST DRIVERS

As stated above, a cost driver is a formula for sharing the cost of an activity among those entities that cause the cost to be incurred. The guiding principle that Black & Veatch uses in assigning cost drivers is cost causation. Cost causation means that there is a causal relationship between the cost driver and the costs incurred in performing the activity. In some cases, cost causation cannot be easily implemented or established, in which case selecting cost drivers based on benefits received is a fair alternative treatment.

Other factors considered in assigning cost drivers include:

- Practicality – The cost driver should be understandable, obtainable at reasonable cost, and objectively verifiable in the initial year as well as in subsequent years.
- Stability – Cost driver values should be reasonably stable from year to year. When estimates are used, the cost driver should be able to be estimated with reasonable accuracy, and estimates should be unbiased.
- Materiality – When choosing between cost drivers, small differences can often be ignored in favor of Practicality and Stability (see above).

## E. TYPES OF COST DRIVERS

Cost drivers can be classified as External or Internal. *External* drivers are based on data that are external to the cost allocation process, such as physical units or financial amounts.

*Internal* drivers are based on values computed as an integral part of the cost allocation process. For example, the cost of a supervisor's salary might be allocated in the same proportion as the salaries of the people being supervised, and the cost of general departmental expenses might be allocated in the same proportion as the specifically assigned departmental activities. Exhibit B further describes the different types of cost drivers.



### III. Evaluate Cost Allocation Methodology

The Common Corporate Cost Allocation Methodology was first applied to Hydro One's BP 2006-10. Black & Veatch has also reviewed the application of the methodology to subsequent business plans, as listed in Section I.A. The purpose of this portion of the 2019 Review was to evaluate if the methodology is still appropriate, including reviewing changes that were recommended in the past.

Based on our discussions with Hydro One personnel and review of the Common Corporate Costs Model, Black & Veatch determined that the cost allocation methodology continues to be appropriate for Hydro One because:

- It meets best practices since it distributes costs based on cost causation, including the use of direct assignment when possible, and then through the use of cost drivers.
- It has been accepted by the OEB.
- It has the support of Hydro One management, and is understood and accepted by the Hydro One business units.
- It allows the business units to determine precisely what amounts they are charged by department and by activity within the department; this transparency provides a basis for understanding the nature of the charges and value of the services received.
- It is well-integrated with Hydro One's annual Business Planning process and produces reasonably stable results over time.
- It accommodates changes in Hydro One's organization, and the Common Corporate Costs Model can be adapted easily to reflect those changes.

Black & Veatch believes that the current cost allocation methodology continues to be appropriate for Hydro One, because it achieves the purposes for which it was designed (to distribute costs in a manner that is consistent with OEB precedent, regulatory practice, and now legislative compliance), and promotes transparency and efficiency.

However, the requirement to directly assign certain executive labour costs to shareholders resulted in a model that is no longer purely cost-causative. The rationale to directly assign these costs to shareholders was not based on cost-causative principles but rather was done to meet the requirements of The Act. In conclusion, while the Common Corporate Costs Model is still appropriate for the above reasons the allocations are not solely based on cost-causative principles and as such the results do not represent the pure application of these principles.

## IV. Review Application of Methodology to BP 2020-2022

In this Section we will discuss each of the Tasks performed in the Scope of Work, as stated in Section B. This includes the purpose of the Task, the steps performed, the source of the information, and the results.

### **Task 1. Reviewed Hydro One's current organizational structure and identified departments that perform the functions and services included in Common Corporate Costs.**

The purpose of this Review was to evaluate the allocation of the Common Corporate Costs among the businesses that use the functions and services.

The organization of Hydro One Inc. is described in Section I.B. The functions and services support the Distribution business and the Transmission business, and the other businesses listed in Table 2. The departments that perform the functions and services in Common Corporate Costs are listed in Table 3. Exhibit A further describes the functions and services. This information was provided by Hydro One in discussions and documents.

### **Task 2. Identified the activities performed by each department in order to provide the functions and services identified in Task 1.**

The purpose of this task was to identify the activities that are performed in order to provide each of the functions and services.

Functions and services (identified in Task 1) are performed for the benefit of the business units. Activities (discussed in this Task 2) are the tasks performed in order to provide the functions and services. Activities are measured in the amount of resources used.

To distribute the resources required to provide the functions and services included in Common Corporate Costs among the business units on the basis of cost causation, the activities performed were identified and described by Hydro One to Black & Veatch.

### **Task 3. Determined the Common Corporate Costs in BP 2019-2023 to perform the functions and services in Task 1.**

In this task, we obtained the BP 2020-2022 costs for the departments that provide the functions and services included in Common Corporate Costs. Hydro One provided to Black & Veatch the labour and non-labour portions of the BP 2020-2022 for each of these departments, as well as descriptions of major non-labour cost items.

### **Task 4. Identified the business units that use the functions and services included in Common Corporate Costs.**

The business units that use the functions and services included in Common Corporate Costs are listed in Table 2. The information was provided by Hydro One and confirmed by the service recipients.

### Task 5. Distributed Common Corporate Costs (time for labour resources and cost for non-labour and Inergi resources) reflected in BP 2019-2023 for departments identified in Task 1, among the activities identified in Task 2.

The purpose of this task was to distribute the resources (time for labour and costs for non-labour and Inergi) required for each of the functions and services identified in Task 1, among the activities identified in Task 2. In subsequent tasks, the cost of each activity was either directly assigned to one or more business units or allocated using cost drivers.

#### Labour costs

To distribute budgeted labour costs, Hydro One department managers determined the portion of annual time spent by the personnel under their supervision on each of the activities identified in Task 2. Some managers based their estimates on concurrent time records that they maintain, some conducted interviews with their personnel, and some used their informed judgment. Some of the holding company's labour cost was allocated consistent with previous rate filings. The information provided by the managers was reviewed by Hydro One and Black & Veatch and was found to be reasonable and consistent with prior distributions of resources.

#### Non-labour costs

Budgeted non-labour costs items were examined and distributed based on direct assignment or allocation; this amount includes non-labour costs of departments in the 2017 Time Study. This included OEB invoices, communications programs, insurance costs and claims, human resources programs, labour relations programs, actuarial consultants and audit fee. The balance of non-labour costs includes items such as training and development, non-specific expenses and general expenses.

#### Inergi costs

The Common Corporate Costs representing functions and services provided by Inergi were distributed among the activities, based on information provided by Hydro One, assignments and allocations by Hydro One and Black & Veatch, and the application of judgment by Hydro One and Black & Veatch. The approach for each of the functions and services provided by Inergi is described below. Exhibit A describes these services in greater detail.

- **Finance** – Costs were assigned among activities based on estimated portion of total amount paid to Inergi to perform the function. Activities were allocated among the business units based on chosen cost drivers that relate to each activity (e.g., Fixed Asset Accounting activity was allocated on Gross Utility Plant).
- **Human Resources** – Costs were assigned among activities based on estimated effort by Inergi. All activities were allocated among the business units based on headcount.

### Task 6. Directly assigned activity costs to business units

The purpose of this task was to assign, among the business units listed in Task 4, the resources (time for labour resources and costs for non-labour and Inergi resources) for each activity listed in Task 2. This task was performed concurrently with Task 5 – Distributed Common Corporate Costs

(time for labour resources and cost for non-labour and Inergi resources) reflected in BP 2020-2022 for departments identified in Task 1, among the activities identified in Task 2.

For the activities listed in Task 2, Hydro One's departmental managers distributed the resource costs among one or more business units, based on the business units that caused the costs to be incurred. When possible, all or a portion of costs were assigned to a specific business unit.

**Task 7. Any portion of an activity that was not assigned to a specific business unit due to its generalized nature was allocated among business units using cost drivers, as described in Task 7. Assigned cost drivers**

As discussed above, the costs of activities were directly assigned to business units when possible. The purpose of this task was to select cost drivers for the portion of costs which were not directly assigned in Task 6.

The principles that Black & Veatch used to assign cost drivers are discussed in Section II.D- Cost Drivers. Black & Veatch selected cost drivers based on applying the principles discussed above, its experience in performing cost allocation studies, consultations with Hydro One as to the nature of each activity, and industry practices and regulatory requirements.

Section II.E Types of Cost Drivers describes the types of cost drivers.

Table 5 summarizes the direct assignments and types of costs drivers used to distribute the Common Corporate Costs among the business units. Amounts include the Inergi charges.

**Table 5 - Direct Assignments and Cost Drivers for Common Corporate Costs**

TYPE	2020	2021	2022
(% of Total)	%	%	%
Direct Assignment	58.91%	58.81%	59.05%
Physical	14.13%	14.22%	14.03%
Financial	23.94%	23.92%	23.77%
Internal	3.01%	3.05%	3.16%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

**Task 8. Populated cost drivers**

The purpose of this task was to determine the values of each cost driver that are attributable to each business unit in order to distribute the costs of each activity among the business units. The supporting information was provided by Hydro One.

**Task 9. Reviewed 2017 Time Study**

This Task is discussed in Section V.

### Task 10. Computed total common corporate costs for each business unit

The purpose of this task was to distribute the total cost of each activity among the business units. The amount distributed was the sum of the amounts directly assigned in Task 6, and allocations based on the cost drivers identified in Task 7.

For allocations based on the cost drivers, the amount allocated to each business unit was computed by multiplying the activity cost to be allocated by the cost driver value for the business unit.

### Task 11. Performed analytical review

The purpose of this task was to compare the results of the distribution of the BP 2020-2022 Common Corporate Costs among the business units to the results in the previous 2016 Review (*Review of Allocation of Common Corporate Costs (Distribution) – 2016* dated December 21, 2016), and to understand the differences.

The proportions of the total cost distributed to each business unit have been reasonably similar over time and differences are explained by additions and removal of departments from the Common Corporate Costs, changes in allocations of time, changes in allocator values and changes in departmental functions and activities.

Further during the course of evaluating the results of this model with the previous 2016 review we identified and discussed with Hydro One the specific costs of executives that were directly assigned to Shareholders to comply with the The Act. The allocation factors developed for the cost centers with these executive labour costs were updated resulting from the direct assignment of these executive labour costs to Shareholders.

### Task 12. Reviewed Common Corporate Costs Model

The purpose of this task was to review the Common Corporate Costs Model that Hydro One has developed for allocating the Common Corporate Costs, to determine if it properly reflects and models the OEB-approved cost allocation methodology for those costs included in the BP 2020-2022.

Black & Veatch first reviewed Common Corporate Costs Model in connection with our 2006 Review, and has reviewed the model for each of the subsequent reviews performed, including this 2019 Review. The model is updated periodically to reflect organizational changes; Business Plan costs; additions to and deletions of departmental activities; time and cost distributions among activities; assignments of allocators; and cost driver values.

The Common Corporate Costs distributes departmental costs among activities (Task 6) and then distributes the cost of each activity based on direct assignments or cost drivers (Task 10). The results of our review are summarized in the above section in this report, I.G: Conclusions and Results (see page 7).

## V. 2017 Time Study

Hydro One employees representing approximately \$89 million of annual labour costs participated in a time study for the four-week period ending June 16, 2017 (“2017 Time Study”). The last Time Study was conducted in 2017 prior to The Act and the associated changes to the Common Corporate Cost Model described in the 2019-Common Corporate Costs Report-Transmission. Given the changes to the Common Corporate Cost Model were focused on the direct assignment of specific executive costs to Shareholders, there are no changes to the organizational structure or time spent that would warrant a new time study.

The departments that participated in the 2017 Time Study are identified in Table 3 (designated by Note 1 next to the department name). The responsibilities of these departments are included in Exhibit A.

The personnel in these departments are able to determine with reasonable accuracy, on a current basis, the time they spend on Distribution Operations and Maintenance, Distribution Capital Projects, Transmission Operations and Maintenance and Transmission Capital Projects because the programs and projects on which they work are clearly defined.

A properly performed time study measures cost causation and is widely accepted as a basis for assigning costs. Hydro One personnel administered the 2017 Time Study using the same design and communication material designed by Black & Veatch and utilized in the time study that occurred in 2015. Black & Veatch’s responsibilities included reviewing time study results and the consolidation of the results, and confirming the completeness of the time study and its consistency with the study design. The methodology was the same as used in prior time studies conducted by Black & Veatch for Hydro One.

It was not practical to perform a full-year study, but we believe the results for a four-week period are representative of the full-year. To support this judgment, Black & Veatch reviewed the previous Hydro One time studies, which were completed at different times during the year, and found that the results were reasonably similar to the 2017 Time Study results.

Black & Veatch found that the 2017 Time Study was appropriately designed and completed, the results were correctly compiled, and the methodology was the same as for prior Hydro One time studies performed in connection with Black & Veatch’s previous cost allocation reviews. Therefore, Black & Veatch concluded that the 2017 Time Study results were a proper basis for assigning the costs of the departments included in the study between Hydro One’s Distribution and Transmission business units.

**Exhibit A: Functions and Services in Common Corporate Costs**

FUNCTIONS AND SERVICES	DESCRIPTION
<b>Hydro One Inc. Corporate Office (HOI)</b>	
President / CEO Office	Leadership of the staff of the Corporation to ensure that their culture and behaviours lead to achievement of its strategic objectives. Develop and update strategy and establishes performance targets to assess progress towards the goals and objectives defined by the strategy.
Chair	Strategic direction, implementation and results for Hydro One Inc. and for each subsidiary.
CFO's Office	Provide Hydro One and subsidiaries with strategic review and approval for all financial and investment decisions. Review policies and procedures, treasury operations and tax planning, financial control and reporting.
Treasurer's Office	Debt and equity issuance, capital structure management and oversight of Finance- Treasury function.
Board of Directors	Strategic direction, implementation and results for Hydro One Inc. and for each subsidiary.
Corporate Secretariat – General Counsel	Provide direction and analysis in areas of: Board and Committee(s); Office of Chair and Board members; Code of Business Conduct; Community Citizenship; Freedom of Information and Privacy, Corporate Archives, Corporate Records, Corporate Secretariat. Oversee and support Law, Regulatory and Corporate Secretariat General Counsel functions.
Pension Cost	Pension fund contributions.
Donations	Includes donations to support injury prevention, corporate donations (e.g. Salvation Army), energy education, United Way and local community causes. Costs are directly assigned to Shareholder only.
Ombudsman Office	The Ombudsman Office commenced activity following the Initial Public Offering, in order to address complaints escalated from the Customer Service . Prior to that, the Province of Ontario's Ombudsman had authority to investigate issues related to Hydro One customers.
Investor Relations	Investor Relations commenced activity following the Initial Public Offering, in order to communicate with Shareholders and potential investors and address their concerns.
EVP Strategy Office (Corporate Development)	Develops the Company Strategy by generating innovative new business opportunities. Responsible for the planning and execution of Hydro One's objectives through identifying and acquiring target companies in line with Hydro One's strategic plan and growth strategy. Costs are directly assigned to Shareholder only.



FUNCTIONS AND SERVICES	DESCRIPTION
LDC Acquisitions (Value Growth)	Identifies opportunities to leverage Hydro One’s core competencies to increase overall value and drive down average cost to serve. Costs are directly assigned to Shareholder only.
<b>Finance</b>	
Treasury and Risk	Risk management including insurance purchasing; insurance claims settlement; financial risk management; cash & banking operations; debt management-prospectus, debt issuance, borrowing, maintain relationship with shareholders; funds management; investor relations-shareholders, creditors, equity analysts & rating agencies; support business activities; project management.
Corporate Controller /Accounting	Financial Modeling & Analysis; Accounting Policy; IFRS / US GAAP; Inergi Finance.
Management Accounting and Reporting Services	Corporate Consolidation and Reporting; HONI Standard Costing and Master Data Management; Project Accounting (Tx Project Manager Support).
Taxation	Meet internal and external tax compliance requirements and reduce overall corporate tax liability through tax planning for current and new businesses, acquisitions and dispositions, special projects, tax compliance (including income tax, HST, and DRC returns for all entities), tax accounting, lobbying for legislative tax changes and government tax audits.
Regulatory Affairs	Coordinate applications with OEB; compliance with OEB orders; design and implement regulatory policy; manage relationship with OEB. Tasks include: cost allocation and rate design for regulated Tx and Dx, especially rate structures and rates for Tx and Dx tariffs; implement approved rates; support transmitters’ representative on IESO Technical Panel; manage MV Star to support settlement. Includes: Direct billed OEB costs for Tx and Dx; Direct billed NEB costs for Tx; Costs of Rate Hearings before the OEB for Tx and Dx.
Business Planning and Decision Support	Financial modeling & analysis; corporate planning & reporting; regulatory finance; decision support to the lines of business.
SVP Finance	Supervise all finance functions, including treasury operations and tax planning, financial control and reporting and business planning.
Data Governance	Tasked with improving confidence in data, across Hydro One’s Lines of Business through the delivery of an enterprise wide Data Governance Framework.
<b>Operations</b>	
Distribution Asset Management	Create prioritized, defensible distribution system investment strategies and plans to meet Hydro One's Corporate Strategic Objectives including promoting innovation and automation of our grids consistent with



FUNCTIONS AND SERVICES	DESCRIPTION
	maximum customer value. This includes the Distribution Technology
Planning and Optimization	Coordinate the investment planning and investment approvals processes for projects and programs issued to the lines of business from the Planning Business Unit. The investment plan is developed and maintained through the use of various tools, reports and LoB interaction.
Reliability, Strategies, and Compliance	Promote and facilitate Hydro One’s engagement and participation in the development of reliability standards and related IESO Market Rules; Develop, communicate and assist with the implementation of policies, directives, procedures, and processes to ensure an enduring compliance posture with reliability standards.
System Planning	Develop and commit prioritized, defensible transmission development plans, consistent with corporate strategy, to meet government policy, OPA plans, customer needs, regulatory requirements and industry standards. Conduct Regional Infrastructure Planning to meet OEB requirements and to develop regional plans to meet regional supply needs.
Network Connections and Development	Facilitate the connection of new load and generation customers to Hydro One’s transmission network, supporting customers’ objectives while respecting Hydro One’s strategic objectives and resource requirements.
System Operations	Operates the largest electricity delivery system in Ontario and one of the largest in North America for the needs of the Province of Ontario. Hydro One has a highly skilled and experienced workforce using first-class operating systems located in a state-of-the-art Control Centre. Hydro One is a team working together and safely to ensure Ontario has a safe, reliable supply of electricity.
Transmission Asset Management	Provide asset strategies, investment plans and work definition for the sustainment of the transmission grid to enable safe, reliable, efficient and cost effective delivery in a customer-focused commercial culture that increases enterprise value for our shareholder that provides increased value to our customers.
VP- Planning	Oversees Distribution Asset Management, Transmission Asset Management, Planning and Optimization, Network Connections and Development, System Planning, and Reliability, Strategies, and Compliance.
COO Office- Operations	Oversight of Operations group.
Strategic Services	Supports the executive team by advancing key strategic initiatives and interfacing with Lines of Business to assist in the implementation of these initiatives, coordinating the development of processes to ensure

FUNCTIONS AND SERVICES	DESCRIPTION
	alignment within the Company and a focus on our key priorities, and providing support to the President and CEO and the Leadership Team.
Facilities & Real Estate	Manage and acquire rights of way and easements; manage property taxes; manage SLU revenue programs; manage Employee Relocation Program.
<b>Information Services</b>	
Corporate Projects	Deliver the projects necessary to maintain and enhance the core services Hydro One provides to its customers across the province. Project delivery is completed by leveraging both internal and external expertise to design and construct using standard and repeatable methods that lead to safe, reliable and cost effective operations of those assets.
Information Technology	Information technology security; Enterprise IT architecture; Service delivery; Technology services; Governance of IT architecture, Business analysis and information management, Project management; Inergi & Telecom services management. Applications; Compliance security; Data services; Information services; IT operations; System architecture.
Security Operations	Incident reporting and security awareness; Threat intelligence gathering; Physical security and asset threat and risk assessments; Investigations; Theft of electricity consultation and detection; Workplace violence prevention and response; Contract security procurement assistance; Overall security and asset protection advice; Security infrastructure Capital and OM&A investment planning and project management.
<b>Customer &amp; Corporate Relations</b>	
Customer Care Services	The Customer Care team manages the outsourced contact centre which provides services to approximately 1.3 million customers. The team also improves customer satisfaction through system and process enhancements and quality programs.
Customer Program Delivery	<p>The team supports the Customer Care and Corporate Affairs department with financial management, the five year business plan, and the associated Rate Filings with the OEB.</p> <p>The team also includes Credit &amp; Collections, which is focused on reducing arrears and bad debt for both active and final-billed accounts, while working with customers on a variety of payment options to increase customer choice and provide more payment flexibility.</p>
Key Account Management	Manages relationships with Hydro One's large customers including Transmission-connected Industrials, LDCs, and Transmission-connected Generators, representing almost 70% of Hydro One's revenues.

FUNCTIONS AND SERVICES	DESCRIPTION
Meter To Bill	<p>Focused on providing clear, accurate, and timely bills to customers. This includes validation of meter reading data, bill calculations, exception handling, retailer transactions, bill creation, bill insertion, and bill issuance.</p>
Corporate Affairs	<p>The Communications team supports external and internal communications initiatives, including traditional media and social media. The team is also accountable for customer education and safety programs, corporate reputation, media relations, community investment, employee communications, and web communications for Hydro One’s corporate website.</p> <p>The External Relations team also manages the company’s relationship with key external stakeholders, such as the government, Ministry of Environment, energy regulators, elected officials, municipal associations, industry associations, and energy sector stakeholders, in order to address customer needs. The team is responsible for providing various lines of business with public affairs and community relations advice during the environmental, legal and regulatory approvals phases of a project to ensure requirements are met and public consultations are conducted. The team leads public consultation, environmental assessments, and community engagement functions in support of new development projects, maintenance and forestry programs.</p>
Indigenous Relations	<p>The team develops and maintains mutually beneficial relationships with Indigenous communities serviced by Hydro One. The team promotes effective relationships with Indigenous customers and communities and promotes business and workforce development for Indigenous peoples. The team also conducts consultations with Indigenous peoples and communities in the early stages of, and throughout, projects or other activities that may impact their Aboriginal rights and/or treaty rights.</p>
Net Bad Debt and Goodwill	<p>Net Bad Debt and Goodwill Credits related to Distribution customers. Allocated 100% to Distribution.</p>
SVP Customer Care and Corporate Affairs	<p>Oversees the teams listed above, including Customer Service, Corporate Affairs, Market Solutions, and Indigenous Relations.</p>
VP Customer Service	<p>Oversees the teams listed above, which has overall accountability for products and services provided to customers.</p>
Conservation and Demand Management	<p>Reporting to the VP of Market Solutions, the team designs and deliver energy conservation and demand management incentive based programs through the IESO’s Framework.</p>
Market Solutions	<p>The Market Solutions department delivers a brand and marketing strategy designed to engage customers and partners while driving growth. This team is responsible for Hydro One’s integrated marketing,</p>

FUNCTIONS AND SERVICES	DESCRIPTION
	customer research, website, design, and conservation and demand management functions.
<b>Inergi LP (outsourced services)</b>	
Finance and Accounting Services	Accounts Payable; Accounts Receivable (non-energy); Fixed asset and project cost accounting; general accounting and planning, budgeting and reporting
Human Resources- Pay services	Payroll and related services
Accounts Payable	Invoice processing and payment
<b>People and Culture</b>	
People and Culture	<p>Primarily employee-related services, including administer compensation &amp; benefits programs; decision support for business units; talent management (hiring, succession, development, coaching; high potential employee assessments); recruitment and diversity (diversity programs, grad program, student/co-op, line of business resourcing); data administration; consulting support to LOBs and corporate functions; VP Human Resources.</p> <p>Provide full-scale service pertaining to bargaining, Ontario Labour Relations Board hearings, grievance and arbitration hearings, advice and guidance, plus training to all levels of Hydro One management. Involves interaction with 21 unions and 24 collective agreements.</p>
<b>Audit</b>	
Audit	Provides assurance that internal controls continue to operate effectively, identification and recommendations for areas where controls can break down or need improvement to meet corporate objectives. This includes the VP Chief Risk Officer.
<b>General Counsel &amp; Secretariat</b>	
Law Division and Corporate Secretariat	Provides legal advice to all business units, acting as an internal “law firm” for the Corporation on most aspects of law affecting it, and is also well acquainted with day- to-day requirements of the Corporation.
<b>Telecom Services</b>	
Telecom Services	Provides telecommunications infrastructure across the Province, including both voice and data. Links staff and business applications at Trinity, Richview TS, Markham and London Call Centers, Mill Creek data centre, 125 field offices (400 total sites including stations) and customers via Call Centres and Web sites.
<b>VP Chief Risk Officer</b>	
VP Chief Risk Officer	The VP Chief Risk Office group creates an enterprise-wide comprehensive and uniform approach to anticipate, identify, prioritize,

FUNCTIONS AND SERVICES	DESCRIPTION
	measure, treat and report on key business risks impacting our organization. It puts in place the policies, common processes, competencies, accountabilities, reporting and enabling technology to execute that approach successfully.

**Exhibit B: Types of Cost Drivers**

TYPE	DESCRIPTION	EXAMPLES
<b>External Cost Drivers</b>		
Physical	Physical units; usually objectively determinate but often require estimates	Headcount (of employees), number of workstations, invoices to vendors
Financial	Financial information from accounting or management reports, budgets or projections	Capital expenditures, Net utility plant, Program Project Costs, Total capital, Total revenue
Blended	Weighted combinations of other drivers, used when one or more drives are applicable and none is clearly preferable; weights determined by judgment	Non-energy Rev_Assets Blend = 50% weight for Non-Energy Revenue and 50% weight for Assets
Driver xBusiness Unit	Any driver may be modified by excluding one or more business units to which the activity does not apply	Cost driver for Business Process Improvements is Operating Maintenance Capital, but Telecom and Remotes business units do not use the shared service, therefore activity cost driver is called Oper Maint Cap xTxR (i.e., Gross Utility Plant excluding Telecom and Remotes)
<b>Internal Cost Drivers</b>		
All Internal Cost Drivers	Use the result of previous allocations as the basis for further allocations	Cost of general departmental expenses might be allocated in the same proportion as the specifically assigned departmental activities

1       **PURCHASE OF NON-AFFILIATE SERVICES (OUTSOURCING)**

2  
3       **1. INTRODUCTION**

4  
5       This Exhibit describes how Hydro One purchases goods and services from third parties  
6       other than its affiliates. Specifically, it describes arrangements with two of Hydro One's  
7       key outsourcing partners.

8  
9       **2. THE PURCHASE OF GOODS AND SERVICES FROM NON-**  
10       **AFFILIATES**

11  
12       In compliance with the Supply Chain Policy set out Exhibit F, Tab 3, Schedule 2, Hydro  
13       One acquires materials and services from non-affiliates through a process that drives  
14       value for money, provides transparency to its internal customers, and builds mutually  
15       valuable relationships with key suppliers. This process and the resulting agreements with  
16       non-affiliates show how Hydro One values performance management and continuous  
17       improvement as instruments of productivity that mitigate the impact of rates on its  
18       customers.

19  
20       The Inventory Policy is incorporated by reference in the Supply Chain Policy and is  
21       provided in Exhibit F, Tab 3, Schedule 3.

22  
23       Purchases are made by using one or more of the following processes that are described in  
24       Exhibit F, Tab 3, Schedule 4: request for information, request for proposals, request for  
25       quotes, request for pre-qualification, direct negotiation (single sourcing) and sole  
26       sourcing process. Details on Hydro One's supply chain activities and their associated  
27       costs are provided in Exhibit C, Tab 9, Schedule 4.

Witness: Rob Berardi

1 Purchases are authorized by the appropriate position identified in Hydro One's  
2 Expenditure Authority Register (EAR), which is a key element of Hydro One's internal  
3 control framework. The EAR delegates authorities from its Board of Directors to senior  
4 management and management at the subsidiaries and business units.

5  
6 Hydro One relies on two main outsourcing arrangements in the operation of its  
7 businesses, one with Inergi LP ("Inergi") and another with Brookfield Asset  
8 Management. These arrangements are described in Sections 3 and 4 of this Exhibit.

9  
10 **3. INERGI LP**

11  
12 **3.1 BACKGROUND**

13  
14 On March 1, 2015, Hydro One began a new services arrangement with Inergi ("Inergi  
15 Agreement"), a limited partnership wholly-owned by Capgemini Canada, which is held  
16 by Capgemini SA. The Inergi Agreement expires on December 31, 2019, with an option  
17 to renew the agreement for two additional terms of approximately one year each. The  
18 Inergi Agreement relating to information technology services was amended effective  
19 March 1, 2018, and extended for 14 months, expiring February 28, 2021. The Inergi  
20 Agreement relating to supply chain services was amended effective November 1, 2018,  
21 and extended for 22 months, expiring October 31, 2021. Financial and performance  
22 guarantees have been provided by Inergi's affiliates.

23  
24 **3.2 SCOPE OF WORK**

25  
26 The scope of work under the Inergi Agreement is comprised of services ("Base  
27 Services") and project services performed over a finite period to produce a project  
28 deliverable, solution or result ("Project Services"). Base Services are divided into the

Witness: Rob Berardi



1 following areas (individually, a “Statement of Work” or a “SOW”), each of which relates  
2 to a line of business within Hydro One: (1) information technology services; (2)  
3 settlements; (3) supply chain services; (4) payroll; and (5) finance and accounting  
4 services. Supply chain services, is recovered through the material surcharge rate, which  
5 is discussed in detail in Exhibit C, Tab 9, Schedule 4.

6  
7 **3.3 FEE STRUCTURE**

8  
9 Appendix A to this Exhibit sets out the outsourcing fees spent in the historical period of  
10 2015-2018.

11  
12 Under the Inergi Agreement, Inergi provides Base Services based on a declining fee  
13 structure with the exception of information technology and supply chain services which  
14 are on a fixed fee structure, with improved services to Hydro One. Fees for Base  
15 Services will decline over time as long as transaction volumes remain within normal  
16 volume ranges, as defined in the Inergi Agreement, while meeting or exceeding  
17 prevailing service levels. Additional charges apply if there are higher transaction volumes  
18 than the prescribed volumes. Conversely, Hydro One is entitled to fee credits if  
19 transaction volumes are lower than prescribed volumes.

20  
21 Fees are subject to an Economic Cost Adjustment (“ECA”) using a government published  
22 index that reflects movements in a broad-based consumer-focused price index. The  
23 current index being used is “CPI - Ontario excluding Energy”. The ECA is also adjusted  
24 for inflation sensitivity. The ECA does not apply to information technology and supply  
25 chain services.

26 The Inergi Agreement provides for optional benchmarking reviews of fees by an  
27 independent third party. The costs of the benchmarking review are borne equally by

Witness: Rob Berardi

1 Hydro One and Inergi. The third party analyst is selected from a predetermined list  
2 included in the Inergi Agreement. Benchmarking can be undertaken at a SOW-level,  
3 rather than at a global level. The benchmarking exercises will use a group of peers who  
4 operate in a unionized, Ontario-only environment. If the benchmarking review  
5 determines that Inergi fees are above the benchmark, Inergi must adjust its fees to the  
6 benchmark price. Hydro One is not restricted on when benchmarking can take place with  
7 the exception of information technology and supply chain services. For the amended  
8 agreements, Hydro One can benchmark once in the term after 18 months has passed the  
9 SOW effective date. To date, Hydro One has not exercised its option to benchmark.  
10 Hydro One's current decision to not benchmark is largely attributable to the integration  
11 of the customer service operations and the re-negotiation of information technology and  
12 supply chain SOWs, which financially make up the majority of the contract at  
13 approximately 88%.

14

#### 15 **3.4 SERVICE QUALITY ASSURANCES**

16

17 The Inergi Agreement sets out a methodology to measure Inergi's performance in terms  
18 of timeliness, quality, accuracy and client satisfaction of services, among others. Service  
19 measurement ensures that Hydro One receives an acceptable level of service to achieve  
20 business outcomes. Service quality is measured using defined service levels or  
21 Performance Indicators ("PIs") and client satisfaction surveys. Inergi's services are  
22 measured regularly (daily, monthly, quarterly, and yearly) for achievement of PIs. The  
23 PIs vary based on the nature of the service in question and set both minimum and targeted  
24 service levels. When Inergi fails to meet certain PIs, Hydro One is entitled to: (a) a  
25 service credit(s) calculated in accordance with predetermined formulae; (b) remediation  
26 action, at Inergi's cost, based on a remediation plan that Hydro One has approved; or (c)

1 both, depending on the level of criticality and frequency of such failures.<sup>1</sup> The PIs are  
2 adjusted upwards annually, where applicable, to drive continuous improvement. In the  
3 contract year ending December 2018, Inergi met or exceeded 93% of total PIs across all  
4 SOWs. More details are available in Table 1 below.

5

6

**Table 1: Inergi 2018 Performance**

<b>Statement of Work</b>	<b>Performance Indicators Measured for 2018</b>	<b>Performance MET</b>	<b>Target Performance NOT MET</b>	<b>Minimum Performance NOT MET</b>	<b>% Met</b>
<b>Information Technology Services</b>	274	250	20	4	91%
<b>Finance and Accounting Services</b>	207	203	2	2	98%
<b>Payroll Services</b>	165	136	19	10	82%
<b>Supply Chain Services</b>	323	308	11	4	95%
<b>Settlement Services</b>	135	131	4	0	97%
<b>Total</b>	1104	1028	56	20	93%

7

8 Inergi's services are also measured through client satisfaction surveys conducted by  
9 Inergi of Hydro One's relevant business managers and internal users. Inergi must address  
10 dissatisfaction revealed by the surveys. Together, Hydro One and Inergi are to identify  
11 opportunities and strategies for responding to any issues the surveys reveal. The most  
12 recent surveys showed scores of 3.32 out of 5 for Base Services and 3.96 out of 5 for  
13 Project Services and service desk support.

---

<sup>1</sup> Termination of individual statements of work or any part thereof is allowed under defined circumstances without payment of any penalties or termination charges.

Witness: Rob Berardi

1     **3.5     CONTINUOUS IMPROVEMENT AND INNOVATION**

2  
3     The Inergi Agreement includes a commitment to continuous improvement, including a  
4     process to proactively and continuously introduce global best practices. The contract was  
5     negotiated such that the benefits of these improvements are guaranteed to be passed on to  
6     Hydro One through the declining fee structure (except the amended agreements) and  
7     annual adjustment of PIs. In addition, the Inergi Agreement includes an annual  
8     requirement in the information technology services SOW to submit innovation proposals  
9     for commercially reasonable projects offering demonstrable savings to Hydro One.

10  
11    **3.6     GOVERNANCE**

12  
13    The Inergi Agreement sets out a governing structure to manage the outsourcing  
14    relationship. It operates to ensure strategic alignment between the parties, oversee  
15    relationship, review Inergi's global business strategies, review operational and project  
16    performance, change management, continuous improvement, and identify and resolve  
17    any risks and issues. Committee meetings are held at various levels of leadership to  
18    achieve the desired governance and business objectives. In addition, the governing  
19    structure includes processes that have been tailored to monitor and derive value in areas  
20    such as finance, compliance and performance. These processes have been enhanced to  
21    provide greater integration with Hydro One's lines of business.

1 **4. BROOKFIELD**

2  
3 **4.1 BACKGROUND**

4  
5 Following a competitive procurement process, and in accordance with the terms of a  
6 purchased services agreement with the Power Worker's Union, on January 1, 2015,  
7 Hydro One began a new services arrangement (the "BGIS Agreement") with Brookfield  
8 Johnson Controls Canada ("BJCC"), a joint venture between Johnson Controls and  
9 Brookfield. Effective February 19, 2015, Brookfield Asset Management subsequently  
10 acquired the interest of Johnson Controls in BJCC and re-branded the entity as  
11 Brookfield Global Integrated Solutions ("BGIS"). BGIS is a wholly-owned subsidiary of  
12 Brookfield Asset Management.

13  
14 The BGIS Agreement has a 10-year term, which can be extended at Hydro One's option  
15 for an additional three years. In its procurement process, Hydro One retained an  
16 outsourcing advisory firm, Information Services Group, to assist in the design of the  
17 overall sourcing strategy and procurement process. Information Services Group also  
18 supported the firm selection and final negotiation processes.

19  
20 **4.2 SCOPE OF WORK**

21  
22 The scope of work under the BGIS Agreement is comprised of ongoing daily facilities  
23 management, accommodation activities and related maintenance and repair work at its  
24 operations centres, transmission stations facilities, distribution stations,  
25 administration facilities and rights of way locations. The BGIS Agreement also  
26 includes capital project management services related to new facilities as defined by  
27 Hydro One.

Witness: Rob Berardi

1     **4.3     FEES**

2  
3     BGIS receives annual management and administrative fees which include overhead and  
4     profit. This fee is adjusted annually for inflation in accordance with the consumer  
5     price index and as necessary in the event of material changes in the scope of the work.  
6     Built into the fee structure are incentives for BGIS to achieve cost savings.

7  
8     Works and services that are performed by BGIS, and supplies and services provided  
9     by third parties through BGIS, are billed to Hydro One at full cost, as a pass through  
10    expense with no mark up.

11  
12    Fees are subject to an economic cost adjustment using a government published index that  
13    reflects movements in a broad-based consumer-focused price index.

14  
15    Hydro One may request third party benchmarking after three years and every two years  
16    thereafter, with a "benchmark fee adjustment", if the aggregate fees are above five  
17    percent of the target results.

18  
19    **4.4     SERVICE QUALITY ASSURANCES**

20  
21    The BGIS Agreement provides for Critical Service Levels ("CSL"), Key Performance  
22    Indicator ("KPI") measures and critical deliverables. BGIS's services are measured and  
23    reviewed regularly (monthly, quarterly and annually) to validate achievement of KPIs.

24  
25    The CSLs and KPIs are based on the nature of the services provided by BGIS and set  
26    forth both expected and minimally accepted service levels. If BGIS fails to meet specific  
27    criteria, there are adverse financial consequences for BGIS.

Witness: Rob Berardi

1 BGIS performs client satisfaction surveys of Hydro One’s relevant internal user. Results  
2 are measured with expected thresholds and reviewed regularly with Hydro One.

3 Table 2 below summarizes CSL and KPI performance of BGIS for 2018.

4  
5 **Table 2: BGIS 2018 Performance**

Key Measures: KPIs and CSLs	Number of Key Measures Jan to Dec 2018	Performance Met	Partially Met	Not Met
Finance	4	4		
H&SE	7	7		
Work Program Accomplishment	7	7		
Customer Satisfaction	4	3		1

6  
7  
8 **4.5 CONTINUOUS IMPROVEMENT AND GOVERNANCE**

9  
10 The BGIS Agreement includes shared savings incentives which are directly attributable  
11 to process or service improvements made by BGIS.

12  
13 As one of the world’s leading commercial property owners, BGIS is able to leverage their  
14 capabilities and global reach of their broader organization to bring innovation and create  
15 value for clients.

16  
17 The BGIS Agreement sets out a governing structure to manage the parties’ relationship,  
18 which includes an executive steering committee, contract oversight committee and the  
19 line of business facility management committee. These committees meet regularly, at  
20 different intervals, to ensure strategic alignment between the parties, oversee relationship,  
21 review operational and project performance, change management, continuous  
22 improvement, and address any risks and issues. The processes have also been enhanced  
23 to provide greater integration with Hydro One’s lines of business.

Witness: Rob Berardi

**APPENDIX A: PURCHASE OF NON-AFFILIATE SERVICES (OUTSOURCING)**

**INERGI FEES**

**Table 1 - Summary of Fees (\$ Million)**

	Historic				Bridge	Test
	2015	2016	2017	2018	2019	2020
Description	Actual	Actual	Actual	Actual	Forecast	Forecast
Fees for Base Services	\$127,436,383	\$125,968,009	\$ 123,628,630	\$ 81,366,372	\$ 75,571,569	\$ 76,376,544
Volume, Scope & Other	\$19,897,518	\$4,274,422	\$ 15,399,404	\$ 4,526,666	\$268,360	\$92,997
ECA	\$1,828,520	\$2,370,948	\$ 4,417,107	\$ 1,789,961	\$1,034,021	\$1,405,842
<b>Subtotal Fees for Base Services</b>	<b>\$149,162,421</b>	<b>\$132,613,379</b>	<b>\$143,445,141</b>	<b>\$87,682,998</b>	<b>\$76,873,950</b>	<b>\$77,875,383</b>
Project Spend (all LOB's)	\$57,600,986	\$41,424,987	\$31,781,061	\$38,521,137	\$41,000,000	\$41,000,000
<b>Total Payments</b>	<b>\$206,763,407</b>	<b>\$174,038,366</b>	<b>\$175,226,202</b>	<b>\$126,204,136</b>	<b>\$117,873,950</b>	<b>\$118,875,383</b>

<sup>1</sup> Base fees decrease in 2018 due to the insourcing of Customer Service Operations, and the re-negotiation of information technology services.



<b>Table 2 - Allocation of Fees to Transmission (\$ Million)</b>	
	<b>2020</b>
Finance and Accounting	\$ 3,647,747
Payroll	\$ 2,154,007
Information Technology Services	\$ 17,020,289
Settlements	\$ 503,000
Customer Service Operations	\$ -
<b>Subtotal Fees for Base Services</b>	<b>\$ 23,325,043</b>
Project Spend (all LOB's)	\$ 17,000,000
<b>Total Payments</b>	<b>\$ 40,325,043</b>

Witness: Rob Berardi

**APPENDIX B – BGIS FEES**

**Table 1: BGIS Fees (\$ Millions)**

**Table 1 - PURCHASE OF NON-AFFILIATE SERVICES (OUTSOURCING) - BGIS FEES AND CHARGES (\$ Millions)**

Description	Historic Years				Bridge Year	Test Year
	2015	2016	2017	2018 <sup>1</sup>	2019	2020
Management Fee and Admin	3.9	4.0	4.1	4.4	4.5	4.6
Reimbursable Charges:	20.7	24.7	25.6	29.2	29.9	30.1
<b>Total Cost</b>	<b>24.6</b>	<b>28.7</b>	<b>29.7</b>	<b>33.6</b>	<b>34.4</b>	<b>34.7</b>

<sup>1</sup> Increased BGIS scope to include Waste Management.

**Table 2 - Allocation to Transmission (\$ Millions)**

Description	Test Year 2020
Management Fee and Admin	3.2
Reimbursable Charges:	20.8
<b>Total Cost</b>	<b>24.0</b>

# Supply Chain Policy

## Purpose and Scope

The primary purpose of the Supply Chain Policy is to communicate and reinforce desired values and expectations of the supply chain activities of Hydro One Limited, its subsidiaries and the affiliates it controls (referred to in this document as 'Hydro One' or the 'Corporation').

This policy applies to Hydro One and its outsourcing partner.

## Revision Statement

Guiding principles have been updated to reflect a more commercial mindset regarding linkage of procurement to outcomes. Reference to the Requisitioner's and the Purchasing Procedures have been replaced with the Requisitioner's and Buyer's Guide respectively. References to the Consultants and Professional Services Policy ([SP0707](#)) have been removed.

## Principles

Supply Chain will:

- Acquire materials and services through a process that drives value for money, transparency to its internal customers, and builds mutually valuable relationships with key suppliers.
- Ensure the right materials and services are delivered to the right place at the right time in a cost effective manner.
- Source materials and services with consideration to health, safety and the environment and corporate social responsibility.
- Promote business and workforce development for Indigenous Businesses.
- Achieve operational excellence through continuous improvement in collaboration with Supply Chain's Customers and Suppliers.
- Manage its outsourcing partner to align with these principles.

## 1.0 Requirements

The key requirements of each Supply Chain function are as follows:

Strategy and Oversight:

- Provide a strategic, cost effective, data driven and analytical planning approach to Supply Chain processes.
- Direct continuous improvement initiatives to achieve operational excellence and cost effectiveness.
- Ensure an effective governance process is in place to manage change.

Sourcing:

- Develop and execute a strategic procurement plan to identify materials and services needed to meet business requirements at the best value for money.
- Employ a mix of procurement processes, including sole source, direct negotiation, and bidding processes that provide the best business outcome.
- Identify and attract qualified suppliers that provide quality products and services.

## SP 1231 R2

- Provide opportunity for increased Aboriginal Business participation in the provision of products and services.

### Purchasing:

- Process Purchase Requisitions on a timely basis to ensure that customer's needs are met.
- Promote improved requisitioning through effectively documented processes and education.

### Inventory Management:

- Align to the Inventory Policy ([SP0732](#)).
- Manage inventory at optimal levels and locations to satisfy operations.
- Monitor and control the accuracy of inventory data.
- Re-deploy, return or dispose of material to maximize cost savings considering environmental impact.

### Logistics:

- Determine the most efficient and economical method to store and distribute materials from Suppliers to Customers.
- Facilitate the movement of returnable containers to Suppliers.

### Accounts Payable:

- Remit authorized and timely payments to suppliers in accordance with the terms and conditions of the respective contracts.
- Capture payments accurately and completely in Hydro One systems, and ensure accurate account distributions.

### Customer Service:

- Provide centralized support to customers and suppliers so interactions with Supply Chain are seamless.
- Data Management
- Utilize business applications, information management methods, and data management tools to implement procedures and an infrastructure to support the integration and shared use of accurate, timely, consistent and complete Supply Chain Master Data.

## 2.0 Definitions

None

## 3.0 References

### [Expenditure Authority Register](#)

[SP0829](#) - Code of Business Conduct

[SP0849](#) - Corporate Disclosure Policy

[SP0732](#) – Inventory Policy

[SP0733](#) - Inventory Procedure

[SP1374](#) - Indigenous Procurement Procedure

[SP0327](#) - Health, Safety and Environmental Policies

[SP0826](#) - Sourcing Procedure

[SP1254](#) - Buyer's Guide (formerly Purchasing Procedure)

[SP1233](#) - Requisitioner's Guide (formerly Requisitioner's Procedure)

## 4.0 Document Management

<b>Owner/Functional Responsibility</b>	Director, Supply Chain
<b>Approver</b>	Vice President, Shared Services
<b>Approval Date</b>	April 2018
<b>Effective Date</b>	March 21, 2018
<b>Last Reviewed Date</b>	March 21, 2018
<b>Next Review Date</b>	March 21, 2020

## 5.0 Appendices

None

## Inventory Policy

### Purpose and Scope

The Inventory Policy provides the framework for inventory management, valuation, verification and accounting in order to preserve the integrity of our financial statements.

This policy applies to Hydro One Limited and its affiliates (collectively "Hydro One") that are involved in the valuation, verification, management and accounting for inventory. Inventory as referred to in this policy includes both Hydro One owned assets classified as "materials and supplies" and "future use fixed assets" on the corporate balance sheet. It also includes consumable inventory; strategic parts/component inventory and other inventory (i.e. Telecom).

This policy does not apply to: free issues (items that are expensed immediately); operating spares that are classified as in-service major fixed assets; minor fixed assets; or Hydro One Remote Communities' fuel inventories.

### Revision Statement

This document was revised to provide clarity, consistency and simplicity, and to align to the new template as part of the Corporate Policy Project.

### Principles

- Hydro One inventory is managed, verified and valued in a manner consistent with sound business practices and accounting principles. To ensure the completeness, existence and the appropriate valuation of inventory, inventories are physically verified on a periodic basis. Accounting for inventories is consistent as appropriate to the context of a rate regulated industry.
- All inventories, including future use fixed assets, will be properly controlled and costed to ensure the accuracy of records for materials, work in progress, finished or partly finished new or used goods.
- All inventories will be managed, verified and valued for accuracy with the COSO assertions of ownership, valuation, existence and completeness.

## 1.0 Corporate Requirements

- a. Physical inventory counts will be conducted on a periodic basis to verify the physical existence and completeness of Hydro One inventory.
- b. Inventory classified as "materials and supplies" is to be valued at the lower of average cost and net realizable value (NRV). New items are recorded in the inventory system at cost automatically as a result of transaction steps in the supply process. There are times when due to a timing issue, the average cost is deemed incorrect and a correction has to be made through the inventory sub-ledger.
- c. Inventory that has a NRV that is less than carrying value will be written down to the net realizable amount. If the NRV subsequently recovers, the write-down should be reversed. Corporate Finance advice should be sought before writing assets down for declines in NRV and for any subsequent reversals.
- d. All inventories must be managed in accordance with good business practices balancing the need to maintain an adequate supply of materials with appropriate cost considerations.
- e. All inventories must be stored in a secure location where access is limited to personnel authorized by Hydro One.

### Specific Circumstances

- a. Hydro One will re-deploy or dispose of surplus material in a manner to maximize the return with emphasis on reuse and environmental protection consistent with the principles of the Hydro One Health, Safety and Environmental Management System.
- b. Investment Recovery (IR) is the authority to sell items that have been declared surplus in accordance with Retirement/Surplus Reporting Procedures. (Refer to [SP0855](#) Procedure for Disposal of Surplus Materials).
- c. When exercising Local Sale of Surplus and disposing goods locally, responsibility for adhering to [SP0855](#) Procedure for Disposal of Surplus Materials rests with the line of business (LOB).

## 2.0 Definitions

Term	Definition
Average Cost	For inventory items that are not interchangeable, specific costs are attributed to the specific individual items of inventory. For items that are interchangeable, Hydro One has adopted weighted average cost method to determine average cost of inventory.
Consumable Inventories	Inventories used primarily in the distribution or transmission business. These goods are kept in stock to support customer requirements. Items include: transformers, wire and cable, connectors, poles/line hardware, circuit breaker parts, insulators, surge arresters, fasteners, switches, supplies (i.e. safety, metering, construction, cleaning) and equipment (i.e. lighting, survey, hoisting).
Net Realizable Value (NRV)	Based on the regulatory principle of cost recovery, net realizable value is generally equal to carrying value for inventory used in Hydro One's regulated businesses. For inventory items available for sale, net realizable value is defined as the estimated selling price in the ordinary course of business less the estimated costs necessary to complete the sale.
Periodic basis	The frequency of inventory counts and the coverage of the each count will vary depending on the type of inventory and the risk of misstatement. An assessment should

	occur at least once per fiscal period.
Strategic Parts Inventories	Inventories used primarily in the transmission or distribution business. These goods are kept in stock to support the sustainment of major fixed assets. The parts are deemed to be critical to the functionality of Hydro One transmission and/or distribution assets. Items include: high voltage instrument transformers (HVITs), switches, insulators, bushings, tap changers, towers, relays, suspension clamps and dampers, and transmission towers for storm recovery. The asset must be maintained in a ready to deploy state.

### 3.0 References

1. [SP0733](#) Inventory Procedure
2. [SP0855](#) Procedure for Disposal of Surplus Materials

### 4.0 Document Management

<b>Owner/Functional Responsibility</b>	Director, Corporate Accounting & Reporting
<b>Approver</b>	VP, Corporate Controller
<b>Approval Date</b>	July 2016
<b>Effective Date</b>	July 2016
<b>Last Reviewed Date</b>	July 2016
<b>Next Review Date</b>	June 2018

### 5.0 Appendices

None



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25

**DESCRIPTION OF PROCUREMENT PROCESSES**

Hydro One's Supply Chain complies with its policies and procedures that govern source-to-award activities. Hydro One's sourcing procedure provides a framework for sourcing activities to achieve increased productivity, buying power, value for added services and innovation while building valued supplier relationships. This is achieved by:

**A. Financial Stewardship**

- Utilizing a value-for-money approach to source materials and services.
- Ensuring that the sourcing plan is in line with the overall supply chain strategy and corporate goals.
- Following negotiation strategies to obtain the lowest possible price from qualified suppliers while not jeopardizing quality, and achieve maximum value to Hydro One.
- Ensuring savings, rebates and volume discounts are captured.

**B. Supplier Relationships**

- Ensuring that materials and services are acquired from qualified suppliers and establishing consistent expectations for working with suppliers that enhance relationships and the value-for-money proposition.

**C. Health, Safety & Environmental and Corporate Social Responsibility**

- Considering responsible ways for sourcing from businesses that conduct operations in a socially responsible manner in accordance with good environmental, health, safety and corporate social responsibility practices.

1 **D. Indigenous Procurement**

- 2 • Developing and maintaining relationships with First Nations and Métis peoples  
3 that demonstrate mutual respect for one another.
- 4 • Encouraging the development and viability of qualified First Nations and Métis  
5 businesses, identifying contracting opportunities, conducting workshops, and  
6 promoting business networking within First Nations and Métis communities.

7

8 Supply Chain creates a sourcing plan whereby each Category Team develops and  
9 executes a strategy which considers the following factors:

- 10 • Identification and engagement of relevant internal stakeholders;
- 11 • Defining business requirements;
- 12 • Developing an expenditure baseline;
- 13 • Analysis of current supply market conditions and trends;
- 14 • Analysis of current suppliers' prices, offerings and performance;
- 15 • Considerations of category specific circumstances, active contracts, user  
16 requirements and specifications, stakeholder analysis, commercial considerations,  
17 collaborative planning input, supplier relationship level, key leverage points, bid  
18 list, disputes with suppliers, business risks, benefits estimates, qualification  
19 requirements, consideration of total value, and market research;
- 20 • Selection of an appropriate sourcing method, including open competition,  
21 competition directed to a subset of suppliers, or direct negotiation; and
- 22 • Encourage opportunities for Indigenous inclusion in the category strategy.

1 The following are detailed sourcing methods which may be employed:

2  
3 **1. RFI – Requests for Information**

4 RFI is a process that uses a market research tool sent to a broad base of potential  
5 suppliers for a number of purposes, including gathering information, building a supplier  
6 database to determine availability of products and services, scoping business  
7 requirements, and/or estimating project costs. Responses to RFI questions normally  
8 contribute to the content of the eventual RFP, RFPQ, or RFQ document being created,  
9 but is not used to pre-qualify a potential supplier nor impact the respondent's chances of  
10 being the successful proponent on any subsequent opportunities. An RFI is not a  
11 substitute for a competitive process and cannot result in the award of a contract to a  
12 supplier who has responded.

13  
14 **2. RFP - Requests for Proposal**

15 An RFP is a process that uses a document prepared to solicit proposals for the supply of  
16 materials or services for which bidders must develop and propose a business application  
17 or solution. This competitive bid process is used when one or more of the following  
18 criteria are met:

- 19
- 20 • There is a requirement for custom made/specialized materials or services for  
which bidders must develop and propose a business application or solution;
  - 21 • There is a need for engineered equipment and/or construction services, and more  
22 than one option exists to address the requirement;
  - 23 • There are off-the-shelf materials where value added services are required in  
24 addition to the materials;
  - 25 • An alternative solution is sought; and/or

Witness: Rob Berardi

1 An RFP may result in a Vendor of Record (“VOR”) list with pre-established rate cards.  
2 These arrangements require a second-stage competitive process, or an award strategy  
3 identifying the methodology for determining the award of work.  
4

### 5 **3. RFPQ – Request for Pre-Qualification**

6 An RFPQ is a competitive bid process used to solicit supplier capabilities and  
7 qualifications, with the intention of establishing a list of pre-qualified suppliers, usually  
8 based on financial and/or other technical criteria.  
9

10 It is used when the following criteria are met:

- 11 • There are opportunities to reduce costs for certain categories of materials and  
12 services by establishing strategic relationships with a small group of suppliers;  
13 and
- 14 • There are generally understood technical criteria to pre-qualify the suppliers but  
15 specific scopes of work are defined as required.  
16

17 These arrangements require a second-stage competitive process directed to the pre-  
18 qualified suppliers, or an award strategy identifying the methodology for determining the  
19 award of work.  
20

### 21 **4. RFQ - Requests for Quotation**

22 This competitive bid process is used where a description of exactly what needs to be  
23 procured is provided and the evaluation of bidders is made predominantly on price and  
24 delivery requirements.

1 **5. Direct Negotiation (Single Sourcing)**

2 Examples of circumstances when negotiation with a single supplier may be most  
3 appropriate include:

- 4 • Building key strategic supplier relationships where it is believed that a  
5 competitive process may not lead to the best solution or drive the most value for  
6 Hydro One;
- 7 • A purchase that is of a confidential or privileged nature;
- 8 • An unforeseen situation of urgency exists created by circumstances or actions of  
9 persons external to Hydro One; there is only one supplier who can perform the  
10 work without causing Hydro One to suffer an unacceptable delay or incur  
11 unreasonable costs due to another supplier's learning curve; or
- 12 • Invitational procurement opportunities to a single qualified Indigenous business  
13 or community in accordance with the Indigenous Procurement Procedure.

14  
15 **6. Sole Sourcing**

16 The following are examples of circumstances when sole sourcing may be appropriate:

- 17 • There is only one supplier capable of meeting the requirements;
- 18 • To ensure compatibility with existing products, to recognize exclusive rights, such  
19 as exclusive licences, copyright and patent rights, or to maintain specialized  
20 products that must be maintained by the manufacturer or its representatives;
- 21 • Where there is an absence of competition for technical reasons and the materials  
22 or services can only be supplied by a particular supplier and no alternative or  
23 substitute exists, e.g. original equipment manufacturer, or where the warranty is  
24 tied to a particular material and it would be negated by the use of a different  
25 supplier's part;
- 26 • The supplier has a statutory monopoly;
- 27 • Work is to be performed on or about a leased building or portions, thereof, may  
28 be performed only by the lessor; or

Witness: Rob Berardi

- 1           • For the procurement of a prototype, or a first good or service, to be developed in  
2           the course of, and for, a particular contract for research, experiment, study, or  
3           original development, but not for any subsequent purchases.

4  
5       **7. Warranty Claims**

6       In 2017, Supply Chain developed a Warranty & Claim Management process which  
7       provides a systematic methodology for identifying, assessing and resolving warranty  
8       issues and claims, and for seeking compensation, when applicable, from suppliers. The  
9       process is tailored to manage warranty issues and claims for major engineered equipment  
10      but can be applied to materials and equipment.

11  
12      When materials/equipment fail or are found to be defective, the following process is  
13      followed:

- 14           • Inform by Key Stakeholders - E.g. Project Manager, Technical Authority, Supply  
15           Chain
- 16           • Warranty & Claim Assessment - determine if the materials/equipment are still  
17           under warranty, if warranty covers the defect/failure, and Hydro One's cost impact
- 18           • Warranty Claim Form – completed for claims exceeding \$25K or where the Line  
19           of Business requires assistance from Supply Chain to manage the warranty issue  
20           with the supplier
- 21           • Warranty Claim Support - Supply Chain will:
- 22               ○ Participate in resolution meetings with the team as required
- 23               ○ Provide commercial guidance and direction by ensuring the necessary  
24               Supply Chain stakeholders are engaged to help resolve the issue
- 25               ○ Coordinate internal commercial discussions with Supply Chain, Inergi,  
26               and Law, as required

- 1           ○ Help coordinate communications with suppliers to ensure the team
- 2           received the appropriate level of support to quickly resolve the
- 3           defect/failure
- 4           ○ Work with the supplier to negotiate the appropriate compensation
- 5       • Defect or Failure Resolution - develop an action plan, identifying who will
- 6       complete the work e.g. Hydro One or supplier

7

8   Where a warranty does not apply, Hydro One may still have reasons to issue a claim such  
9   as latent defect, design not to specifications, or breach of contract.

10

11   When the repair is complete, applicable costs will be reimbursed by the supplier.

1                                   **CORPORATE STAFFING AND COMPENSATION**

2  
3           **1. INTRODUCTION**

4  
5           This Exhibit details Hydro One’s total compensation and corporate staffing strategies and  
6           the costs associated with those strategies. The transmission related compensation costs  
7           presented in this exhibit, comprise 40 percent of Hydro One’s 2020 revenue requirement,  
8           reflecting the vital role Hydro One staff play in transmitting electricity in Ontario.

9  
10          Hydro One has taken steps to keep costs as low as reasonably possible, having regard to  
11          the feedback in this respect from the Ontario Energy Board (“OEB”), customers, and  
12          other external stakeholders. Guided by a company-wide commitment to align customer  
13          needs and preferences, responsible stewardship of the transmission system, and the  
14          minimization of rate impacts, Hydro One has made progress in reducing and limiting  
15          compensation costs, and actively managing the efficiency and size of its workforce. At  
16          the same time, in order to accomplish the work programs reflected in this application and  
17          deliver on the important outcomes that the company is committing to, it is necessary for  
18          Hydro One to attract, motivate, engage and retain a highly skilled and high performing  
19          workforce with appropriate compensation systems.

20  
21           **Hydro One Values**

22          In 2017, Hydro One introduced its purpose statement – “Turn on the Power of  
23          Possibility” – and refreshed its company Values. The phrase “Purpose Led/Values  
24          Driven” captures the excitement of Hydro One’s new business culture as the company  
25          journeys to become one of North America’s leading utilities.



1 Hydro One updated its values in consultation with its employees to help drive alignment  
2 with its goals as a customer focussed commercial entity. Its updated values are, as  
3 follows:

- 4 • Safety Comes First;
- 5 • Stand for People;
- 6 • Empowered to Act;
- 7 • Optimism Charges Us; and,
- 8 • Win as One.

9  
10 Each value is further defined by a set of behaviours to enable discussion, feedback and  
11 dialogue among employees for the purpose of guiding actions, interactions and culture.

12  
13 Having clear and visible values helps Hydro One in its decision-making processes. For  
14 example, the value of “Win as One” fosters a shared understanding within the company  
15 that a successful decision is one that leads to an outcome that considers the needs of  
16 Hydro One, its customer, its employees, and its shareholders.

17  
18 Values help communicate to key stakeholders, such as shareholders and customers, the  
19 identity of the company and what it is about. Having a clearly articulated and specific set  
20 of core values provides a competitive advantage to Hydro One and assists it in working  
21 with these and other stakeholders.

22  
23 Additionally, well-defined company values are increasingly important for recruitment  
24 and employee retention. Job seekers are sophisticated. They research the companies they  
25 are considering applying to or accepting a job offer from, and they assess the values  
26 espoused by potential employers against the things that the job seekers consider to be  
27 important. The same can be said for existing employees. Alignment of personal values  
28 and company values contributes to ‘fit’ between the employee, or prospective employee,

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1 and the employer. The more closely aligned personal and company values are, the more  
2 engaged, and therefore more safe and productive, employees are.

3  
4 **2. HYDRO ONE'S WORKFORCE**

5  
6 **2.1 REGULAR EMPLOYEES**

7  
8 Regular Employees of Hydro One can be understood as belonging to the following three  
9 categories:

10  
11 **Management and non-represented staff (those on the Management Compensation**  
12 **Plan, "MCP"):** MCP employees are excluded from union representation because they  
13 carry out managerial duties or work on confidential labour relations matters or legal  
14 matters. MCP employees represent approximately 10% of Hydro One regular employees.

15  
16 **Power Workers' Union-represented staff (PWU):** The PWU is an industrial union that  
17 represents the trades, operators, technicians, and clerical workers. They perform line  
18 work, forestry, electrical, mechanical, protection and control, meter reading, stock  
19 keeping, system operation, technical, and clerical/administrative work. The PWU also  
20 administers a hiring hall of contingent workers to meet fluctuating work demands, (e.g.,  
21 work peaks and special projects), performing primarily supplemental construction and  
22 maintenance work. The PWU represents approximately 65% of Hydro One regular  
23 employees.

24  
25 **Society of United Professionals-represented staff (Society):** The Society is a  
26 professional union that represents engineers, technical, administrative, and supervisory  
27 staff. They perform engineering, high-level technical and administrative work and

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1 supervise other employees. The Society represents approximately 25% of Hydro One  
2 regular employees.

3

## 4 **2.2 TEMPORARY EMPLOYEES**

5

6 Temporary employees are employees in any of the three categories set out above,  
7 engaged in work that is not continuous in nature. They are hired for a fixed term,  
8 generally not exceeding 12 to 15 months.

9

## 10 **2.3 CASUAL WORKERS**

11

12 Although PWU staff perform some construction work, the majority is performed by the  
13 Building Trades Unions (“BTU”), under agreements with the Electrical Power Systems  
14 Construction Association<sup>1</sup> (“EPSCA”), the Labourers, and members of the Canadian  
15 Union of Skilled Workers (“CUSW”).

16

17 Seventeen construction BTUs supply a contingent workforce through their hiring halls,  
18 and negotiate their collective agreements with EPSCA. These represent the construction  
19 trades employed by Hydro One, with the exception of those represented by the CUSW  
20 and the Labourers. Hydro One negotiates collective agreements directly with the  
21 Labourers and CUSW.

22

23 The CUSW represents lines and electrical tradespersons who work on transmission  
24 construction, including the construction of lines over 50 kV, transmission stations,

---

<sup>1</sup> EPSCA negotiates and administers collective agreements on behalf of Hydro One, Ontario Power Generation, Bruce Power and other contractors performing work in the Electrical Power System Sector under the Ontario Labour Relations Act.

1 switchyards, substations, system control centres, and associated telecommunications  
2 systems. Construction employees are contingent workers hired through the hiring halls to  
3 perform specific work programs and then, are laid off. They are paid a total wage  
4 package (including benefits and pension payments) for each hour worked. This  
5 relationship ensures that workers with the required skill set are hired in the right location  
6 for only the exact duration of the work assignment and that Hydro One has no ongoing  
7 obligations with respect to benefits or pensions for them.

#### 8 9 **2.4 CONTRACT STAFF**

10  
11 Contract staff are individuals engaged as independent contractors, and are not on Hydro  
12 One's payroll. Contract staff are retained for their particular skill sets on projects, or to  
13 perform other work that is not of an ongoing nature. They are engaged by Hydro One for  
14 varying amounts of time and paid varying wages commensurate with their skill sets and  
15 the market rate for that skill. Contract staff are tracked by work programs or activities  
16 and not by headcount. Where applicable, the use of contract staff is governed by the  
17 terms of the collective agreements between Hydro One and its respective unions.

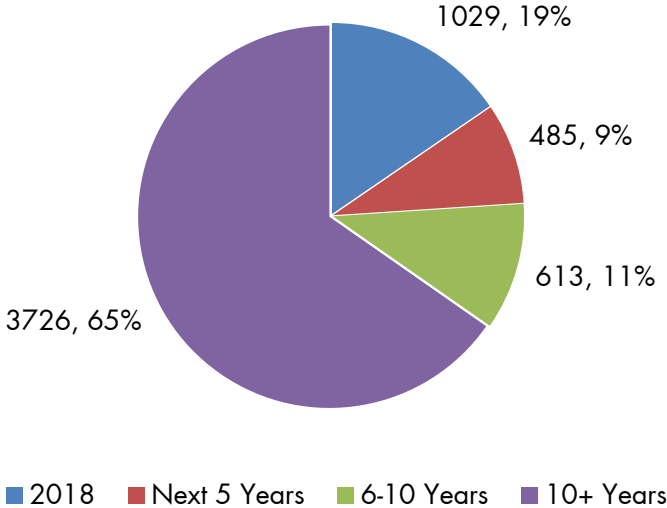
### 18 19 **3. DEMOGRAPHICS**

20  
21 Hydro One has a mature and experienced workforce. The company continues to face  
22 challenges associated with the availability of some skilled and professional staff to  
23 operate, sustain, and develop its transmission and distribution systems. An aging  
24 workforce and a scarcity of certain core skills in the electricity industry continue to be a  
25 human resource risk.

1     **3.1     RETIREMENTS**

2  
3     In 2018, 1,029 employees or approximately 19% of the Hydro One regular workforce  
4     (transmission and distribution) were eligible to retire with an undiscounted pension. The  
5     percentage of Hydro One employees eligible for retirement in 2018 by employment  
6     category is shown in Figure 1 below. Within the next 10 years, another 20% of the  
7     current work force will become eligible for an undiscounted pension. This is illustrated  
8     in Figure 1 below. The distribution of retirement-eligible staff among the employee  
9     groups is relatively even, with slightly more MCP staff eligible to retire than PWU and  
10    Society staff (Figure 2). This is significant because this group includes experienced  
11    leaders and highly skilled individual contributors.

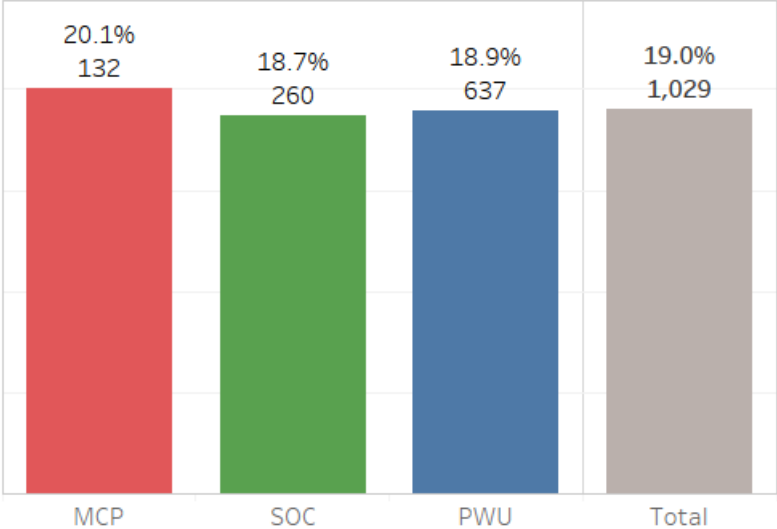
12  
13    Since 2011, 1,795 employees have retired from Hydro One, which represents on average  
14    of approximately, 224 employees per year. This trend is expected to continue through the  
15    next decade and is consistent with demographic challenges faced by other utilities in the  
16    electricity sector. Although attrition can result in the loss of skilled and experienced  
17    talent, it also provides an opportunity to further transform the organization. In order to  
18    attract and retain the right talent, Hydro One needs to be competitive in the external  
19    labour market.



1  
2  
3  
4  
5

**Figure 1: Employees Eligible for Retirement**

% of Employees Eligible for Retirement



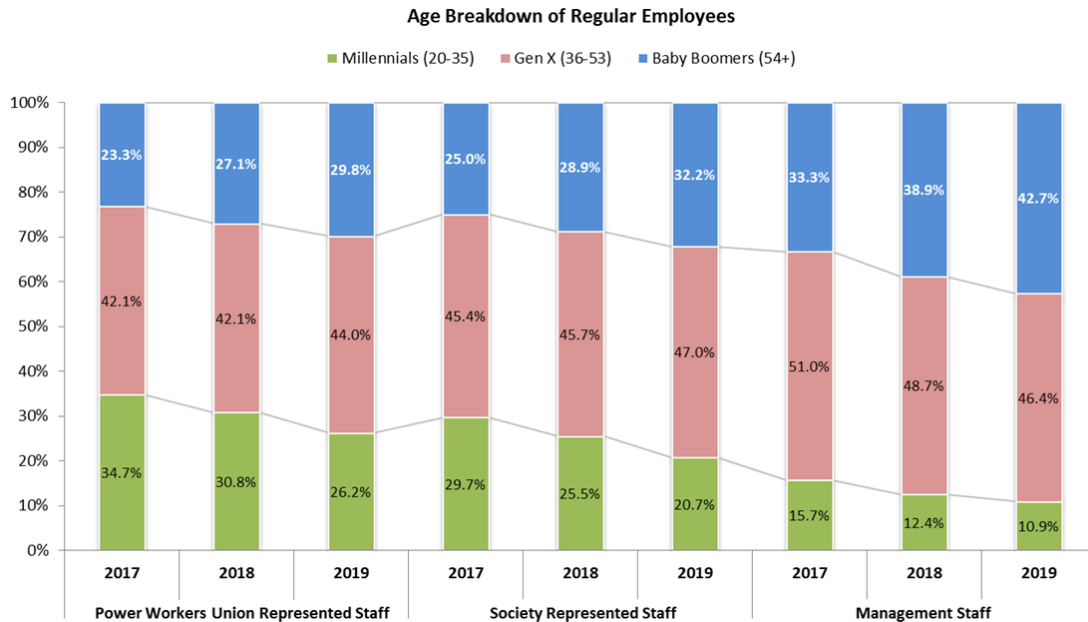
6  
7

**Figure 2: Percent of Employees Eligible for Retirement by Groups, 2018**

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**3.2 AGING WORKFORCE**

Figure 3 shows the age distribution of regular employees by employee group. Although the number of future retirements for PWU-represented employees is expected to grow, this population also has the most balanced age distribution when compared to Society-represented and MCP staff. Millennials (aged 20-35) represent over one-third of PWU-represented staff and baby boomers (age 54+) make up the smallest proportion, about 23%. Therefore, the risk of employee loss due to retirements is slightly offset by the large pool of younger employees. MCP employees, on the other hand, have the smallest proportion of millenials and the largest proportion of baby boomers compared to the other two groups. If the employee population stays the same, in 2019 approximately 90% of the MCP staff will be 36 years of age or older, and 43% will be over 54 years old. Considering the large proportion of baby boomers and the increase in predicted future retirements, knowledge transfer policies as well as retention of younger employees are vital to limit future potential knowledge loss.



**Figure 3: Age Breakdown of Regular Employees**

1 To mitigate the risks and challenges posed by retirements and an aging workforce, Hydro  
2 One has developed and implemented an effective and robust recruitment strategy – which  
3 is important to address these risks and challenges.

4  
5 **4. RECRUITMENT**

6  
7 Hydro One is taking a number of steps as part of its recruitment strategy.

8  
9 Hydro One continues to hire, albeit at a decreased rate than in previous years, into its  
10 Apprentice and New Graduate Training Programs to help address the significant wave of  
11 retirements in its critical trades, technical and engineering groups.

12  
13 Since January 1, 2004, 473 graduate trainees have been hired through the Hydro One's  
14 on-campus recruitment program. Not only do new graduates bring much needed skills but  
15 also new perspectives and fresh energy. The New Graduate program is a two-year  
16 training program for recent university graduates. The program is designed to provide new  
17 graduates with the skills, knowledge, and experience needed to become successful and  
18 productive employees. The New Graduate program consists of three main components:  
19 (i) corporate training; (ii) technical training; and (iii) rotations.

20  
21 Hydro One also continues to recruit into trades apprenticeship and technical training  
22 programs and has partnered with a number of universities and colleges. Hydro One has  
23 taken a leadership role in support of power system engineering programs, assisting in the  
24 development of on-line power system engineering programs and providing scholarships  
25 to encourage enrolment in key areas where Hydro One faces labour shortages.

26  
27 Hydro One will also continue its support of the University and College Co-Op Education  
28 Program, hiring approximately 300 co-op students a year. This is a mutually beneficial

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1 program. Hydro One gains bright, skilled workers trained in the latest theories and  
2 practices for four-month or eight-month work-terms, while the students gain practical and  
3 relevant work experience that can be used to develop their future careers. Hydro One has  
4 also found that the co-op program has proven to be a good source of talented candidates  
5 for graduate trainee positions by offering Hydro One the opportunity to assess the  
6 student's "fit" and long-term potential. Once hired, Hydro One's experience shows that  
7 these former co-op students have a shorter learning curve than other new hires with no  
8 previous Hydro One experience.

9  
10 Hydro One believes a sustainable and longer-term strategy is to invest in programs where  
11 knowledge transfer is the key objective. Programs such as New Graduate and Apprentice  
12 Hiring, and knowledge documentation all contribute to ensuring knowledge is transferred  
13 to more junior staff.

#### 14 15 **4.1 APPRENTICE HIRING**

16  
17 Through structured in-house apprenticeship programs, Hydro One is revitalizing its  
18 trades employee base in order to ensure a ready supply of trades talent. Hydro One's  
19 main apprenticeship programs are Powerline Technician, Utility Arborist, Electrician  
20 (Regional Maintainer Electrical), and Truck and Coach Mechanics (Fleet Mechanic).  
21 Table 1 illustrates the number of apprentices hired from 2010 to 2018. Based on the  
22 anticipated number of retirements expected in trades classifications and the increases in  
23 labour demand as a result of additional work requirements, Hydro One expects to  
24 continue investing in apprentices as a viable source of talent for skilled trades. Currently,  
25 there are 450 apprentices in the Hydro One apprenticeship program. Apprenticeships are  
26 part of the PWU Hiring Hall and therefore not eligible to join the Hydro One pension or  
27 benefit programs.

1

**Table 1: Apprentice Hiring**

<b>Year</b>	<b>Powerline Maintainer</b>	<b>Utility Arborist</b>	<b>Regional Maintainer Electrical</b>	<b>Fleet Mechanic</b>
2010	100	24	36	4
2011	32	16	15	4
2012	48	36	4	3
2013	64	32	22	6
2014	80	40	20	7
2015	80	24	12	5
2016	80	24	18	4
2017	107	25	15	6
2018	96	36	14	0

2

3 **5. RESOURCE FLEXIBILITY**

4

5 Hydro One has an integrated workforce for its transmission and distribution businesses.  
6 This allows Hydro One to take advantage of economies of scale and efficiencies that  
7 would not be available through separate transmission and distribution operations, such as  
8 an integrated asset management strategy, centralized grid control, and centralized fleet  
9 operations. Other centralized functional support is provided in the areas of Finance,  
10 Human Resources and Customer Support.

11

12 Hydro One utilizes a work-based approach to staffing, whereby the resources are  
13 allocated according to work programs rather than planning the work around the number  
14 of internal resources available. To address the fluctuating and seasonal nature of work  
15 programs, Hydro One maintains as much flexibility as possible by utilizing a variety of  
16 labour resources, including regular, temporary, PWU Hiring Hall, casual construction and  
17 contract staff.

18

19 Matching staff to dynamic work programs requires a managed approach to staff planning.  
20 Currently, Hydro One considers the amount of work to be done, the nature of the work

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1 and the skills required. At the same time, it identifies the most cost-effective means of  
2 acquiring needed skills, within the constraints of the collective agreements.  
3 Demographic and skills analyses are conducted to ensure that Hydro One retains the  
4 appropriate talent in the present and is positioned properly in the market to attract the  
5 talent it requires in the future. All of these inputs are used to determine the forecasted  
6 full-time equivalents (FTE) as shown in Table 2.

7  
8 To further improve resource planning, in 2019, Hydro One launched the Operational  
9 Workforce Planning initiative to ensure it has the right workforce to support the business  
10 strategy and current and future work program requirements. The purpose of the program  
11 is to enhance short and long-term headcount management efforts and to provide insights  
12 on current and future talent requirements.

13  
14 The initiative focuses on predicting short-term (one to two years) workforce  
15 requirements, by leveraging historical trends and anticipated turnover (primarily through  
16 retirement). Through discussions with business leaders, the short-term headcount  
17 requirements are confirmed, thereby allowing Hydro One to proactively source the  
18 appropriate talent either through succession planning or external talent mapping.

19  
20 In the latter part of 2019, Hydro One plans to roll out a Strategic Workforce Planning  
21 initiative to anticipate long-term (three to five years) workforce requirements including  
22 conducting an environmental scan of labour market shifts, future skill requirements and  
23 resourcing strategies such as leveraging talent available in the market, building the  
24 skillset internally or automation.

25  
26 Both programs will be integrated with the business planning program in the future.

6. FULL TIME EQUIVALENTS (FTES)<sup>2</sup>

**Table 2: Full Time Equivalents (FTE), 2017 to 2022**

		2017	2018	2019	2020	2021	2022
<b>Regular</b>	MCP	633	638	692	693	694	694
	Society	1,289	1,337	1,577	1,565	1,566	1,560
	PWU	3,382	3,527	3,739	3,790	3,824	3,852
	<b>Total Regular</b>	<b>5,726</b>	<b>5,502</b>	<b>6,008</b>	<b>6,048</b>	<b>6,084</b>	<b>6,106</b>
<b>Temporary</b>	MCP	18	22	6	6	6	6
	Society	36	28	13	12	9	9
	PWU	194	173	99	98	98	98
	<b>Total Temporary</b>	<b>248</b>	<b>223</b>	<b>118</b>	<b>116</b>	<b>113</b>	<b>113</b>
<b>Casual</b>	PWU Hiring Hall	1,230	1,351	1,794	1,717	1,781	1,782
	Casual Trades	1,364	1,353	1,296	1,265	1,205	1,159
	<b>Total Casual</b>	<b>2,594</b>	<b>2,704</b>	<b>3,090</b>	<b>2,982</b>	<b>2,986</b>	<b>2,941</b>
	<b>Grand Total</b>	<b>8,146</b>	<b>8,429</b>	<b>9,216</b>	<b>9,146</b>	<b>9,183</b>	<b>9,160</b>

Table 2 illustrates the historical (2017 and 2018) and forecasted (2019-2022) FTEs. Total regular and non-regular FTEs increase over this period primarily due to:

- in 2018, Hydro One repatriated the Customer Contact Centre resulting in approximately 280 regular employees and 130 non regular employees joining Hydro One. By bringing this work in-house, contact centre agents will be able to better serve customers by providing a more seamless customer experience. Since this work is Distribution focused, none of the compensation related to the contact centre is included in this application.

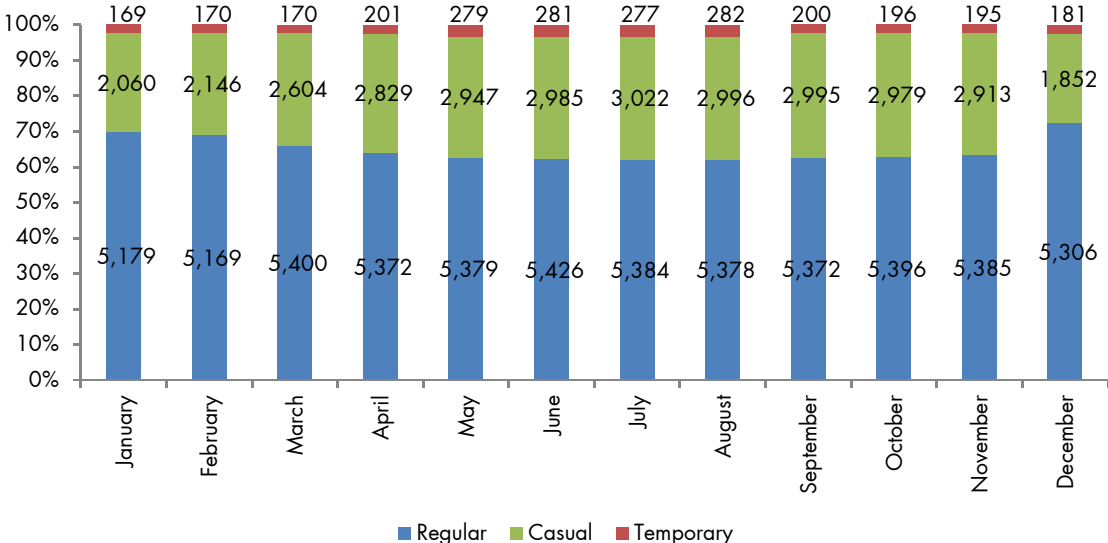
<sup>2</sup> FTE assumptions: (1) A budgeted regular position is 1 FTE; (2) For non-regular positions, unless budgeted for less than 1 year, a non-regular position is 1 FTE; and (3) For casual (Hiring Hall and Casual Construction), FTE's are determined by "person months"/12

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- 1       • as described in detail in Exhibit C-09-04 (Costing of Work), in early 2017 Supply  
2       Chain set a strategic plan to improve the service and value it delivers to its  
3       internal customers. To meet its strategic plan, Supply Chain is transforming its  
4       organization to focus on providing exceptional service and centrally aligned  
5       category management and operational procurement teams to more effectively  
6       manage critical categories of spend. The strategic plan has introduced new best in  
7       class technology, process changes and included an organizational transformation  
8       which began in 2018. As a result, Supply Chain's strategic direction is to resource  
9       roles internally with staggered hiring commencing in 2018 through to the end of  
10      2021 to align with the expiry of the outsourcing contract. Improvements in  
11      people, process and technology will enable Hydro One to improve its ability to  
12      drive increased savings in operating cost levels.
- 13      • supporting a 26% increase in the Transmission work program over the 2019 -2022  
14      period. These resources are required in order to execute the outcomes of the  
15      Transmission Business Plan as described in Section 5.1 of exhibit A, tab 3,  
16      schedule 1.
- 17      • the Distribution Line of Business forecast for increased regular and non-regular  
18      FTEs to support a 13% growth in work program in 2019 over the 2018 work  
19      program level. Included in this FTE increase are apprentices completing their  
20      apprenticeship program, a requirement for increased temporary lines union  
21      supervisors, additional Forestry and Meter Technician positions.
- 22      • the acquisition of Great Lakes Power Transmission LP resulted in 32 FTEs  
23      joining Hydro One Networks in late 2018.
- 24      • fleet mechanics completing their apprenticeship program are being hired into  
25      regular positions.
- 26      • additional resources to build a stronger health and safety focus within the  
27      helicopter services division.

1 Table 2 and Figure 4 illustrate that Hydro One employs a large number of non-regular  
 2 casual employees (PWU Hiring Hall and Construction Hiring Hall) and temporary  
 3 employees throughout the year to execute on its various work programs. The use of non-  
 4 regular resources reduces overall compensation costs since non-regular staff do not join  
 5 pension or benefit programs, are not entitled to paid vacation days off, and can be  
 6 deployed in a more flexible manner. Hydro One uses casual labour to appropriately  
 7 supplement its required workforce to complete its capital work program using the lowest  
 8 cost labour to the extent feasible and in compliance with collective agreement  
 9 commitments.

10



11

12 **Figure 4: Percent Use of Employee Categories (January to November 2018)**

13

14 **6.1 TALENT STRATEGY**

15

16 Hydro One has an integrated talent management framework to ensure there is a talent  
 17 pipeline with the right people in the right roles at the right time. This strategy is key to  
 18 driving a high performance culture, energizing and engaging the workforce in order to

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1 realize value for our customers, shareholders and employees. Key outcomes derived  
2 from our Talent Strategy include:

- 3 1. Aligning programs and people to deliver business results.
- 4 2. Attracting the best and brightest talent to be successful.
- 5 3. Developing agile and diverse talent capitalizing on the fast moving, and  
6 complex market.
- 7 4. Driving engagement through leadership development, career management,  
8 recognition and inclusiveness to enhance performance and retention.
- 9 5. Identifying pools of highly skilled and talented employees available and  
10 ready to step into senior leadership and other critical roles should the need  
11 arise.

## 12 13 **6.2 ENGAGEMENT**

14  
15 Hydro One continues to focus on employee engagement throughout the workforce.  
16 Engaged employees bring their best effort to work every day and are a competitive  
17 advantage. Engaged employees have a demonstrated positive impact on business  
18 outcomes, by improving profitability, productivity, customer satisfaction and shareholder  
19 value while decreasing safety incidents and absenteeism. Engagement survey results  
20 allow Hydro One to focus its continuous improvement processes at the local level, while  
21 comparing performance outcomes to best-in-class external benchmarks. By measuring  
22 the key drivers of employee engagement and following through on what employees are  
23 indicating, Hydro One is able to identify and remove barriers, and recognize and reward  
24 great performance.

1     **6.3     LEADERSHIP AND SENIOR MANAGEMENT DEVELOPMENT**

2  
3     The primary objective of this program is to ensure that Hydro One has a systematic  
4     management development framework. This helps Hydro One to sustain a competitive  
5     advantage by developing, maintaining, and enhancing those management competencies  
6     deemed to be essential. In 2015, a new mandatory curriculum was introduced for  
7     managers and supervisors. The goal of this program is to ensure that all managers and  
8     supervisors have a common knowledge and skill set to lead their teams. Proper  
9     development and training of managers and supervisors is essential to ensure they will  
10    have the tools to be effective managers.

11  
12    **6.4     SUCCESSION PLANNING**

13  
14    A Succession Planning Process has been developed for all senior management staff. The  
15    program's goal is to ensure that for each of the senior management positions, at least two  
16    successor candidates have been identified, and that a developmental plan for each of the  
17    candidates is prepared and implemented. In order to transition to a new publicly traded  
18    company, new external senior managers with the requisite skill set and experience have  
19    also been recruited into the organization.

20  
21    **6.5     TRAINING**

22  
23    Hydro One's success, in a large part, depends on having a talented and engaged  
24    workforce led by excellent managers and supervisors. As noted above, Hydro One has a  
25    core mandatory curriculum for managers and supervisors which is designed to provide a  
26    consistent knowledge and skill base. Hydro One considers training to be the foundation  
27    for development, including practice and coaching post-classroom.

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1 Non-technical training supports Hydro One's employees in their skill and competency  
2 development and is focused on employees in their current roles. The majority of Hydro  
3 One's training encompasses supervisory and leadership development. Hydro One  
4 recognizes that few people intuitively understand every aspect of the role of a  
5 manager/supervisor, and effective training can assist in respect of the accountabilities,  
6 skills and practices that make up their role.

7

8 **7. COMPENSATION**

9

10 **7.1 MANAGEMENT AND NON REPRESENTED EMPLOYEE**  
11 **COMPENSATION PLAN (MCP)**

12

13 Hydro One has a multi-faceted and disciplined approach for MCP compensation. Hydro  
14 One's Board has approved the following principles that inform the various compensation  
15 elements for MCP employees (Table 3).

1 **Table 3: Principles Information Compensations Elements for MCP Employees**

<b>Stakeholder interests</b>	<ul style="list-style-type: none"> <li>Recognize our role as a significant Ontario employer and service provider with customer, shareholder, employee and regulatory stakeholders</li> </ul>
<b>Performance oriented</b>	<ul style="list-style-type: none"> <li>Reinforce a Pay-for-Performance culture</li> <li>Align performance objectives to strategy and core values over the short- and long-term</li> <li>Focus on sustainable organization results that support long-term value creation for shareholders</li> </ul>
<b>Market competitive</b>	<ul style="list-style-type: none"> <li>Align target rewards with market median, leveraging a segmented approach</li> <li>Individual rewards, actual rewards and specific reward elements can be above/below median</li> </ul>
<b>Risk management</b>	<ul style="list-style-type: none"> <li>Support an appropriate level of risk taking that balances short- and long-term objectives</li> </ul>
<b>Affordable</b>	<ul style="list-style-type: none"> <li>Ensure affordability and sustainability</li> </ul>
<b>Individual accountability</b>	<ul style="list-style-type: none"> <li>Foster a culture of individual ownership and accountability, while encouraging effective teamwork</li> <li>Create meaningful differentiation of rewards based on business-aligned individual performance results</li> </ul>
<b>Operational focus</b>	<ul style="list-style-type: none"> <li>Ensure sustained development of strong core operational skills in providing for business continuity</li> </ul>
<b>Shared responsibility</b>	<ul style="list-style-type: none"> <li>Support the diverse needs of employees throughout their careers</li> <li>Employees will share the risks and responsibilities for their current and future needs</li> </ul>
<b>Simple and integrated</b>	<ul style="list-style-type: none"> <li>Programs will be simple to understand and administer</li> <li>Communicate the integrated value of monetary and non-monetary rewards</li> </ul>

1 **7.2 COMPENSATION BEST PRACTICES**

2  
3 Hydro One’s compensation framework includes various best practices for management  
4 compensation programs, including:

- 5 • pay for performance – aligns pay with both corporate and individual performance  
6 and uses several performance measures to avoid undue focus on any particular  
7 measure;
- 8 • pay at risk – places some portion of compensation “at risk” or variable for all non-  
9 represented employees (the more senior the level, the greater percentage of  
10 compensation is “at risk”);
- 11 • balances target pay between fixed and variable pay and between short and long-  
12 term incentives;
- 13 • aligns target awards with market median (P50);
- 14 • Share ownership – requires all executives to own Hydro One shares;
- 15 • leverages a segmented role approach (Core vs. Support roles);<sup>3</sup>
- 16 • caps payout opportunities within the Short Term Incentive Plan (“STIP”) and  
17 Long Term Incentive Plan (“LTIP”) programs;
- 18 • grants LTIP awards annually and includes overlapping performance periods  
19 thereby requiring substantially higher levels of performance to achieve results;
- 20 • includes share ownership guidelines and post-retirement equity hold periods for  
21 executives;

---

<sup>3</sup> To refine the market for which Hydro One resources talent, non-executive roles have been segmented into either Core Services or Operations. Operations roles require specific education, skills and knowledge in a professional area that is directly related to the Transmission, Distribution or regulation of power. Core Services positions require education, skills and/or knowledge not necessarily specific to the utility business. This segmentation enables Hydro One to establish a market median target for each segment. New pay bands have been established for each segment resulting in lower top-end rates for Core Services roles.

- 1 • includes clawback and anti-hedging policies; and
- 2 • provides that the Human Resource Committee of the Board receives independent  
3 compensation advice from an independent advisor.
- 4 • Hydro One has also aligned the organizational structure with the longer-term  
5 strategy and key business objectives. Key to this initiative has been the  
6 introduction of a new job evaluation system for non-represented positions and an  
7 update to the compensation level structure. As a result of the new level structure,  
8 the current Vice-President and Director bands were split into two levels so that  
9 there will be more precise band benchmarking and market alignment with  
10 compensation. Also, by creating an additional level for both the Vice-President  
11 and Director roles, there is a lower base rate cap for these positions.

12  
13 By adhering to these principles and creating a compensation framework based on them,  
14 Hydro One is better positioned to attract, retain and engage its non-represented workforce  
15 to deliver on the work program while maintaining an appropriate balance in respect of  
16 overall compensation.

### 17 18 **7.3 PAY FOR PERFORMANCE**

19  
20 The MCP compensation strategy is driving a shift to a “pay for performance” culture that  
21 incorporates commercial company compensation norms, with new shareholder  
22 expectations and an increased focus on customers, productivity, efficiency and  
23 accountability. Performance pay is a common feature of compensation strategies in  
24 publicly-traded companies. Performance-based compensation enhances Hydro One’s  
25 ability to attract, motivate and retain qualified employees in a competitive labour market.  
26 By comparison, a shift away from performance pay in favour of increased base salaries  
27 would increase Hydro One’s fixed costs and reduce the company’s ability to align  
28 employee performance with business objectives. Hydro One’s performance-based

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1 compensation strategy is being implemented by means of a number of programs and  
2 processes, which are described below.

3  
4 **7.3.1 TEAM SCORECARD**

5  
6 Hydro One senior management drafts annual objectives and corporate performance  
7 measures and weightings for the STIP. The Human Resources Committee (“HRC”) of the  
8 Board of Directors reviews the draft and makes suggestions or modifications as it deems  
9 appropriate. Once approved by the HRC, it is submitted to the full Board of Directors for  
10 approval. The President and CEO establishes the annual individual objectives and  
11 performance measures for each of his direct reports. In order to achieve corporate  
12 alignment, each direct report to the President and CEO cascades their goals within their  
13 organization. The 2019 scorecard is attached as Attachment 4.

14  
15 **7.3.2 GOAL SETTING**

16  
17 Hydro One developed a disciplined approach to employee goal setting that focuses on  
18 defined performance metrics that clearly differentiate performance and, ultimately,  
19 compensation. Through discussions with their manager, employees will annually  
20 develop three or four clearly defined goals with key success measures. Individual goals  
21 are aligned with the overall corporate strategy and business objectives through the  
22 cascading of goals from each line of business leader. Employees will be assessed  
23 formally twice each year in terms of accomplishing their goals as well as consistently  
24 demonstrating behaviours and actions that model Hydro One’s values. Calibration  
25 sessions are also held at all levels in the organization to ensure consistency in terms of  
26 assessments and determination of rewards. This strict approach to goal setting has  
27 resulted in improved transparency and communication about how differentiated rewards  
28 and recognition are determined and achieved.

Witness: Sabrin Lila

1 Individual goals for executives are complementary to the Team Scorecard and are  
2 expected to reflect goals directly related to the executives' scope of accountability. The  
3 Team Scorecard represents 80% of the Short Term Incentive targets for executives, with  
4 the remaining 20% represented by individual goals. Performance is assessed on each  
5 goal. The significant weighting for the team scorecard results enables the executive team  
6 to align their efforts in achieving corporate results and encouraging a one team culture.

7  
8 **7.4 TARGET COMPENSATION AT MARKET MEDIAN (P50)**

9  
10 Hydro One's compensation program is targeted to pay approximately at the market  
11 median. By targeting the market median, Hydro One is able to balance the competing  
12 demands of attracting, retaining and incenting MCP employees with maintaining  
13 compensation costs at appropriate levels and addressing prior concerns in this regard.  
14 Hydro One has benchmarked its compensation to ensure it is close to the market median.  
15 The 2017 Mercer Total Compensation Study described in greater detail in Section 7.7.3  
16 of this Exhibit shows that MCP total compensation is positioned 1% above market  
17 median.

18  
19 Willis Towers Watson conducted a benchmarking study (see Attachment 1) for  
20 management and non-represented positions in order to make recommendations for the  
21 2019 structure compensation changes and merit increase. The resulting salary structure  
22 positioning to market median is shown in Table 4 below.

23  
24 While the Executive and Operations compensation is below market on a Total Direct  
25 Compensation basis, the Core Service compensation structure is slightly above market to  
26 address internal compression issues, particularly at first level management roles and to  
27 preserve a reasonable internal differential relative to the Operations segment.

Witness: Sabrin Lila

1 **Table 4: Willis Towers Watson, Salary Structure Positioning to Market Median**  
 2

Segment	Number of Incumbents Benchmarked	Hydro One Target Compensation (% above / below market median)		
		Salary Range Midpoint	Total Target Cash (TTC)	Target Total Direct Compensation (TDC)
Executives	25	-4%	-9%	-8%
Operations*	236	-2%	-3%	-3%
Core Services*	326	5%	7%	8%
<b>Overall**</b>	<b>587</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>

3 \* Operations and Core services positioning excludes executives (levels 8-10)  
 4 \*\* Overall positioning represents incumbent-weighted average across all segment

5 **7.4.1 MERIT PAY**

6  
 7 MCP employees do not receive annual across-the-board compensation increases. Instead,  
 8 base salaries are adjusted through a merit program that recognizes individual  
 9 performance, behaviours, potential, segment, internal relativities and external  
 10 benchmarking. The budget for merit pay is informed by external merit increases provided  
 11 by the benchmark peer groups. Individual merit increases are determined by  
 12 demonstrated performance and compa-ratios.<sup>4</sup> In summary, merit pay rewards higher  
 13 performing employees and allows for appropriate compensation opportunities for high  
 14 performers who are lower in the salary range.

---

<sup>4</sup> Compa- ratios are calculated as an employee’s current salary divided by the midpoint of the salary range for their position

Witness: Sabrin Lila

1       **7.4.2   SHORT TERM INCENTIVE PLAN (“STIP”)**

2  
3       MCP employees are eligible for annual incentive-based pay as a component of their total  
4       cash compensation. The STIP is designed to:

- 5           • reward participants for the achievement of annual team (corporate) and individual  
6           performance goals;
- 7           • align corporate goals and objectives with individual goals;
- 8           • focus on short-term goals and immediate priorities; and
- 9           • reward and retain top performers.

10  
11       STIP rewards are based on Hydro One’s performance, measured against the balanced  
12       Team scorecard, and individual performance, measured against three or four goals that  
13       are aligned with Hydro One’s objectives. The balanced Team scorecard is based on  
14       financial and non-financial objectives such as customer satisfaction, operational results,  
15       productivity achievements and safety. Focusing on these metrics and meeting the  
16       corporate targets ultimately benefits Hydro One’s customers.

17  
18       **7.4.3   LONG TERM INCENTIVE PROGRAM (LTIP)**

19  
20       The LTIP was introduced in 2016 for select senior leaders and is designed to:

- 21           • reward executives for longer-term value creation and foster alignment with  
22           shareholder interests;
- 23           • support line-of-sight and achievement of near-term objectives that lead to long-  
24           term value creation;
- 25           • attract and retain top talent; and
- 26           • align compensation with current market practices.

Witness: Sabrin Lila



1 An LTIP is a common and key element of executive compensation plans in the labour  
2 markets where Hydro One competes for top executive talent. It is an important  
3 component of executive compensation, enabling Hydro One to source and retain  
4 experienced executives from the broader labour market; in particular individuals who  
5 have the skills and experience necessary to execute on Hydro One's goals to become a  
6 more customer-focused, efficient utility.

7  
8 Approximately 100 executive and senior management employees participated in the 2018  
9 LTIP program. Participation in the LTIP is determined annually by Hydro One's Board  
10 of Directors and is restricted to key talent. The intent of this program is to provide a  
11 balance between short-term performance and long-term success. LTIP is also an effective  
12 retention tool to incent talented senior leaders to remain with the organization. The LTIP  
13 enables senior leadership participants to be rewarded for creating long-term value and  
14 demonstrating commitment to the organization for the benefit of shareholders and  
15 customers. LTIPs have been recognized and approved for recovery in the rates of other  
16 rate-regulated entities subject to the OEB's oversight, notably Union Gas Limited and  
17 Enbridge Gas Distribution Inc.

#### 18 19 **7.4.4 EMPLOYEE SHARE OWNERSHIP PLAN ("ESOP")**

20  
21 MCP employees are eligible to participate in an ESOP. MCP employees can contribute  
22 up to 6% of their base salary and Hydro One will provide a 50% match on contributions  
23 to a maximum of 3% of base salary. The introduction of the ESOP is an important  
24 element of the total compensation program as it: (i) promotes an ownership mentality  
25 amongst employees; (ii) facilitates the attraction and retention of talent; (iii) and enhances  
26 employee engagement and productivity through company ownership.

1 **7.5 UNIONIZED COMPENSATION**

2  
3 Approximately 90% of employees at Hydro One are represented by a trade union. Hydro  
4 One is legally required under Ontario Labour Relations Act to negotiate collective  
5 agreements with the employees' bargaining representatives. These collective agreements  
6 establish the terms and conditions of the employment relationship for a fixed period of  
7 time. Hydro One inherited collective agreements from Ontario Hydro, which established  
8 terms of employment. These legacy collective agreements have established a 'floor' upon  
9 which future negotiations have been and will continue to be based. While legacy  
10 collective agreements continue to strongly influence current Hydro One collective  
11 agreements, Hydro One has done much to change the status quo. Hydro One has been  
12 successful in incrementally reducing costs and/or increasing productivity through  
13 collective bargaining.

14  
15 In labour agreements it is particularly important to consider the longer term relationship.  
16 Hydro One's Human Resources strategy is to negotiate fair and reasonable collective  
17 agreements to foster and promote healthy, long-term union-management relationships.

18  
19 **7.5.1 POWER WORKERS UNION (PWU)**

20  
21 In 2018, Hydro One negotiated a two year current collective agreement with the PWU  
22 that expires March 31, 2020. Changes in this agreement include the following.

- 23 • Wage increases as follows:
- 24 ○ 1.8% effective April 1, 2018;
  - 25 ○ 2.0% effective April 1, 2019; and
  - 26 ○ 0.6% effective January 1, 2020.

- 1 • Additional contracting flexibility – Hydro One was able to add additional  
2 categories of work to contracting agreements that extend indefinitely. Hydro One  
3 was also able to extend and expand its contracting arrangement for a key  
4 productivity initiative (i.e. Cable Locates).
- 5 • Indigenous Commitment – commitment to workforce targets and to expand  
6 diversity consideration in hiring practices.
- 7 • Productivity Improvement– Hydro One achieved agreements in certain areas that  
8 eliminate inefficiency caused by restrictions in work assignments and greater  
9 flexibility in the composition of crews and the use of contingent workers.

10

11 Table 5 summarizes the year over year increases in base salary from 2014 to 2020.

12

13

**Table 5: PWU Increases in Base Salary, 2014 to 2020**

<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
1.5% effective April 1, 2014 1.5% effective Oct. 1, 2014	1% effective April 1, 2015	1% effective April 1, 2016	1% effective April 1, 2017	1.8% effective April 1, 2018	2.0% effective April 1, 2019	0.6% effective January 1, 2020

14

15 **7.5.2 PWU BASE RATES COMPARISON**

16

17 Appendix B shows a cross section of Hydro One PWU classifications and the base rate  
18 compared to a number of utilities across Canada. These classifications were chosen since  
19 they represent common roles in these utilities and they are generally highly populated.  
20 Of the 15 classifications, Hydro One's base rate is lower than median for six roles and  
21 higher than median in nine roles. On average, the Hydro One roles are 1.8% above  
22 median on a base rate basis.

Witness: Sabrin Lila

1       **7.5.3    THE SOCIETY OF UNITED PROFESSIONALS**

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7

Hydro One and the Society of United Professionals successfully negotiated a new 2 year collective agreement (April 1, 2019 to March 31, 2021) Table 6 summarizes the year over year increases in base salary from 2014 to 2018.

**Table 6: Society Increases in Base Salary, 2014 to 2018**

2014	2015	2016	2017	2018	2019	2020
2.25% effective April 1, 2014	2.25% effective April 1, 2015	0.5% effective April 1, 2016	0.5 % effective April 1,2017	0.5 % effective April 1,2018	2.0% effective April 1, 2019	2.0% effective April 1, 2020

8

9       **7.5.4    SHARE GRANTS – PWU AND SOCIETY REPRESENTED**  
10       **EMPLOYEES**

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As part of the collective bargaining settlements with the PWU and Society in 2015, represented employees are eligible to receive shares of Hydro One Limited. The philosophical shift to a compensation model that provides for below average base wage increases, combined with lump sum payments and share grants reduces the overall cash portion of compensation. Awarding share grants also instils a sense of ownership in employees. Aligning company interests with employee interests has produced consequential ratepayer benefits.

The first share grant for eligible PWU represented employees was issued on April 1, 2017. Additional shares will be granted in each of the following eleven years. The first grant date for eligible Society represented employees is April 1, 2018, with additional

Witness: Sabrin Lila

1 shares granted for the following eleven years. In order to be eligible for share grants,  
2 employees must remain employed with Hydro One.

3 Pension costs were reduced by increasing employee pension contributions and reducing  
4 future pension benefits. In addition to advancing the progression to a 50-50 cost-sharing  
5 for pension benefits, it is also significant in that the increase in pension contributions  
6 more than offsets the costs of the share grant program for both unions.

7

#### 8 **7.5.5 CASUAL CONSTRUCTION EMPLOYEES**

9

10 The construction workforce has a favourable compensation cost structure, in that this  
11 workforce:

- 12 • is paid an industry standard wage (for building trades governed by EPSCA  
13 collective agreements) or wages that are either competitive and in some cases  
14 less than other rates in the industry;
- 15 • does not join the Hydro One pension plan;
- 16 • does not join the Hydro One group benefit plan;
- 17 • does not have entitlement to sick leave benefits;
- 18 • does not have paid scheduled vacation time off;
- 19 • is more easily deployed to work throughout the province;
- 20 • is more easily dismissed when work load fluctuates; and
- 21 • is accessed through the union hiring halls to perform specific work programs and  
22 laid off when it is no longer required.

23

24 Hydro One negotiates directly with CUSW, and through the EPSCA, Hydro One is  
25 bound to collective agreements negotiated for the other 17 Building Trade Unions. In  
26 2017, Hydro One negotiated a five-year collective agreement with CUSW (May 1, 2017  
27 to April 30, 2022). Negotiated wage increases include a 1.5% base wage adjustment on

1 May 1 of 2017, 2018 and 2019 and a 2.0% wage increase on May 1, 2020 and 2021.  
 2 CUSW wage rates are generally lower than those paid to similar classifications  
 3 represented by the International Brotherhood of Electrical Workers (IBEW) as shown in  
 4 Table 7. Hydro One also negotiated increased flexibility to contract out some  
 5 construction work.

6  
 7

**Table 7: CUSW Hourly Rates vs. IBEW Hourly Rates, 2019**

<b>Rates Effective May 1, 2019</b>		
<b>Rates for Electrician Journeyman, Lineworker (Power Line Technician)</b>		
<b>Union</b>	<b>Base Wage (\$)</b>	<b>Total Wage Package (\$)</b>
<b>CUSW (Hydro One)</b>	43.75	57.38
<b>IBEW Windsor (Local 773)</b>	40.62	63.05
<b>IBEW Port Hope (Local 353)</b>	44.13 (TBD)	62.09 (TBD)
<b>IBEW Quinte / St. Lawrence (Local 115)</b>	40.97	62.34
<b>IBEW Ottawa (Local 586)</b>	44.67	62.97
<b>IBEW North (Local 353)</b>	43.82 (TBD)	61.75 (TBD)
<b>IBEW Sudbury (Local 1687)</b>	45.50	63.00
<b>IBEW Thunder Bay (Local 402)</b>	46.13	62.24
<b>IBEW South (Local 353)</b>	44.25 (TBD)	63.62 (TBD)
<b>IBEW Sarnia (Local 530)</b>	48.21	63.90
<b>IBEW London (Local 120)</b>	46.32	62.65
<b>IBEW Hamilton (Local 105)</b>	43.65	63.71
<b>IBEW Niagara Peninsula (Local 303)</b>	40.58	63.03
<b>IBEW Central Ontario (Local 804)</b>	44.45	62.59
<b>IBEW Pickering Project (Local 353)</b>	44.13 (TBD)	62.09 (TBD)

*TBD denotes the 2018 rate*

8

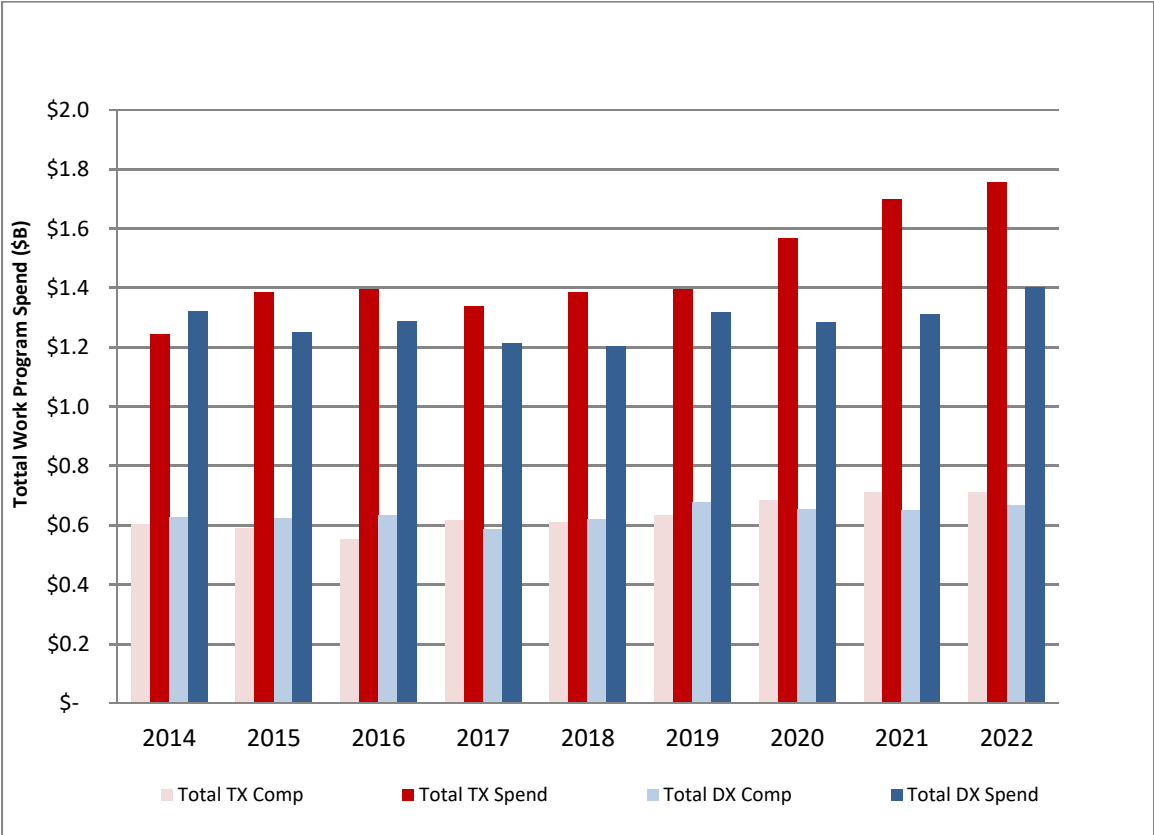
9 Wages paid to the remaining Building Trade Unions are the industry wage paid by all  
 10 employers in the electrical power systems sector when performing work on Ontario  
 11 Power Generation, Bruce Power and Hydro One property in Ontario.

Witness: Sabrin Lila

1    **7.6    ACTUAL AND FORECAST COMPENSATION COSTS**

2  
3    Consistent with the OEB's findings in EB-2016-0160 and the compensation evidence  
4    filed in Hydro One's 2018-2022 Distribution Custom IR application (EB-2017-0049),  
5    Attachment 5 to this Exhibit provides actual total compensation cost for Hydro One  
6    Networks and for both the distribution and transmission businesses for 2014 to 2018 and  
7    forecast total compensation cost for the years 2019 to 2022. While the Transmission work  
8    program is growing by approximately 26% between 2019 and 2022, Transmission related  
9    compensation costs are growing by only 12% or 4% per annum.

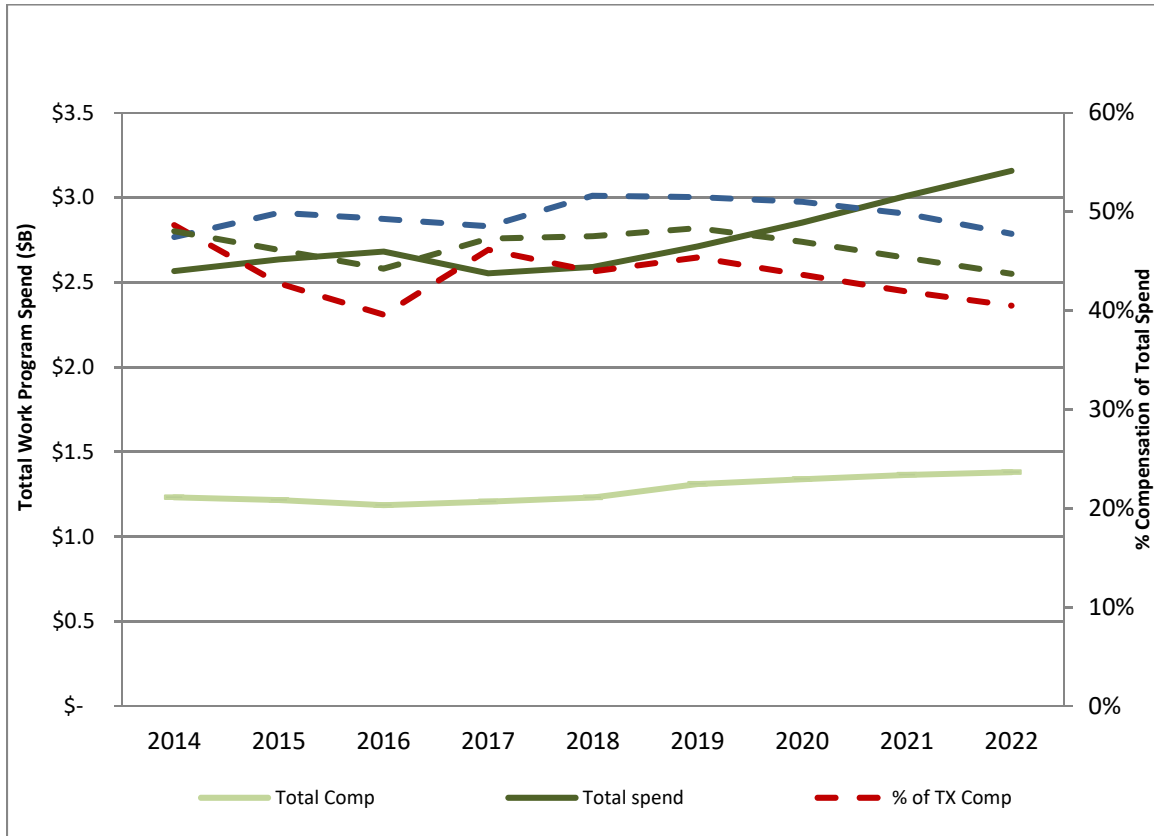
10  
11    **Error! Reference source not found.** and **Error! Reference source not found.** compare  
12    compensation spend (Distribution, Transmission and Total) to the work program spend  
13    (Distribution, Transmission and Total) over the period 2014 to 2022. The compensation  
14    spend as a percentage of total work program spend declines from 48% in 2014 to 44% in  
15    2022. Transmission related compensation as a percentage of total Transmission spend  
16    declines from 49% in 2014 to 40% in 2022. In light of the increasing work program,  
17    Hydro One believes the increase in compensation costs is reasonable and reflective of  
18    improving productivity, better controls in monitoring and approving headcount and  
19    reductions in corporate costs.



1  
2

**Figure 5: Total Compensation vs. Total Work Program (Dx & Tx) Spend (OM&A and Capital)**





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**Figure 6: Total Compensation vs. Total Work Program (Dx & Tx) Spend (OM&A and Capital)**

**Bill 2, Urgent Priorities Act, 2018**

On July 25, 2018 Bill 2, *Urgent Priorities Act, 2018* (“Bill 2”) received Royal Assent. Schedule 1 of Bill 2, defined as the *Hydro One Accountability Act 2018*, included amendments to the *Ontario Energy Board Act, 1998* (“OEB Act”) placing limitations on the amount of compensation paid to Hydro One executives that could be included by the OEB in approving just and reasonable rates from Hydro One Limited or any of its subsidiaries.

In EB-2017-0049 Decision dated March 7, 2019, the OEB accepted Hydro One’s interpretation of section 78 (5.0.2) of the OEB Act as it relates to executive compensation

Witness: Sabrin Lila

1 and Hydro One's proposal to further include all Executive Leadership compensation from  
2 the revenue requirement. Hydro One has made similar reductions in this proceeding such  
3 that the 2020 revenue requirement excludes these compensation amounts.

4  
5 With respect to the Ontario Government direction issued on February 21, 2019 ("the  
6 Directive"), the government set out certain compensation-related requirements for the  
7 Chief Executive Officer, other executives and Board of Directors of Hydro One Limited  
8 and its subsidiaries, which Hydro One must follow when developing its Board and  
9 Executive compensation framework as set out in the Hydro One Accountability Act,  
10 2018. The directive set a limit on the level of compensation for Hydro One's CEO. The  
11 total compensation for all other executives is limited to 75% of the CEO's maximum  
12 direct compensation. Annual increases to executive salaries are also capped to the lesser  
13 of the rate of Ontario CPI and the annual rate at which total maximum direct  
14 compensation may be adjusted for non-executive managerial employees. The directive  
15 also limited the compensation of Board members to \$80, 000 annually and the Chair of  
16 the Board to \$120, 000 annually.

17 Hydro One adopted a new executive compensation framework consistent with the  
18 Directive which is reflected in the proposed revenue requirement, as follows:

- 19
- 20 • No other executive's total compensation will exceed 75% of the CEO's  
21 compensation;
  - 22 • Compensation factors will be adjusted in future years at the RCI rate; and
  - 23 • Compensation for the Board of Directors has been decreased to the levels  
24 indicated in the Directive.

1 The Directive had modest impacts on OM&A and capital, resulting in total reductions of  
2 \$0.6 million<sup>5</sup> and \$2.1 million<sup>6</sup> respectively over the 2019 to 2024 period. Capital in-  
3 service additions were reduced by \$1.3 million over the 2019 to 2020 period.<sup>7</sup> The in-  
4 year reductions are shown as bottom line adjustments in the respective OM&A and  
5 capital exhibits.

6  
7 The impact of the Directive is also reflected in Hydro One's revenue requirement  
8 calculations, resulting in a total reduction of \$0.36 million over the 2020 to 2022 period.

9  
10 **7.7 BENCHMARKING STUDIES**

11  
12 **7.7.1 COMPETITIVE MARKET POSITIONING**

13  
14 When assessing compensation positioning relative to the external market, a competitive  
15 range of  $\pm 5\%$  from market median is the desired positioning, due to limitations in  
16 published compensation data and fluctuations in market data year-over-year. This  
17 approach is consistent with typical market practice for publicly traded organizations.

18 **7.7.2 POWER WORKER UNION BENCHMARKING**

19  
20 Hydro One engaged Willis Towers Watson to conduct a benchmarking study for PWU  
21 represented positions (See Attachment 3). This study benchmarked positions that  
22 captured over 90% of PWU represented employees. PWU positions were segmented into

---

<sup>5</sup> Exhibit F, Tab 1, Schedule 1; Exhibit F, Tab 1, Schedule 2; Exhibit F, Tab 1, Schedule 2, Attachment 1;.

<sup>6</sup> REFERENCE TO CAPITAL EXHIBIT SHOWING THE BOTTOM LINE ADJUSTMENT

<sup>7</sup> Exhibit C, Tab 2, Schedule 1.

1 Operations or Core Services role. On an overall basis, PWU positions were 9% and 7%  
2 above market median on base salary and Target Total Cash basis respectively.

3  
4 **7.7.3 MERCER TOTAL COMPENSATION BENCHMARKING STUDY**

5  
6 In a series of OEB Decisions (EB-2006-0501, EB-2010-0002, and EB-2013-0416) the  
7 OEB expressed concerns with increasing compensation levels at Hydro One. The OEB  
8 directed Hydro One to conduct total compensation studies that would provide useful and  
9 reliable information concerning Hydro One's compensation costs, and how they compare  
10 to those of other regulated transmission and/or distribution utilities in North America.

11  
12 As a result, five total compensation studies (2008, 2011, 2013, 2016, and 2017) have  
13 been conducted by Mercer Canada. The 2017 Total Compensation Study (dated April  
14 2018) is provided in Attachment 2 to this Exhibit. The 2017 study addresses a concern  
15 raised by the OEB in EB-2016-0160 in that it was felt the compensation values were  
16 understated since lump sum amounts and share grants were not included in the earlier  
17 studies. These compensation elements were added in the 2017 Mercer Study and it is  
18 important to highlight that Hydro One's total compensation is still trending lower than in  
19 the previous study.

20  
21 While Hydro One understands the need to control compensation cost increases, this must  
22 also be balanced with the need to; attract, retain, and engage highly skilled employees,  
23 and to do so in the face of an aging workforce and competition for similar skills in a  
24 unionized environment. Despite these challenges, Hydro One has been successful in  
25 balancing the competing pressures of reducing compensation costs and attracting and  
26 maintaining an engaged workforce. Ratepayers benefit from the skills, quality and  
27 expertise of Hydro One employees. Table 8 compares the results of all five studies,

1 comparing Hydro One compensation to the market median, and shows the improvements  
2 made by Hydro One from 2008 to 2017.

3

4 **Table 8: Mercer Compensation Benchmarking Study Results vs. Market Median**

5 **Total Compensation Above/Below Market Median**

Employee Group	2008 Survey Results	2011 Survey Results	2013 Survey Results	2016 Survey Results	2017 Survey Results	Total Change from 2008 to 2017
Management	-1%	-17%	-1%	2%	1%	2%
Society	5%	5%	9%	11%	12%	7%
PWU	21%	18%	12%	16%	12%	-9%
Overall	17%	13%	10%	14%	12%	-5%

6

7 *\*Management employee group positioning of -17% to market median likely impacted by legislative freeze for non-*  
8 *represented compensation.*

9

10 The 2017 study findings show that on an overall weighted average, Hydro One was  
11 positioned approximately 12% above market median. Since the first study in 2008, Hydro  
12 One has improved its positioning to market median by 5%.

13

14 **8. PENSIONS AND OTHER POST EMPLOYMENT BENEFIT COSTS**

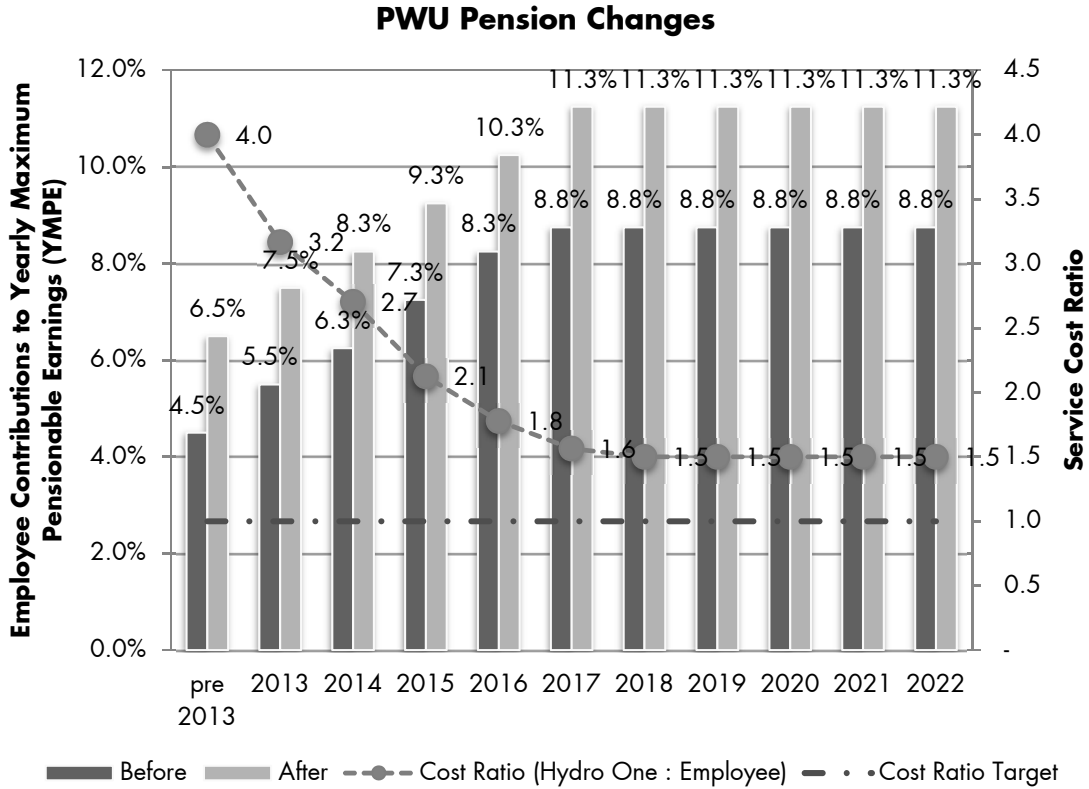
15

16 In EB-2010-0002, the OEB stated that: “Hydro One must demonstrate measurable  
17 progress towards having its pension contributions reflect those prevailing in the public  
18 sector generally. The evidence suggests that an employee contribution level of 50% is the  
19 norm”.

20 Hydro One has taken various steps to reduce pension costs. These include steps to  
21 increase employee contributions and reduce benefits with all employee groups. Hydro  
22 One has demonstrated this commitment to reducing pension costs by:

Witness: Sabrin Lila

- 1       • introducing lower cost defined benefit plans for MCP employees (2004) and  
2       Society employees (2005);
- 3       • increasing employee pension plan contributions for all employee groups (see  
4       Figure 7 for PWU represented employee pension contributions and Appendix A  
5       for employee contributions for other employee groups). Table 9 shows annual  
6       savings as a result of the increased employee contributions;
- 7       • closing the defined benefit pension plan for new externally hired MCP employees  
8       as of September 30, 2015, and introducing a new and lower cost defined  
9       contribution pension plan; and
- 10      • reducing future service benefits for all current PWU and future PWU employees  
11      as well as Society legacy pension plan members by adjusting the number of years  
12      for determining the final average earnings from three years to five years and  
13      increasing the early undiscounted pension eligibility from Rule of 82 to Rule of  
14      85 (both effective March 31, 2025).



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**Figure 7: PWU Employee Pension Contribution Increases, 2013 to 2022**

**Table 9: Annual Savings from Increased Employee Pension Contributions (Dx)**

Year	\$M
2018	\$22.5
2019	\$22.7
2020	\$22.5
2021	\$21.9
2022	\$21.5

- 1 In summary, Hydro One has been successful in reducing pension costs, including by:
- 2 • making incremental increases in employee pension contributions for all employee
  - 3 groups;
  - 4 • improving the ratio of employer and employee cost sharing by moving towards
  - 5 the 50%-50% cost sharing ratio;
  - 6 • closing the Defined Benefit Pension for new Management employees and
  - 7 introducing a lower cost Defined Contribution Plan; and
  - 8 • changing the early undiscounted pension thresholds for PWU and Legacy Society
  - 9 employees starting in 2025.

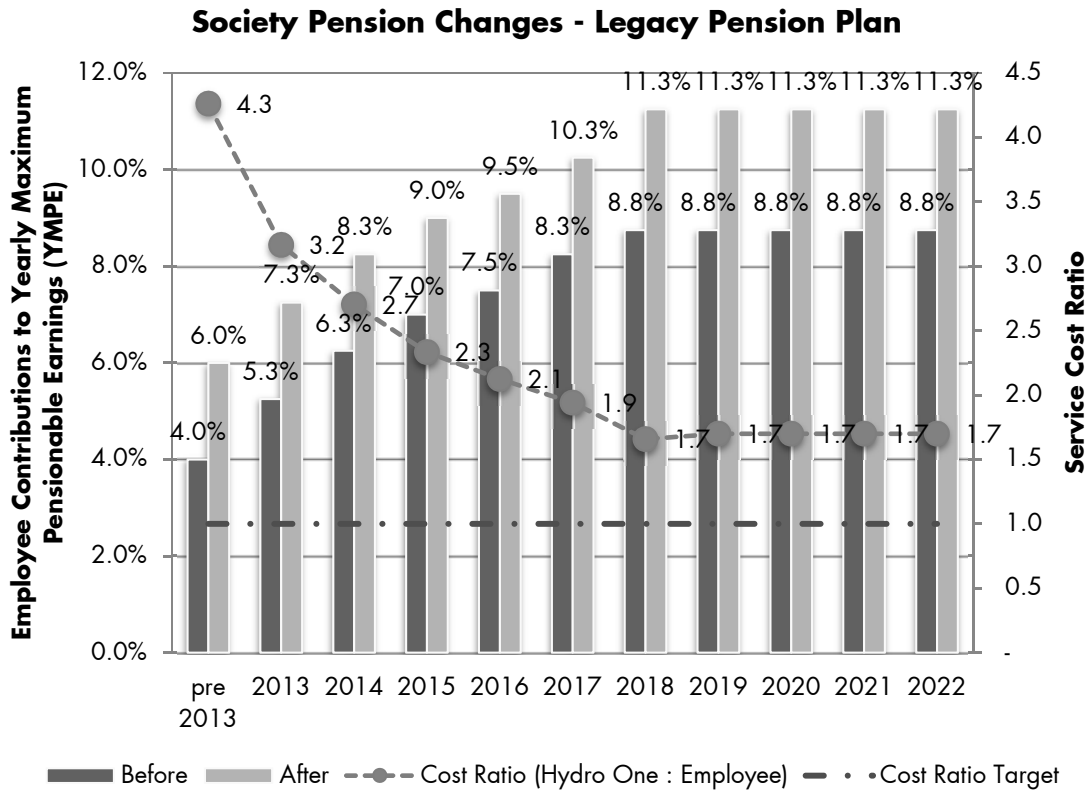


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**APPENDIX A:**

**EMPLOYEE PENSION CONTRIBUTIONS FOR OTHER EMPLOYEE GROUPS**

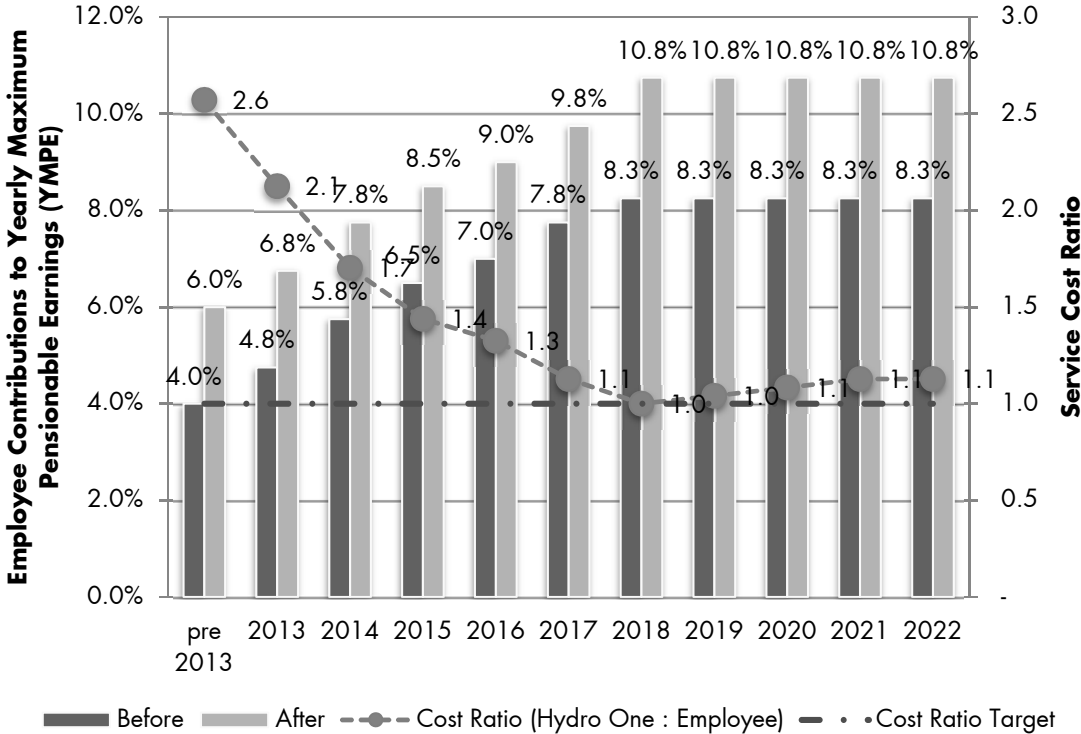
The following figures illustrate employee pension plan contributions annually since 2013 for Society employees (legacy and post-November 2005 members) and management staff.



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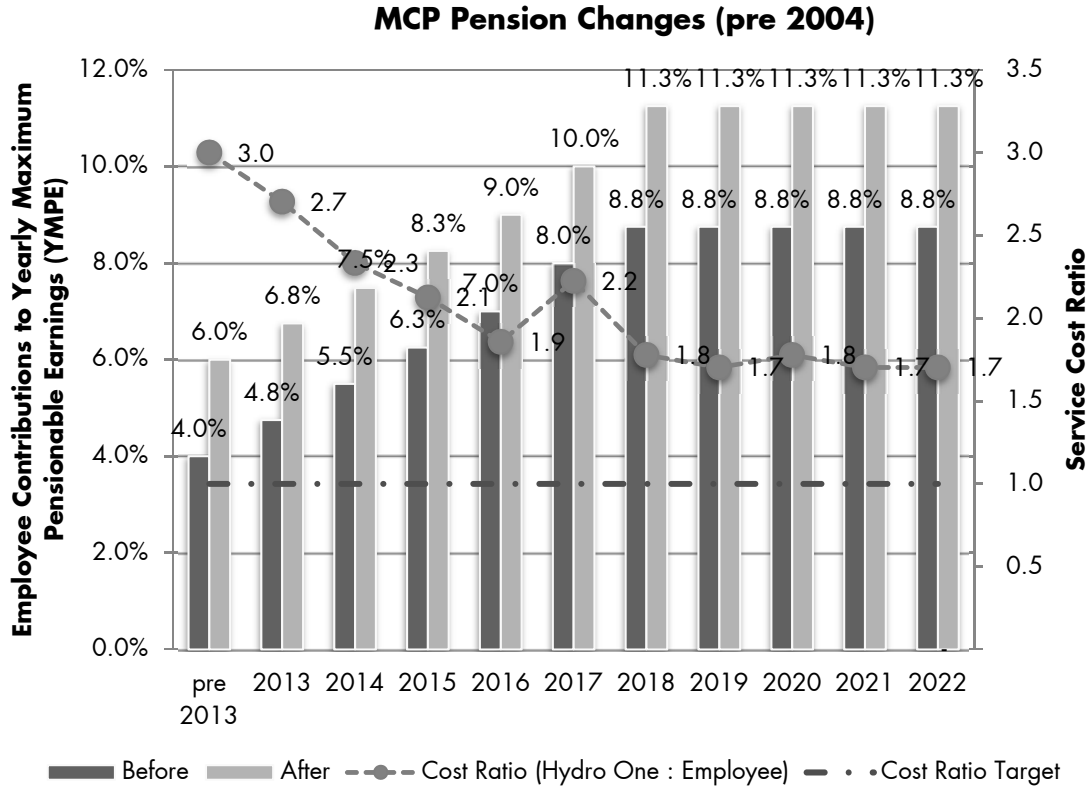
**Figure A 1: Society Pension Changes - Legacy Pension Plan**

**Society Pension Changes - Post November 2005 Members**



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2

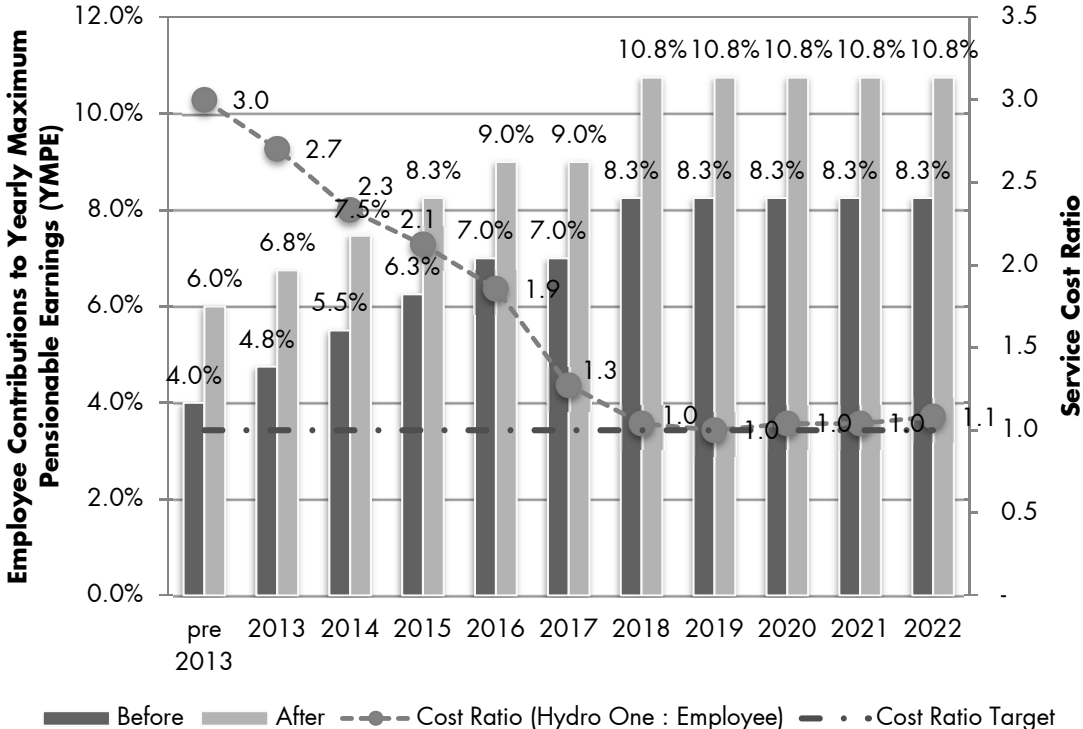
**Figure A 2: Society Pension Changes - Post November 2005 Members**



1  
2

**Figure A 3: MCP Pension Changes, Pre 2004**

**MCP Pension Changes - Post 2004**



1  
2

**Figure A 4: MCP Pension Changes, Post 2004**

1  
2  
3

**APPENDIX B**

**PWU BASE RATE COMPARISON**

1

**Table B 1: PWU Base Rate Comparison**

Utility, Municipality or Organization	2017	Dispatcher	Design Technician - Level 1	Certified Power Line Person	Certified Power Cable Person	Certified Crew Leader - Power Line Person	Certified Crew Leader - Power Cable Person	Distribution Systems Tech	System Response Representative	Power System Controller	Jointer	Customer Service Advisor	Certified Meter Mechanic/Tester	Senior Office Clerk 3	Engineering Technologist 1	Engineering Technologist 2
		Dispatcher	DEDT	Regional Maintainer - Lines	Regional Maintainer - Lines	RML-UTS-2	RML-UTS-2	ADET	LCSC	Controller	Regional Maintainer - Cable Splicer	Customer consultant	Meter Tech	Provincial Services Clerk	ADET	ADET
London Hydro			\$40.80	\$40.80	\$39.83	\$43.28				\$41.72		\$34.52	\$42.04		\$43.28	\$45.95
Enmax				\$55.53	\$55.53	\$58.43	\$58.43	\$57.86		\$61.16		\$34.98	\$39.28	\$37.32		\$57.86
Verdian				\$42.81		\$45.76		\$45.76		\$45.76		\$42.26	\$42.81			\$42.81
Epcor		\$33.75	\$47.94	\$52.05	\$52.05	\$55.54	\$55.54	\$55.54	\$33.75	\$57.58		\$38.84	\$49.59	\$33.75	\$47.94	\$52.75
FortisAlberta		\$48.40	\$54.08	\$55.66		\$57.87		\$54.08		\$56.08		\$42.37	\$54.08	\$37.56	\$54.08	\$57.86
OPG			\$53.01												\$58.60	\$62.49
NS Power / Emera		\$22.22	\$39.75	\$39.86	\$39.86	\$41.86	\$41.86	\$47.90	\$30.42	\$45.00	\$37.19		\$35.99	\$33.84		
Oshawa				\$42.07	\$40.67	\$47.12				\$46.75		\$40.67	\$42.07	\$40.67		
BC Hydro				\$41.38		\$47.59			\$49.61	\$50.41	\$45.03		\$38.15			
NB Power			\$36.25	\$39.58		\$42.73		\$40.01		\$48.47		\$30.26	\$29.90	\$32.90	\$36.28	\$40.11
Bruce Power			\$54.27											\$46.58		\$60.93
Alectra		\$45.34	\$45.23	\$43.33	\$43.33	\$47.56	\$47.56	\$47.56	\$47.55	\$47.89	\$42.73	\$40.79	\$47.15	\$35.14	\$45.23	\$47.56
Toronto Hydro		\$43.99	\$52.83	\$44.45	\$44.45	\$50.13	\$50.13	\$53.31	\$46.28	\$54.78	\$44.14	\$44.59	\$44.14	\$44.59	\$52.83	\$57.22
<b>Hydro One Rate</b>		<b>\$41.96</b>	<b>\$51.92</b>	<b>\$45.32</b>	<b>\$45.32</b>	<b>\$53.02</b>	<b>\$53.02</b>	<b>\$45.43</b>	<b>\$38.85</b>	<b>\$58.30</b>	<b>\$45.32</b>	<b>\$46.27</b>	<b>\$45.43</b>	<b>\$36.59</b>	<b>\$45.43</b>	<b>\$45.43</b>
<b># of Incumbents</b>		20	7	601	201	64	64	141	108	96	7	5	43	66	141	
Median		\$43.99	\$47.94	\$42.81	\$43.33	\$47.56	\$50.13	\$50.61	\$46.28	\$48.47	\$43.44	\$40.67	\$42.07	\$37.32	\$47.94	\$54.99
% above/below median		-4.6%	8.3%	5.9%	4.6%	11.5%	5.8%	-10.2%	-16.1%	20.3%	4.3%	13.8%	8.0%	-2.0%	-5.2%	-17.4%
Mean		\$38.74	\$47.13	\$45.23	\$45.10	\$48.90	\$50.70	\$50.25	\$41.52	\$50.51	\$42.27	\$38.81	\$42.29	\$38.04	\$48.32	\$52.55
Max		\$48.40	\$54.27	\$55.66	\$55.53	\$58.43	\$58.43	\$57.86	\$49.61	\$61.16	\$45.03	\$44.59	\$54.08	\$46.58	\$58.60	\$62.49
# of responses		5	9	11	7	11	5	8	5	11	4	9	11	9	7	10

Witness: Sabrin Lila



**Hydro One Inc.**  
Management Compensation Benchmarking Study  
February 2019

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Filed: 2019-03-21  
EB-2019-0082  
Exhibit F-4-1  
Attachment 1  
Page 1 of 18

# Table of Contents

<b>Introduction</b>	<b>p.3</b>
Methodology	
Segment Definitions	p.5
Peer Group Selection Criteria	p.6
Compensation Elements and Market Statistics	p.7
Compensation Benchmark Results Presentation	p.8
<b>Overview: Overall Compensation Analysis Results</b>	<b>p.10</b>
2019 Salary Increase Budget Recommendations	p.11
Detailed Compensation Analysis Results: By Segment and Level	
Operations & Core Services Aggregated	p.12
Operations	p.13
Core Services	p.14
<b>Appendices</b>	
I. Peer Group Organizations by Segment	p.15



# Introduction

- Hydro One engaged Willis Towers Watson (“WTW”) to conduct a competitive assessment of its compensation structure relative to market for all management employees (excluding CEO and direct reports)
- This review is based on total direct compensation (TDC), defined as salary range midpoint + target bonus + target long-term incentives (if applicable)
- For benchmarking compensation, Hydro One has taken a segmented approach and uses three different segmented peer groups to better align with the underlying labour market of each segment:
  - Executives (40 peer companies)
  - Operations (18 peer companies)
  - Core services (99 peer companies)
- Refer to pages 5 and 6 for segment definitions and a summary of all peer group selection criteria. Refer to **Appendix I** for detailed peer group listings

Segment	Total Number of Incumbents		Total Roles Benchmarked	
	N Count	% of management distribution	N Count	% benchmarked
Executives (Level 8 - 10)	28	4%	25	89%
Operations (Levels 1 - 7)	279	41%	236	85%
Core Services (Levels 1 - 7)	370	55%	326	88%
<b>Overall</b>	<b>677</b>	<b>100%</b>	<b>587</b>	<b>87%</b>

The compensation benchmarking analyses covers 87% of management employees, which is a robust sample and is representative of the entire population

# Methodology

## Segment Definitions

- As defined below, roles are benchmarked against peer groups appropriately representing the underlying required skill sets. These are categorized as three unique employee segments for benchmarking purposes

Segment	Rationale	Segment Definition
<b>1.) Executive (excluding CEO and direct reports)</b> ( 4% of management)	<ul style="list-style-type: none"> <li><b>Core Services Executives:</b> Limited to publicly-traded companies of a similar size and scope to Hydro One based on revenue and assets. Broader sample provides a sample of large Canadian companies for executive roles that are not industry-specific</li> <li><b>Operations Executives:</b> Limited to utility peers, consistent with the broader operations peer group</li> </ul>	<ul style="list-style-type: none"> <li>Vice President and above roles that are required to set the strategy and direction of Hydro One through leadership of functions that are critical to the long term success of the organizations</li> </ul>
<b>2.) Operations</b> ( 41% of management)	<ul style="list-style-type: none"> <li>Reflects organizations where comparable specialized skill sets reside</li> <li>Balance of public- and private-sector ownership models</li> <li>Geographic representation from across Canada, but with minority Alberta representation</li> </ul>	<ul style="list-style-type: none"> <li>Requires specific education, skills and knowledge in a professional area that is directly related to concepts and methods associated with the transmission, distribution and regulation of power. Examples include: Operations, Engineering, Skilled Trades</li> </ul>
<b>3.) Core Services</b> ( 55% of management)	<ul style="list-style-type: none"> <li>Incorporates a variety of private and public sector organizations based on labour market</li> <li>No one industry comprises more than 10% of the total sample</li> <li>Includes large number of Canadian headquartered organizations (35% of sample) to ensure benchmarking coverage of roles that require specific expertise</li> </ul>	<ul style="list-style-type: none"> <li>Roles that require education, skills and knowledge that are not specific to the transmission, distribution and regulation of power. Examples of such functions include Finance, Human Resources and Information Technology</li> </ul>

## Peer Group Selection Criteria

- Peer groups by segment were derived from the full list of organizations participating in the 2018 Willis Towers Watson compensation databases, based on the criteria below. The peer groups are reviewed and approved by the Human Resources Committee of the Board of Directors and the same groups are used to benchmark compensation for internal oversight of Hydro One's compensation programs
- Refer to **Appendix I** for detailed peer group listings

Segment	Industry	Region	Size (Revenue)	Ownership
1.) Executives (Levels 8 to 10)	<ul style="list-style-type: none"> <li>Operations: Utility*</li> <li>Core Services: Large Canadian companies</li> </ul>	<ul style="list-style-type: none"> <li>Canada</li> </ul>	<ul style="list-style-type: none"> <li>Operations: &gt;\$500M</li> <li>Core Services: &gt;\$2B and &lt;\$20B</li> </ul>	<ul style="list-style-type: none"> <li>Operations: All structures</li> <li>Core Services: Publicly-traded</li> </ul>
2.) Operations roles (Levels 1 to 7)	<ul style="list-style-type: none"> <li>Utility*</li> </ul>	<ul style="list-style-type: none"> <li>Canada</li> </ul>	<ul style="list-style-type: none"> <li>&gt;\$500M</li> </ul>	<ul style="list-style-type: none"> <li>All structures</li> </ul>
3.) Core Services roles (Levels 1 to 7)	<ul style="list-style-type: none"> <li>General Industry (excluding subsidiary Retail and Consumer Products, primary emphasis on non-subsidiaries)</li> </ul>	<ul style="list-style-type: none"> <li>Ontario-based employers</li> </ul>	<ul style="list-style-type: none"> <li>Private sector &gt;\$500M</li> <li>Public sector: &gt;\$100M</li> <li>Subsidiaries: &gt;\$1B</li> </ul>	<ul style="list-style-type: none"> <li>All structures</li> </ul>

\* An aligned utility peer group is used for all operations roles, including operations segmented executives to provide a consistent market reference point

## Compensation Elements and Market Statistics

- Consistent with Hydro One's compensation philosophy to target compensation at the 50<sup>th</sup> percentile, market statistics reported reflect the market 50<sup>th</sup> percentile of the benchmark samples for the data elements summarized below:
  - 50th percentile represents the level where 50% of the data points are positioned below, and above this level

Compensation Element	Hydro One	Market
Salary Range Midpoint	2018 salary range midpoint of incumbents in benchmark roles	2018 actual reported comparator organization salaries of incumbents in benchmark roles
Target Total Cash Compensation (TTC)	2018 salary range midpoint of incumbents in benchmark roles + target bonus	2018 actual reported comparator organization salary + target bonus of incumbents in benchmark roles
Target total direct compensation (TDC)	2018 salary range midpoint of incumbents in benchmark roles + target bonus + target long-term incentives (if applicable)	2018 actual reported comparator organization salary + target bonus + long-term incentives (if applicable) of incumbents in benchmark roles

- Willis Towers Watson considers compensation for benchmark jobs to be aligned with the competitive market when it falls within +/- 10% of the target market position

## Compensation Benchmark Results Presentation

- The benchmark results are provided both on a total sample and on a segmented basis. Results are summarized by the following Hydro One levels

Hydro One Level	Hydro One Level Descriptor
10 (Executive)	Senior Vice President
9 (Executive)	Vice President
8 (Executive)	Vice President
7	Director
6	Director
5	Manager
4	Manager / Associate
3	Executive Assistant
2	Assistant
1	Assistant

- Hydro One has implemented a segmented approach to competitive benchmarking and salary structures, supported by market differences in competitive compensation. Hydro One maintains three segmented salary structures:
  - Operations structure:** Applies to roles in the operations segment (levels 4-7)
  - Core services structure:** Applies to roles in the core services segment (levels 1-10) and to executive roles in the operations segment (levels 8-10)
  - Premium core services structure:** Applies to roles in tax and legal job functions (levels 4-7)
- The percentage above/below the market reflects the between the sum of Hydro One's target compensation and the sum of market results (i.e., 50<sup>th</sup> percentile), for all incumbents benchmarked within the respective level and segment for the data element reported

# Overview: Overall Compensation Analysis Results

## Overview: Overall Compensation Analysis Results

- Overall, Hydro One's target total direct compensation is positioned 3% above the market 50<sup>th</sup> percentile. Results by segment and compensation element are outlined below
  - Executive are positioned, on average, 8% below market 50<sup>th</sup> percentile
  - Operations roles are positioned, on average, 3% below market 50<sup>th</sup> percentile
  - Core Services roles are positioned, on average, 8% above market 50<sup>th</sup> percentile

Segment	Number of Incumbents Benchmarked	Hydro One Target Compensation (% above / below market median)		
		Salary Range Midpoint	Total Target Cash (TTC)	Target Total Direct Compensation (TDC)
Executives	25	-4%	-9%	-8%
Operations*	236	-2%	-3%	-3%
Core Services*	326	5%	7%	8%
<b>Overall**</b>	<b>587</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>

\* Operations and Core services positioning excludes executives (levels 8-10)

\*\* Overall positioning represents incumbent-weighted average across all segment



# Overview: 2019 Salary Increase Budget Recommendations

## Recommendation

- Consistent with the Canadian energy services/utilities median projections of 2.3% - 2.8% and with the broader Canadian general industry projection of 2.5% (as articulated in the table below), Willis Towers Watson recommended a 2019 salary increase budget of 2.5% for Hydro One's management group of employees
- Willis Towers Watson understands that Hydro One's Board has approved the recommended 2.5% salary increase budget for 2019

## Market Data

- The following market data were sourced from the 2018 Willis Towers Watson Salary Budget Survey - Canada
- At the 50<sup>th</sup> percentile:
  - Canadian general industry 2019 salary increase budgets are forecasted at 2.5% for the Executives and Management/Professional employee groups
  - Canadian energy services/utility 2019 salary increase budgets are forecasted at 2.3% for Executives and 2.8% for Management/Professionals

2019 Median Projected Salary Increases		Canada
Willis Towers Watson	Executive	Management / Professional
General Industry (National)	2.5%	2.5%
For-Profit Sector	2.5%	2.7%
Energy Services / Utilities	2.3%	2.8%
Ontario	2.7%	2.7%

# Compensation Analysis Results

## Segment: Operations and Core Services

- On an overall basis, Hydro One is positioned, on average, 3% above the market 50<sup>th</sup> percentile on a total direct compensation basis

Level	Count	Operations & Core Services Segments	Base Salary (\$000's)			Target Total Cash (\$000's)			Target Total Direct Compensation (\$000's)		
			Hydro One Salary Range Midpoint	Market 50th	Salary Range Midpoint vs. Market P50	TTC Midpoint	Market 50th	TTC Range Midpoint vs. Market P50	TDC Midpoint	Market 50th	TDC Range Midpoint vs. Market P50
SVP - 10	3	All Segments	\$310	\$279	11%	\$434	\$411	6%	\$698	\$706	-1%
VP - 9	6	All Segments	\$270	\$266	2%	\$351	\$358	-2%	\$513	\$472	9%
VP - 8	16	All Segments	\$235	\$259	-9%	\$306	\$358	-15%	\$423	\$498	-15%
Director - 7	24	All Segments	\$180	\$178	1%	\$216	\$220	-1%	\$261	\$234	12%
Director - 6	34	All Segments	\$152	\$155	-1%	\$183	\$185	0%	\$206	\$193	7%
Manager - 5	186	All Segments	\$129	\$127	2%	\$148	\$144	4%	\$148	\$145	3%
Mgr./Associate - 4	249	All Segments	\$107	\$105	3%	\$117	\$115	3%	\$117	\$116	2%
Executive Asst. - 3	28	All Segments	\$74	\$71	4%	\$79	\$76	5%	\$79	\$76	5%
Assistant - 2	40	All Segments	\$62	\$64	-3%	\$66	\$67	0%	\$66	\$67	0%
Assistant - 1	1	All Segments	-	\$53	-	-	\$55	-	-	\$55	-
<b>Incumbent Weighted Average</b>			<b>2%</b>			<b>2%</b>			<b>3%</b>		

# Compensation Analysis Results

## Segment: Operations

- Overall, operations roles are positioned 3% below the market 50<sup>th</sup> percentile on a target total direct compensation basis with some variation by level

Level	Count	Operations Segment	Base Salary (\$000's)			Target Total Cash (\$000's)			Target Total Direct Compensation (\$000's)		
			Hydro One Salary Range Midpoint	Market 50th	Salary Range Midpoint vs. Market P50	TTC Midpoint	Market 50th	TTC Range Midpoint vs. Market P50	TDC Midpoint	Market 50th	TDC Range Midpoint vs. Market P50
VP - 9	3	Operations	\$270	\$272	-1%	\$351	\$360	-2%	\$513	\$466	10%
VP - 8	3	Operations	\$235	\$274	-14%	\$306	\$367	-17%	\$423	\$492	-14%
Director - 7	7	Operations	\$197	\$200	-2%	\$236	\$245	-4%	\$286	\$251	14%
Director - 6	11	Operations	\$167	\$181	-8%	\$200	\$220	-9%	\$225	\$231	-2%
Manager - 5	89	Operations	\$142	\$145	-2%	\$163	\$169	-3%	\$163	\$169	-4%
Mgr./Associate - 4	129	Operations	\$120	\$123	-2%	\$132	\$136	-3%	\$132	\$137	-3%
<b>Incumbent Weighted Average</b>					<b>-3%</b>			<b>-3%</b>			<b>-3%</b>

# Compensation Analysis Results

## Segment: Core Services

- Overall, core services roles are positioned 7% above the market 50<sup>th</sup> percentile on a target total direct compensation basis
- Core services overall positioning slightly above market is primarily attributable to specific levels positioned above market in order to mitigate ongoing internal compression challenges. Compression occurs when compensation at bargaining unit levels are at or above the compensation paid to the supervising management roles. These levels are considered primary “destination” roles for internal promotion from within the bargaining unit

Level	Count	Core Services Segment	Base Salary (\$000's)			Target Total Cash (\$000's)			Target Total Direct Compensation (\$000's)		
			Hydro One	Market 50th	Salary Range Midpoint vs. Market P50	TTC Midpoint	Market 50th	TTC Range Midpoint vs. Market P50	TDC Midpoint	Market 50th	TDC Range Midpoint vs. Market P50
			Salary Range Midpoint								
SVP - 10	3	Core Services	\$310	\$279	11%	\$434	\$411	6%	\$698	\$706	-1%
VP - 9	3	Core Services	\$270	\$260	4%	\$351	\$357	-2%	\$513	\$478	7%
VP - 8	13	Core Services	\$235	\$255	-8%	\$306	\$356	-14%	\$423	\$500	-15%
Director - 7	14	Core Services	\$170	\$164	4%	\$204	\$202	1%	\$247	\$217	14%
Director - 7	3	Premium Core Services	\$187	\$193	-3%	\$224	\$243	-8%	\$271	\$275	-1%
Director - 6	21	Core Services	\$144	\$139	4%	\$173	\$166	4%	\$194	\$172	13%
Director - 6	2	Premium Core Services	\$159	\$171	-7%	\$191	\$193	-1%	\$215	\$206	4%
Manager - 5	85	Core Services	\$115	\$106	8%	\$132	\$119	12%	\$132	\$119	11%
Manager - 5	12	Premium Core Services	\$127	\$133	-5%	\$145	\$146	0%	\$145	\$146	0%
Mgr./Associate - 4	112	Core Services	\$92	\$85	8%	\$101	\$93	9%	\$101	\$93	8%
Mgr./Associate - 4	8	Premium Core Services	\$101	\$96	5%	\$111	\$108	3%	\$111	\$108	3%
Executive Asst. - 3	28	Core Services	\$74	\$71	4%	\$79	\$76	5%	\$79	\$76	5%
Assistant - 2	40	Core Services	\$62	\$64	-3%	\$66	\$67	0%	\$66	\$67	0%
Assistant - 1	1	Core Services	\$54	\$53	2%	\$57	\$55	4%	\$57	\$55	4%
<b>Incumbent Weighted Average</b>			5%			6%			7%		

**Note:** Premium Core Services includes roles in Tax & Legal functional roles

# Appendices

## Peer Group: Executives

Executive Peer Group (n=40)			
Air Canada	Celestica Inc.	Goldcorp Inc.	Rogers Communications
ATCO Ltd.	Genovus Energy Inc.	Husky Energy Inc.	Saputo Inc.
Barrick Gold Corporation	CGI Group Inc.	Intact Financial Corporation	Shaw Communications Inc
<b>Bruce Power LP</b>	Cogeco Inc.	Kinross Gold Corporation	SNC-Lavalin
CAE Inc	Crescent Point Energy	Lululemon Athletica	Stantec Consulting, Inc.
Canadian Imperial Bank of Commerce	Emera Inc.	Maple Leaf Foods	TELUS Corporation
Canadian National Railway	Encana Corporation	MEG Energy	The Empire Life Insurance Company
Canadian Natural Resources Ltd.	Energir	<b>Ontario Power Generation</b>	<b>Toronto Hydro Electric</b>
Canadian Pacific Railway Ltd.	Finning International Inc.	Pembina Pipeline Corporation	TransAlta Corporation
Canadian Tire Corporation	Gildan Activewear Inc	Restaurant Brands International Ltd. Partnership	TransCanada Corp.

Percentile Statistics	Revenue	Assets
25 <sup>th</sup> Percentile	\$3,441,632,498	\$7,579,480,750
50 <sup>th</sup> Percentile	\$5,573,397,745	\$16,851,650,000
75 <sup>th</sup> Percentile	\$11,632,200,000	\$28,794,000,000

<b>Hydro One</b>	<b>\$5,990,000,000</b>	<b>\$25,701,000,000</b>
<i>Percentile Rank</i>	<i>53P</i>	<i>64P</i>

### Notes:

Peer group represents publicly traded companies with revenue between \$2B and \$20B

**Bolded companies** represent public sector organizations who are direct competitors for talent

## Peer Group: Operations

Also used for operations executive roles requiring an industry focus

Operations Peer Group (n=18)		
Alberta Electric System Operator	Enbridge Inc.	Nova Scotia Power
ATCO Ltd.	ENMAX Corporation	Ontario Power Generation
BC Hydro Power & Authority	EPCOR Utilities Inc.	SaskPower
Bruce Power LP	FortisAlberta Inc.	Toronto Hydro Electric
Capital Power Corporation	Hydro Quebec	TransAlta Corporation
Emera Inc.	Newfoundland Power Inc.	TransCanada Corp.

Percentile Statistics	Revenue	Assets
25 <sup>th</sup> Percentile	\$2,005,600,000	\$5,293,375,000
50 <sup>th</sup> Percentile	\$2,995,500,000	\$10,331,000,000
75 <sup>th</sup> Percentile	\$5,695,000,000	\$31,102,750,000

<b>Hydro One</b>	<b>\$5,990,000,000</b>	<b>\$25,701,000,000</b>
<i>Percentile Rank</i>	<i>78P</i>	<i>68P</i>

Ownership Structure	% of Total
Government Agency	44%
Joint Venture	6%
Public Parent	33%
Wholly Owned Subsidiary	17%

# Peer Group: Core Services

Core Services Peer Group (n=99)

AIG Insurance Company of Canada	Compass Group Canada	Kal Tire	Restaurant Brands International Ltd. Partnership
Aimia	CPP Investment Board	Kinross Gold Corporation	RGA Life Reinsurance Company of Canada
Air Canada	Element Fleet Management	Lafarge Canada Inc.	RioCan Real Estate Investment Trust
Allstate Insurance Company of Canada	Entertainment One Canada	Ledcor Group of Companies	Samuel Son and Co.
Amazon.com Canada	Ernst & Young Canada	Lifelabs	Scotiabank
Apotex Inc.	Estee Lauder Cosmetics	Loblaw Companies Ltd.	Stantec Inc
Apple Canada	Export Development Canada (EDC)	LoyaltyOne	Sun Life Financial
Aviall Services, Inc.	Facebook, Inc (Canada)	Magna International Inc	TD Bank Financial Group
Bank of Montreal	Federal Express Canada Corporation	Manulife Financial	TELUS Corporation
Barrick Gold Corporation	FGL Sports Ltd.	Maple Leaf Foods	The Co-operators Group Ltd.
BASF Canada	Four Seasons Hotels and Resorts	Mark's Work Wearhouse	The Empire Life Insurance Company
Bayer Inc.	General Dynamics Land Systems - Canada	McCain Foods Ltd.	The Stars Group
Bell Canada	General Electric Canada	Metrie	TMX Group Ltd.
Bunge Canada	Gerdau Long Steel North America	Microsoft Canada	Toronto Hydro Electric
Cadillac Fairview Corporation Ltd	Goodyear Tire and Rubber Canada	Morgan Stanley	Torstar Corporation
Canada Post Corporation	Great-West Lifeco Inc.	Munich Life Management Corporation	Travelers Insurance Company of Canada
Canadian Imperial Bank of Commerce	Holt Renfrew	NAV Canada	Treasury Board of Canada Secretariat
Canadian Tire Corporation	HP Canada Co.	Nissan Canada, Inc.	Veolia North America
Capital Group	Husky Injection Molding Systems Ltd.	Northbridge Financial Corporation	VIA Rail Canada Inc.
Capital One Canada	iA Groupe Financier	Ontario Pension Board	WestJet Airlines Ltd.
Celestica Inc.	Intact Financial Corporation	Ontario Power Generation	Winpak Portion Packaging Ltd.
CH2M Hill Canada	InterContinental Hotels Group	Parmalat Canada	Workplace Safety & Insurance Board
Chartwell Retirement Residences	Ivari	PepsiCo Canada	Xerox Canada
Cisco Systems Canada Co	Johnson and Johnson Canada	Pfizer Canada Inc.	York University
CNH Industrial Canada	Johnson Controls PLC	Purolator Inc.	

Percentile Statistics	Revenue	Assets
25 <sup>th</sup> Percentile	\$1,217,600,000	\$3,815,525,000
50 <sup>th</sup> Percentile	\$2,094,000,000	\$13,272,792,000
75 <sup>th</sup> Percentile	\$5,677,885,745	\$34,290,713,360
<b>Hydro One</b>	<b>\$5,990,000,000</b>	<b>\$25,701,000,000</b>
<i>Percent Rank</i>	<i>76P</i>	<i>62P</i>



# COMPENSATION COST BENCHMARKING STUDY

HYDRO ONE NETWORKS INC.

04 APRIL 2018

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# CONTENTS

- 1. Executive Summary ..... 1
- 2. Introduction ..... 4
- 3. Guiding Principles ..... 5
- 4. Compensation Benchmarking ..... 7
- Appendix A: Hydro One vs. Market Average ..... 18
- Appendix B: Job Descriptions..... 22
- Appendix C: Detailed Compensation Benchmarking Methodology ..... 26

# 1

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## Executive Summary

Hydro One Networks Inc. (“Hydro One”) has retained Mercer to prepare an independent, testable and repeatable market-based assessment of the reasonableness of Hydro One’s total compensation levels including salary, short-term incentives, long-term incentives, pension and employer paid health and group benefits relative to a select peer group. This study was conducted in 2008, 2011, 2013, 2016 and repeated, following a similar methodology, in 2017.

Prior to each study, every effort is made to ensure that the approach and methodology used continues to meet industry best standards and will provide an appropriate comparison for Hydro One.

Since 2008, the compensation cost benchmarking study has included regulated Transmission and Distribution Utilities’ and comparable regulated businesses across Canada. However, to reflect the changing talent landscape and nature of the workforce, the comparator group and job list for the 2016 study was reviewed with the purpose of rebalancing the mix of Transmission, Distribution and Functional benchmark jobs, and to better represent the market in which Hydro One attracts and loses talent to (e.g. contractors). This resulted in revisions to the comparator organizations and survey jobs included in the study.

While these changes may have an impact on the study-over-study comparison, Mercer believes they better reflect the current workforce and balance of jobs at Hydro One.

This document represents the final results of our analysis. Study-over-study trend analysis is provided.

## Compensation Benchmarking

The compensation benchmarking study compared Hydro One’s total compensation to a peer group of Transmission, Distribution and Generation organizations, supplemented with Contractors and participants from a similar Regulatory Environment.

The study reflected 3,210 Hydro One employees (up from 2,991 in 2016) in 34 benchmark jobs representing 59% of Hydro One’s employee population (excluding non-full time employees). In total, our analysis reflected approximately 16,800 (up from approximately 15,000 in 2016) incumbents employed in the Canadian energy and/or adjacent sectors. The increase in the percentage of Hydro One employees represented is partly driven by the updates made to the benchmark job list.

On an overall weighted average basis, for the jobs Mercer reviewed in 2017, Hydro One is positioned approximately 12% above the market 50th percentile (“P50” or “median”). In comparison to the 2016 study, Hydro One’s overall weighted average positioning has decreased from 14% above the market total compensation 50<sup>th</sup> percentile.

The shift in Hydro One's competitive position towards the median is notable given that the peer group, like Hydro One, has worked to reduce labour costs as a response to both the substantial economic downturn beginning in 2008 and expectations of key stakeholders over the entire period the compensation cost benchmarking studies have been conducted (2008 – 2016).

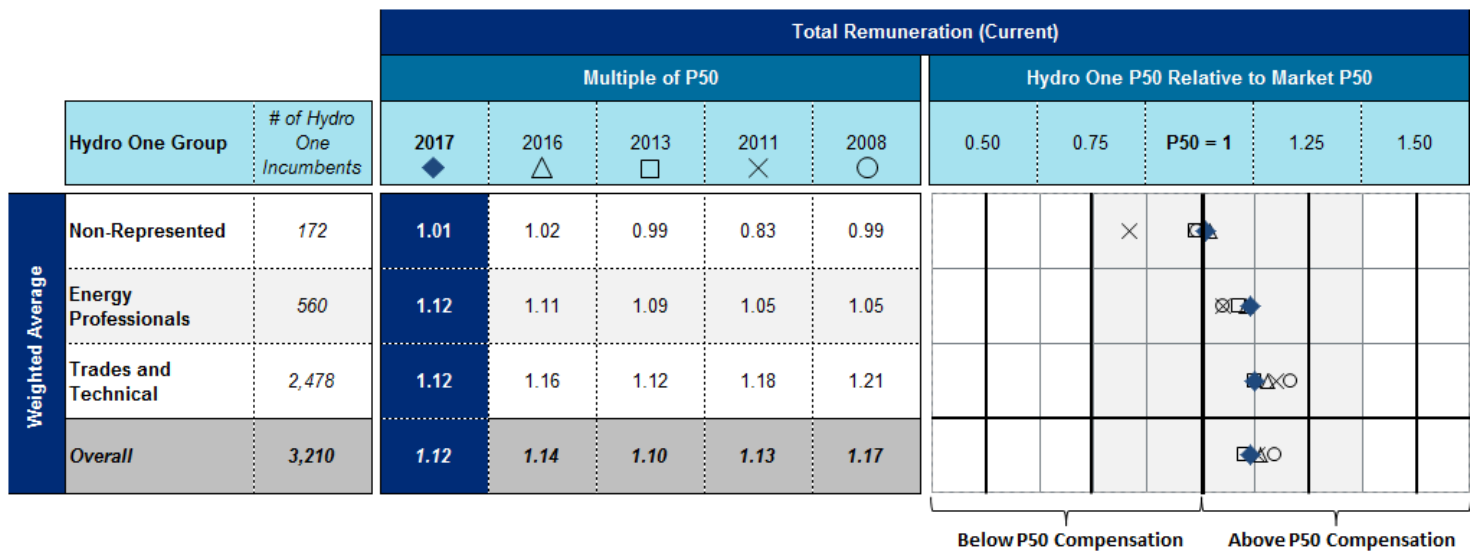
Hydro One's overall positioning relative to the market median is driven by a combination of a number of factors, including:

- The use of casual workers that have lower cost pension and benefit packages
- Higher short-term incentive payouts to the non-represented group following strong company performance
- Highly competitive base wages, especially for the most highly skilled Power Workers' Union ("PWU") jobs (Trades and Technical Group)
- The introduction of lump sum and share grant awards to the Energy Professionals and Technical and Trades workers, respectively, in exchange for reduced base salary / wage increases, resulting in lower pension and benefit costs
- Changes in the organizations participating in the study and the benchmark job list
- The relatively high value of legacy collective agreement wages, pension and benefits programs. We note that the legacy non-represented pension and benefit and Society pension plans are now closed to new members

The table below summarizes the results of the 2017 Compensation Cost Benchmarking Study compared to the results of the 2016, 2013, 2011 and 2008 study.

**Table 1**

<b>Legend</b>	
◆	2017 Hydro One Position Relative to Market
△	2016 Hydro One Position Relative to Market
□	2013 Hydro One Position Relative to Market
×	2011 Hydro One Position Relative to Market
○	2018 Hydro One Position Relative to Market



# 2

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## Introduction

Hydro One Networks Inc. (“Hydro One”) has retained Mercer to prepare an independent, testable and repeatable market-based assessment of the reasonableness of Hydro One’s total compensation levels including salary, short-term incentives, long-term incentives, pension and employer paid health and group benefits relative to a select peer group. This study was conducted in 2008, 2011, 2013, 2016 and repeated, following a similar methodology, in 2017.

This report is intended to help Hydro One in preparing a multi-year CIR Application for Transmission rates (2019-2023). The results of the Compensation Cost Benchmarking study will be filed as evidence for the rate setting application.

To provide independent and reliable information on Hydro One’s relative compensation costs, Mercer has undertaken a customized survey of total compensation in the market (“Compensation Benchmarking”).

The total compensation (i.e., base salary, short-term incentives / lump sums, long-term incentives [including negotiated share grants], pension and benefits) benchmarking analyses focused on assessing Hydro One’s overall competitiveness in the marketplace.

Prior to each study, every effort is made to ensure that the approach and methodology used continues to meet industry best standards and will provide an appropriate comparison for Hydro One. In order to reflect the changing talent landscape and nature of the workforce, the comparator group and job list for the 2016 study was reviewed with the purpose of rebalancing the mix of Transmission, Distribution and Functional benchmark jobs, and to better represent the market in which Hydro One attracts and loses talent to. This resulted in revisions to the comparator organizations and survey jobs included in the study.

While these changes may have an impact on the study-over-study comparison, Mercer believes they better reflect the current workforce and balance of jobs at Hydro One.

# 3

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## Guiding Principles

The principles used for the compensation cost study were based on Mercer's standard approach in conducting multi-year compensation benchmarking. Mercer ensures that these principles are effectively applied within the context of the Hydro One study, making adjustments where necessary. These principles include:

1. Principle objective – to revisit the 2016, 2013, 2011 and 2008 Mercer Study to reasonably compare Hydro One compensation costs to those of regulated Transmission and Distribution Utilities', comparable regulated businesses and Contractors across Canada.
  - The 2016, 2013, 2011 and 2008 Mercer Studies were revisited following the same general overall methodology to provide appropriate study-over-study comparisons.
2. Keep it simple to entice survey participants.
  - The data collection process was reviewed and streamlined, where possible, to encourage survey participants to share data. Additional follow-up was provided by Mercer to support comparator participation in the study.
3. Be independent, testable, repeatable and market-based.
  - The study was conducted in a manner that meets each of the criteria listed.
4. Provide participants with the assurance that their information could not be attributable to them.
  - All participants were assured that data would be held confidentially by Mercer and only be shared in aggregate form.
5. Be based on the organizations and benchmark jobs surveyed in the 2016 Mercer Study and expanded as deemed appropriate by the consultant.
  - The 2017 study targeted similar benchmark jobs and organizations as the 2016 study; however, the following changes were made:
    - The list of benchmark jobs for the 2017 study was revised to reflect a mix of Transmission, Distribution and Functional jobs that is more representative of the roles at Hydro One. This resulted in the addition of five (5) new jobs and removal of three (3) jobs.
    - The list of peer organizations for the 2017 study was revised to include Contractors, Regulators and a rebalanced mix of Transmission, Distribution and Generation organizations. This resulted in a similar peer group used in the 2016 study with the addition of two (2) Contractors, one (1) Electricity System Operator and two (2) Transmission organizations. Two (2) organizations that participated in the 2016 study declined to participate in 2017. One (1) organization was part of a merger and participated under a new name.
6. Mirror the scoping in the 2016, 2013, 2011 and 2008 Mercer Studies for peer selection, job classes, etc. and changes as deemed appropriate by the consultant.

- Though the peer group and job list were revised, the same methodology used in 2016, 2013, 2011 and 2008 was followed in the 2017 Mercer Study for both peer company selection and job classes for inclusion. The selected benchmark job classes for the 2017 study represented 59% of Hydro One's employee population (excluding non-full time employees).
7. Enable reasonable comparison to the last Mercer study and provide trending analysis for Hydro One.
    - By including approximately 77% of peers and 91% of jobs from the 2016 Mercer Study, reasonable comparisons have been made and trending has been assessed.
  8. Compare to market median rather than market average ("mean")
    - The 2017 Mercer Study is based on a comparison of Hydro One median compensation against market median compensation. Comparison of medians is standard compensation practice; medians are representative of the middle data point in a sample and are less sensitive to outliers than the mean.
      - The 2008, 2011, 2013 and 2016 studies also compared Hydro One to the median.
    - Appendix A provides a comparison of Hydro One's total compensation median against market average. On an overall weighted average basis, there is a material difference between Hydro One's median positioning relative to market median and its positioning relative to the market arithmetic mean.
  9. No adjustments to reflect regional costs of living amongst the study participants.
  10. Hydro One has relied on Mercer's expertise in conducting the study to recommend appropriate changes in methodology and assumptions.



# 4

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## Compensation Benchmarking

### Peer Groups

Mercer selects peer organizations, for compensation benchmarking purposes, based on a stable metric that reflects the size and operating complexity of the organization (typically, this is revenue and/or total assets). Where there is a relatively small sample of relevant comparator organizations, Mercer establishes limits of 33% to 300% of the scope criteria for the organization we are analyzing. Some organizations were included in the analysis despite falling below the 33% of revenue threshold value. These organizations were a mix of regulated Transmission and Distribution Utilities', Contractors and an Electricity System Operator that are seen as important comparators by stakeholders.

To develop a single peer group for Hydro One, Mercer initially considered all organizations, with 2015 or 2016 annual revenues between 33% and 300% of Hydro One's 2016 annual revenue, from the following areas:

1. Electric utilities, multi-utilities, generation, transmission, and gas utilities industries in Canada as classified by their Global Industry Classification Standard ("GICS")
2. 74 Local Distribution Companies ("LDCs") in Ontario
3. Organizations from which Hydro One contracts employees
4. Other comparable regulated businesses (i.e., gas pipelines, railroads, etc.)

Overall, 29 organizations were invited to participate in the study:

- 19 organizations accepted the invitation and participated in the 2017 study.
  - 15 of the 17 organizations included in the 2016 study were invited to participate.
    - The following two organizations were not invited to participate in 2017:
      - a. Bell Canada: Few comparable jobs – Provided data for less than 30% of jobs in 2016
      - b. PowerStream: Part of a merger to become Alectra Utilities; Alectra is included in the study.
    - 13 organizations included in the 2017 study also participated in 2016.
    - 2 organizations that participated in the 2016 study declined to participate in 2017.
  - 6 organizations that participated in the 2017 study were not invited in previous studies. This includes, amongst others, Contractors and an Electricity System Operator.
    - This resulted in an increase of two (2) organizations over the total number of 2016 participants.

Organizations that did not participate in the compensation benchmarking study indicated that they were unable to participate due to either resource constraints or an insufficient number of relevant benchmark jobs.

Following standard industry practice, comparisons were made between Hydro One's incumbents, at the 50th percentile, to the market peer group 50th percentile on base salary, total cash compensation and total compensation.

To ensure that no one organization biased the results, we have weighted our analysis by organization for each job class and not by number of incumbents to determine Hydro One's position relative to the market (i.e., the analysis is "Org Weighted"). To preserve the confidentiality of compensation data at both Hydro One and participating organizations, we have aggregated our results.

## Market Sample

Summarized below are the participating organizations in the compensation benchmarking.

**Table 2**

Company Name	Revenue <sup>1</sup>	# of Employees <sup>1,2</sup>
Hydro-Québec	\$13,339.0	19,552
TransCanada Corporation	\$12,505.0	6,705
BC Hydro Power & Authority	\$5,874.0	6,076
Ontario Power Generation Inc.	\$5,653.0	9,306
Toronto Hydro Corporation	\$4,030.0	1,415
Alectra Utilities Corporation*	\$3,824.4	1,440
ENMAX Corporation	\$2,801.0	1,786
Bruce Power L.P.	\$2,656.0	4,109
Enbridge Inc.	\$2,606.0	2,053
SaskPower	\$2,296.0	3,238
EPCOR Utilities, Inc.	\$1,932.0	2,989
Manitoba Hydro	\$1,867.0	5,925
New Brunswick Power	\$1,791.0	2,573
Nalcor Energy*	\$824.0	1,334
Veridian Corporation	\$364.1	219
Kinder Morgan Canada Ltd.*	\$253.0	353
Independent Electricity System Operator*	\$194.1	665
Black & McDonald <sup>3*</sup>	--	--
K-Line Maintenance & Construction Ltd <sup>3*</sup>	--	--
<b>75th %ile</b>	<b>\$3,927.2</b>	<b>5,413</b>
<b>50th %ile</b>	<b>\$2,296.0</b>	<b>2,573</b>
<b>25th %ile</b>	<b>\$1,162.0</b>	<b>1,375</b>
<b>Average</b>	<b>\$3,390.7</b>	<b>3,951</b>
<b>Hydro One Network Inc.</b>	<b>\$6,552.0</b>	<b>5,400</b>

<sup>1</sup> Data as reported by survey participants in CAD (\$MM)

<sup>2</sup> Representative of full-time employees and equivalents only

<sup>3</sup> Private organization. Revenue and number of Employees information has been masked

\* New participants in 2017

## Benchmark Jobs

The compensation survey was designed to benchmark compensation levels from a cross-section of Hydro One's population. To determine the roles to be included in our benchmark analysis, Mercer reviewed jobs that represented all of Hydro One's major business units and covered, at least, 50% of Hydro One's employee population.

To assist with study-over-study comparisons, it was determined that the Study should collect incumbent data using 29 of the 32 benchmark roles surveyed in the 2016 study. In an effort to rebalance the mix of Distribution, Transmission and Functional jobs within the study to better reflect the representation of jobs found within Hydro One, the following roles have been removed from the 2016 job list, partially due to their low incumbency at Hydro One:

- Area Superintendent
- Meter Reader
- Production Field Administrator III

The following five (5) jobs were added to the Study as replacements:

- Non-Represented: Manager Construction
- Energy Professionals: Estimator/Scheduler, Senior Protection & Control Supervisor
- Trades and Technical: Heavy Equipment Operator, Carpenter-Construction

In total, 34 benchmark roles were included in the 2017 compensation benchmarking study and data is reported on all 34 jobs.

**As a result, *the 2017 Compensation Cost Benchmarking Study directly reflected 3,210 Hydro One employees in 34 benchmark jobs representing 59% of Hydro One's employee population (excluding non-full time employees).***

In the market, Mercer collected approximately 16,800 individual incumbent observations across the benchmark roles (this figure excludes the 3,210 Hydro One incumbents) ***employed in the Canadian energy and/or adjacent sectors.***

Summarized below are the benchmark jobs organized by major employee group. The results in this report are summarized by the following employee groups. Specifically:

**Table 3**

Hydro One Group	Job #	Benchmark Survey Title
<b>Non-Represented</b>	1	Financial Director
	2	Regulatory Director**
	3	Manager of Construction*
	4	Senior Legal Counsel
	5	Engineer F
	6	Operations Manager**
	7	Human Resource Manager / Consultant
	8	Administrative Assistant
<b>Energy Professionals</b>	9	Engineer E
	10	Business Analyst C
	11	Engineer D
	12	Senior Protection and Control Supervisor*
	13	Estimator/Scheduler*
	14	Engineer C
	15	Engineer B
	16	Business Analyst A
	17	Engineer A
<b>Trades and Technical</b>	18	System Operator (Controller)
	19	Regional Maintainer - Lines (Supervisory)
	20	Protection and Control Technician
	21	Lineman - Journeyman
	22	Engineering Technician
	23	Regional Maintainer - Lines
	24	Regional Maintainer - Electrical
	25	Fleet Mechanic
	26	Service Dispatcher
	27	Draftsperson**
	28	Stock Keeper
	29	Carpenter - Construction*
	30	Heavy Equipment Operator*
	31	Labourer**
	32	Data Entry Clerk
	33	Electrical Apprentice
	34	Lines Apprentice

\* New position in 2017

\*\* Retitled position

“Energy Professionals” refers to Hydro One jobs represented by the Society of Energy Professionals (i.e., “Society”) and “Trades and Technical” refers to Hydro One jobs represented by the Power Workers’ Union (i.e., “PWU”).

See Appendix B for a summary of job descriptions.

## Methodology

As outlined in Appendix B, summarized below is the methodology used to determine compensation levels. Specifically:

**Base Salary/Wage** – Annual base salary at October 1, 2017 - If an hourly rate was reported, Mercer annualized the value by multiplying the standard number of work hours per week by 52 weeks per year. If a weekly rate was reported, Mercer annualized the value by multiplying by 52 weeks per year.

**Total Cash Compensation** - Base salary *plus* most recent short-term incentive or bonus paid/lump sum where applicable.

- Hydro One does not provide short-term incentives or bonus programs to Energy Professional or Power Worker jobs.
- In 2017, Hydro One provided lump sum payments, to the Energy Professional jobs, in exchange for reduced base salary increases.

**Benefits and Pensions** – To value benefit and pension programs, Mercer applied a relative value process to a set of standard employer paid cost factors, plus actuarial and demographic assumptions to measure all financially significant features of benefit and pension programs based on open and closed plans.

**Total Compensation** – Total cash compensation *plus* estimated annual value of the most recent long-term incentive grant (i.e., long-term cash, expected value of stock options or share awards) and pensions and benefits.

- Hydro One only provides long-term incentives to the Financial Director and Regulatory Director job.
- In 2017, Hydro One provided share grants, to the Power Worker jobs, in exchange for reduced base salary increases.

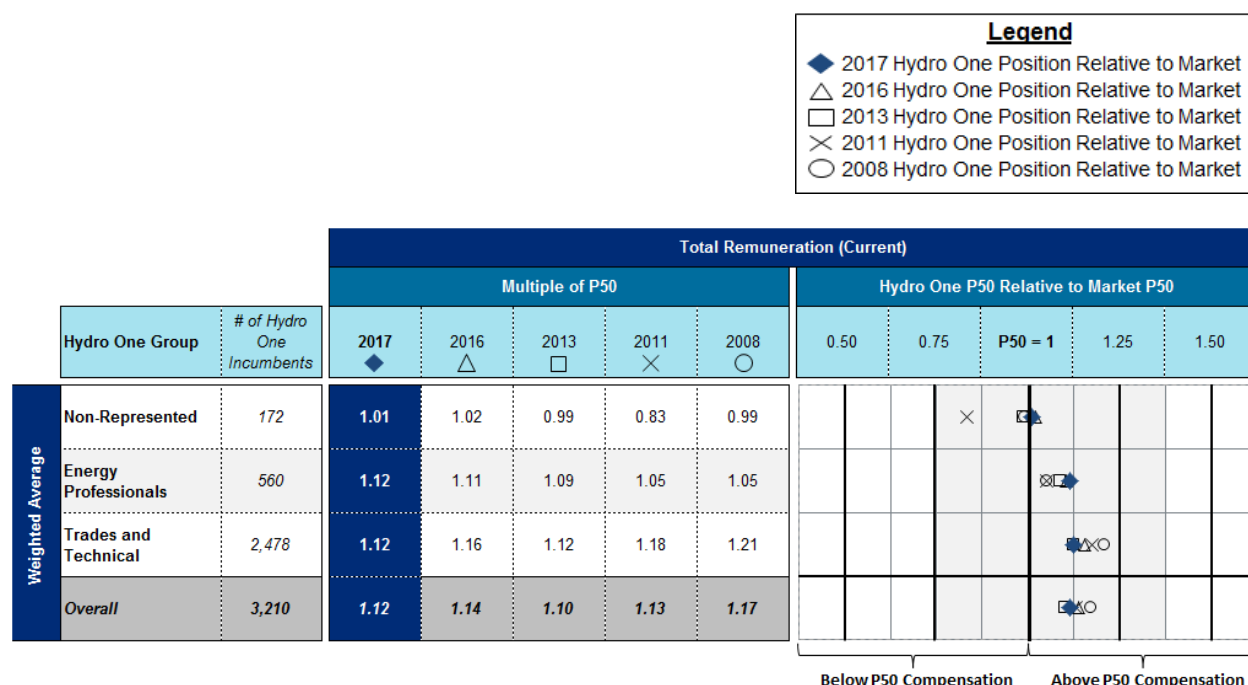
## Findings

Summarized below are the results of our compensation benchmarking analysis.

Overall, **on a weighted average basis, Hydro One’s total compensation cost is 12% above market median.** Hydro One is consistently positioned above the market 50<sup>th</sup> percentile for all employee groups, ranging from a low of 1% for the Non-Represented group and a high of 12% above the market P50 for the Trades and Technical group.

In the 2016 study, Hydro One’s overall weighted average was 14% above the market total compensation P50 – a 2% shift towards the market median since 2016.

**Table 4**



The results are driven by a combination of factors the most significant of which are the following:

- The use of casual workers that have lower cost pension and benefit packages
- Higher short-term incentive payouts to the non-represented group following strong company performance
- Highly competitive base wages, especially for the most highly skilled Power Workers’ Union (“PWU”) jobs (Trades and Technical Group)
- The introduction of lump sum and share grant awards to the Energy Professionals and Technical and Trades workers, respectively, in exchange for reduced base salary / wage increases, resulting in lower pension and benefit costs
- Changes in the organizations participating in the study and the benchmark job list
- The relatively high value of legacy collective agreement wages, pension and benefits programs. We note that the legacy non-represented pension and benefit and Society pension plans are now closed to new members

Mercer understands that these legacy plans relate to collective agreements negotiated prior to the formation of Hydro One. All PWU employees continue to be covered by the legacy plans. Even if all Non-Represented and Energy Professional employees were covered by the new plans, the difference in overall cost on a weighted average basis would not be substantial as the high population Power Worker jobs continue to be covered by the legacy plans; however, the use of casual workers (“hiring hall”) for several of the PWU benchmarks does reduce compensation costs relative to other PWU jobs and our market data.

For new employees hired into Non-Represented and Energy Professional job classifications, the value of pensions and/or benefits, where applicable, have decreased due to recent amendments to these plans (see “Future” & “Go Forward” columns on the following pages).

Mercer notes that, when measured on revenue, Hydro One is the third largest organization, for which we are able to report revenue, in the sample. Although size has a limited impact on middle management and unionized roles, size may have an impact on compensation for executive roles, as these roles tend to be larger and more complex in larger organizations.

As requested by stakeholders in 2011, in addition to comparing Hydro One P50 to market P50, a comparison was also made of Hydro One median to market average (“mean”). On a weighted average basis, Hydro One’s total compensation cost is 8% above market average. Hydro One’s position relative to market varies by employee group from 6% below market average for the Non-Represented group to a high of 9% above the market average for the Trades and Technical group. There is a noticeable difference between the market median and market average. This is driven, to a certain extent, by outliers in the data set and the sample size used. See Appendix A for detailed results.



## Non-Represented

Summarized below are the results for the Non-Represented roles that Mercer benchmarked at Hydro One relative to the market peer group.

In comparison to 2016, the 2017 Total Compensation (Current) result has decreased from 2% above market median to 1% above market median.

**Table 5**

		Hydro One P50 Relative to Market P50 <sup>1</sup>					
		Base Salary	Total Cash <sup>2</sup>	Total Compensation <sup>3</sup>			
Hydro One Group	# of Hydro One Incumbents			Current <sup>4</sup>	Future <sup>5</sup>	Go Forward <sup>6</sup>	
Non-Represented	Financial Director	2	-4%	10%	23%	23%	8%
	Regulatory Director**	2	-16%	-6%	5%	4%	-9%
	Manager of Construction*	8	6%	17%	22%	20%	4%
	Senior Legal Counsel	7	-4%	18%	15%	15%	4%
	Engineer F	57	-10%	-9%	-1%	-3%	-14%
	Operations Manager**	85	-3%	-1%	1%	-1%	-13%
	Human Resource Manager / Consultant	8	-24%	-25%	-21%	-21%	-31%
	Administrative Assistant	3	4%	4%	5%	5%	-5%
2017 Weighted Average Non-Represented	172	-6%	-3%	1%	0%	-12%	
2016 Weighted Average Non-Represented	167	-1%	-3%	2%	-1%	-12%	
2013 Weighted Average Non-Represented	206	-2%	-4%	-1%	-6%	-	
2011 Weighted Average Non-Represented	137	-17%	-20%	-17%	-18%	-	
2008 Weighted Average Non-Represented	151	-2%	-4%	-1%	-5%	-	

<sup>1</sup> Market results weighted by organization (i.e., for each participating organization, Mercer determined one average value per job.)

<sup>2</sup> Base salary plus short-term incentives granted (i.e., bonus/lump sum), where applicable.

<sup>3</sup> Total cash compensation plus estimated long-term incentives, benefits and pension values.

<sup>4</sup> Based on Hydro One's employee population, assuming current pension and benefits program eligibility.

<sup>5</sup> Based on Hydro One's employee population, assuming all incumbents in the new DB pension and benefits programs.

<sup>6</sup> Based on Hydro One's employee population, assuming all incumbents in the new DC pension and benefits programs.

\* New job in 2017.

\*\* Retitled job.

## Energy Professionals (“Society”)

Summarized below are the results for the Energy Professional roles that Mercer benchmarked at Hydro One relative to the market peer group.

In comparison to 2016, the 2017 Total Compensation (Current) result has increased from 11% above market median to 12% above market median.

**Table 6**

Hydro One Group		Hydro One P50 Relative to Market P50 <sup>1</sup>				
		Base Salary	Total Cash <sup>2</sup>	Total Compensation <sup>3</sup>		
				Current <sup>4</sup>	Future <sup>5</sup>	
Hydro One Group	# of Hydro One Incumbents					
Energy Professionals	Engineer E	113	-1%	-1%	2%	-2%
	Business Analyst C	1	28%	28%	34%	34%
	Engineer D	276	0%	-3%	6%	6%
	Senior Protection and Control Supervisor*	26	7%	9%	22%	17%
	Estimator/Scheduler*	16	33%	36%	43%	43%
	Engineer C	21	14%	4%	16%	16%
	Engineer B	86	22%	15%	29%	29%
	Business Analyst A	7	41%	40%	42%	42%
	Engineer A	14	2%	-5%	7%	7%
	2017 Weighted Average Energy Professionals	560	5%	3%	12%	11%
2016 Weighted Average Energy Professionals	612	5%	1%	11%	10%	
2013 Weighted Average Energy Professionals	746	7%	3%	9%	7%	
2011 Weighted Average Energy Professionals	779	6%	-3%	5%	4%	
2008 Weighted Average Energy Professionals	578	8%	-2%	5%	3%	

<sup>1</sup> Market results weighted by organization (i.e., for each participating organization, Mercer determined one average value per job.)

<sup>2</sup> Base salary plus short-term incentives granted (i.e., bonus/lump sum), where applicable.

<sup>3</sup> Total cash compensation plus estimated long-term incentives, benefits and pension values.

<sup>4</sup> Based on Hydro One's employee population, assuming current pension and benefits program eligibility.

<sup>5</sup> Based on Hydro One's employee population, assuming all incumbents in the new pension and benefits programs.

\* New job in 2017.

## Trades and Technical (“PWU”)

Summarized below are the results for the Trades and Technical roles that Mercer benchmarked at Hydro One relative to the market peer group.

In comparison to 2016, the 2017 Total Compensation result has decreased from 16% above market median to 12% above market median.

**Table 7**

Hydro One Group		# of Hydro One Incumbents	Hydro One P50 Relative to Market P50 <sup>1</sup>		
			Base Salary	Total Cash <sup>2</sup>	Total Compensation <sup>3</sup> Current <sup>4</sup>
Trades and Technical	System Operator (Controller)	88	18%	18%	37%
	Regional Maintainer - Lines (Supervisory)	62	5%	4%	21%
	Protection and Control Technician	90	17%	17%	34%
	Lineman - Journeyman	142	12%	12%	1%
	Engineering Technician	144	6%	6%	27%
	Regional Maintainer - Lines	748	-3%	-5%	10%
	Regional Maintainer - Electrical	255	8%	8%	29%
	Fleet Mechanic	73	9%	9%	26%
	Service Dispatcher	20	41%	35%	50%
	Draftsperson**	29	6%	3%	20%
	Stock Keeper	56	19%	16%	40%
	Carpenter - Construction^A	57	30%	30%	31%
	Heavy Equipment Operator*	11	12%	12%	18%
	Labourer	225	10%	8%	12%
	Data Entry Clerk	65	13%	9%	27%
	Electrical Apprentice	54	-14%	-14%	-16%
	Lines Apprentice	359	-17%	-17%	-20%
2017 Weighted Average Trades and Technical		2,478	3%	1%	12%
2016 Weighted Average Trades and Technical		2,212	5%	4%	16%
2013 Weighted Average Trades and Technical		2,100	8%	6%	12%
2011 Weighted Average Trades and Technical		2,411	10%	9%	18%
2008 Weighted Average Trades and Technical		1,966	20%	16%	21%

<sup>1</sup> Market results weighted by organization (i.e., for each participating organization, Mercer determined one average value per job.)

<sup>2</sup> Base salary plus short-term incentives granted (i.e., bonus/lump sum), where applicable.

<sup>3</sup> Total cash compensation plus estimated long-term incentives, benefits and pension values.

<sup>4</sup> Based on Hydro One’s employee population, assuming current pension and benefits program eligibility.

\* New job in 2017.

\*\* Retitled job.

^ Average market data reported as median for comparison purposes.

# APPENDIX A

## Hydro One vs. Market Average

As requested by stakeholders, summarized below are the results of our compensation benchmarking analysis comparing Hydro One median to market average.

Overall, **on a weighted average basis, Hydro One’s total compensation cost is 8% above the market average (mean)**. Hydro One’s position relative to market varies by employee group from a low of 6% below the market average for the Non-Represented group to a high of 9% above the market average for the Trades and Technical group.

**Table 8**

Legend				
◆	2017 Hydro One Position Relative to Market			
△	2016 Hydro One Position Relative to Market			
□	2013 Hydro One Position Relative to Market			
×	2011 Hydro One Position Relative to Market			
○	2008 Hydro One Position Relative to Market			

Hydro One Group		# of Hydro One Incumbents		Total Remuneration (Current)																	
				Multiple of Average					Hydro One P50 Relative to Market Average												
				2017	2016	2013	2011	2008	0.50	0.75	Avg. = 1	1.25	1.50								
Weighted Average	Non-Represented	172	0.94	0.98	0.97	0.84	0.99				×	△									
	Energy Professionals	560	1.07	1.06	1.09	1.06	1.05														
	Trades and Technical	2,478	1.09	1.10	1.13	1.15	1.21														
	Overall	3,210	1.08	1.08	1.10	1.12	1.17														
								Below Average Compensation					Above Average Compensation								

## Non-Represented

Summarized below are the results for the Non-Represented roles that Mercer benchmarked at Hydro One relative to the market peer group.

**Table 9**

		Hydro One P50 Relative to Market Average <sup>1</sup>					
Hydro One Group	# of Hydro One Incumbents	Base Salary	Total Cash <sup>2</sup>	Total Compensation <sup>3</sup>			
				Current <sup>4</sup>	Future <sup>5</sup>	Go Forward <sup>6</sup>	
Non-Represented	Financial Director	2	-4%	5%	16%	16%	3%
	Regulatory Director**	2	-15%	-12%	-13%	-14%	-25%
	Manager of Construction*	8	3%	6%	13%	10%	-4%
	Senior Legal Counsel	7	-5%	4%	1%	1%	-8%
	Engineer F	57	-14%	-13%	-13%	-14%	-24%
	Operations Manager**	85	-5%	-7%	-2%	-3%	-15%
	Human Resource Manager / Consultant	8	-24%	-28%	-26%	-26%	-34%
	Administrative Assistant	3	-2%	0%	1%	1%	-8%
2017 Weighted Average Non-Represented	172	-8%	-9%	-6%	-7%	-18%	
2016 Weighted Average Non-Represented	167	-2%	-5%	-2%	-5%	-16%	
2013 Weighted Average Non-Represented	206	-4%	-6%	-3%	-8%	-	
2011 Weighted Average Non-Represented	137	-15%	-17%	-16%	-17%	-	

<sup>1</sup> Market results weighted by organization (i.e., for each participating organization, Mercer determined one average value per job.)

<sup>2</sup> Base salary plus short-term incentives granted (i.e., bonus/lump sum), where applicable.

<sup>3</sup> Total cash compensation plus estimated long-term incentives, benefits and pension values.

<sup>4</sup> Based on Hydro One's employee population, assuming current pension and benefits program eligibility.

<sup>5</sup> Based on Hydro One's employee population, assuming all incumbents in the new DB pension and benefits programs.

<sup>6</sup> Based on Hydro One's employee population, assuming all incumbents in the new DC pension and benefits programs.

\* New job in 2017.

\*\* Retitled job.

## Energy Professionals (“Society”)

Summarized below are the results for the Energy Professional roles that Mercer benchmarked at Hydro One relative to the market peer group.

**Table 10**

		Hydro One P50 Relative to Market Average <sup>1</sup>				
Hydro One Group	# of Hydro One Incumbents	Base Salary	Total Cash <sup>2</sup>	Total Compensation <sup>3</sup>		
				Current <sup>4</sup>	Future <sup>5</sup>	
Energy Professionals	Engineer E	113	-6%	-12%	-5%	-8%
	Business Analyst C	1	29%	26%	31%	31%
	Engineer D	276	1%	-3%	1%	1%
	Senior Protection and Control Supervisor*	26	4%	3%	13%	9%
	Estimator/Scheduler*	16	33%	35%	45%	45%
	Engineer C	21	12%	8%	15%	14%
	Engineer B	86	23%	20%	27%	27%
	Business Analyst A	7	37%	33%	41%	41%
	Engineer A	14	0%	-4%	6%	6%
2017 Weighted Average Professionals		560	5%	1%	7%	6%
2016 Weighted Average Energy Professionals		612	7%	-1%	6%	5%
2013 Weighted Average Energy Professionals		746	8%	1%	9%	7%
2011 Weighted Average Energy Professionals		779	6%	-1%	6%	4%

<sup>1</sup> Market results weighted by organization (i.e., for each participating organization, Mercer determined one average value per job.)

<sup>2</sup> Base salary plus short-term incentives granted (i.e., bonus/lump sum), where applicable.

<sup>3</sup> Total cash compensation plus estimated long-term incentives, benefits and pension values.

<sup>4</sup> Based on Hydro One’s employee population, assuming current pension and benefits program eligibility.

<sup>5</sup> Based on Hydro One’s employee population, assuming all incumbents in the new pension and benefits programs.

\* New job in 2017.

## Trades and Technical (“PWU”)

Summarized below are the results for the Trades and Technical roles that Mercer benchmarked at Hydro One relative to the market peer group.

**Table 11**

Hydro One Group		Hydro One P50 Relative to Market Average <sup>1</sup>			
		Base Salary	Total Cash <sup>2</sup>	Total Compensation <sup>3</sup>	
# of Hydro One Incumbents		Current <sup>4</sup>			
Trades and Technical	System Operator (Controller)	88	14%	11%	28%
	Regional Maintainer - Lines (Supervisory)	62	6%	1%	19%
	Protection and Control Technician	90	18%	15%	34%
	Lineman - Journeyman	142	11%	9%	-2%
	Engineering Technician	144	7%	7%	23%
	Regional Maintainer - Lines	748	-3%	-6%	8%
	Regional Maintainer - Electrical	255	10%	7%	24%
	Fleet Mechanic	73	10%	9%	27%
	Service Dispatcher	20	29%	26%	48%
	Draftsperson**	29	4%	2%	17%
	Stock Keeper	56	22%	19%	39%
	Carpenter - Construction*^	57	30%	30%	31%
	Heavy Equipment Operator*	11	10%	7%	9%
	Labourer	225	6%	5%	5%
	Data Entry Clerk	65	3%	2%	15%
	Electrical Apprentice	54	-17%	-20%	-26%
	Lines Apprentice	359	-16%	-17%	-21%
	2017 Weighted Average Trades and Technical		2,478	2%	0%
2016 Weighted Average Trades and Technical		2,212	2%	-1%	10%
2013 Weighted Average Trades and Technical		2,100	9%	7%	13%
2011 Weighted Average Trades and Technical		2,411	10%	8%	15%

<sup>1</sup> Market results weighted by organization (i.e., for each participating organization, Mercer determined one average value per job).

<sup>2</sup> Base salary plus short-term incentives granted (i.e., bonus/lump sum), where applicable.

<sup>3</sup> Total cash compensation plus estimated long-term incentives, benefits and pension values.

<sup>4</sup> Based on Hydro One’s employee population, assuming current pension and benefits program eligibility.

\* New job in 2017.

\*\* Retitled job.

^ Average market data reported as median for comparison purposes.

# APPENDIX B

## Job Descriptions

Benchmark Job	Survey Code	Generic Description
Administrative Assistant	220.108.430	Requires a general knowledge of departmental procedures, practices and office routine. Possesses good office and computer skills including word processing, spreadsheets, graphics software, and filing. May provide assistance to a more senior Administrative Assistant in a large department.
Business Analyst A	320.392.360	Assists with analyzing internal metrics. Performs responsible and varied business analytical or administrative functions. Assists with preparation documents, forecast summaries, status reports, budget reports, etc. Duties may include interpreting and processing company contracts, AFEs, and government agreements. Assignments are given in terms of objectives and relative priorities. Problems may be solved by adapting standard methods or by practical applications of knowledge. Usual qualifications include a university degree and up to 2 years' experience.
Business Analyst C	320.392.340	Analyzes internal metrics. Performs responsible and varied business analytical or administrative functions. Prepares documents, forecast summaries, status reports, budget reports, etc. Duties may include interpreting and processing company contracts, AFEs, and government agreements. Assignments are given in terms of objectives and relative priorities. Problems may be solved by adapting standard methods or by practical applications of knowledge. Usual qualifications include a university degree with a minimum of 4 years' related experience.
Carpenter - Construction	999.999.012	Lay out and build forms for concrete work needed to construct transformer stations, distribution stations, generating stations and lines as well as formwork for spill containment. Work involves assembling/disassembling scaffolding and shoring (indoors &/or outdoors); framing walls/rooms inside buildings, barriers, temporary outdoor shelters or winter housing and other miscellaneous carpentry projects as required (e.g. building shelving, crates) and other duties as required.
Data Entry Clerk	999.999.002	Perform data processing services including inputting, updating, to various computerized databases and applications of external service providers. Perform clerical/administrative duties in support of system processes. Work with various internal and external contacts and customers in the set up, maintenance, reporting and follow up of non-electricity accounts, customer service orders, materials, corporate charge cards, time reporting, management reporting, damage claims, accounts receivable, etc. Perform administrative services for provincial client group and special projects.
Draftsperson	510.656.420	Incumbent works on standard drafting assignments. Methods are detailed and standard but judgment is required in planning tasks and choice of methods. Accountable for accuracy and adequacy of work performed. May provide technical guidance to less experienced Drafters. Usual qualifications include a technical school diploma or equivalent, with a minimum of 5 years' related experience.
Electrical Apprentice	999.999.112	A five year apprenticeship leading to a Construction and Maintenance Electrician.



Benchmark Job	Survey Code	Generic Description
Engineer A	510.780.360	Incumbent receives "on-the-job" training in various phases of office, plant or field engineering through assignments or, in some cases, classroom instruction. Tasks assigned are simple and routine in nature. Assists more senior engineers in the preparation of plans, calculations, reports, etc. Few technical decisions are made and these are routine, with clearly defined procedures and guidelines. Works under close supervision and work is reviewed for accuracy, adequacy and conformance with prescribed procedures. Usual qualifications include a university degree in engineering with minimal experience.
Engineer B	510.780.350	Uses a variety of standard problem solving techniques. May assist more senior engineers in carrying out technical tasks requiring computation methods. Duties are assigned with detailed oral, and occasionally written instructions. Work is reviewed in detail with guidance given. May give limited technical guidance to junior professionals or technicians working on a common project. Usual qualifications include a university degree in engineering with a minimum of 2 years' related experience.
Engineer C	510.780.340	Incumbent is responsible for varied engineering assignments requiring a broad knowledge of an engineering specialty and the effect the work has upon other fields. Solves problems using a combination of standard or modified procedures. Participates in planning objectives. Performs independent studies, and analyzes, interprets and draws own conclusions; more complex work projects are referred to more senior authorities. Not supervised in detail except on more difficult assignments. May give periodic technical guidance to less experienced professionals or technicians assigned to work on a common project. Usual qualifications include a university degree in engineering with a minimum of 4 years' related experience.
Engineer D	510.780.330	This is the first level of full engineering specialization and is considered the senior level position. Alternatively may be the level at which an individual acts as group leader or work task force leader of a small group of technical personnel. Requires application of well-developed technical knowledge in planning, conducting and coordinating difficult assignments. The position requires the modification of established guidelines and initiation of new approaches. Makes independent decisions in planning, organizing and completing technical assignments. Work is reviewed for soundness of judgement but accepted technically as accurate and feasible. Work is assigned in terms of objectives and priorities but informed guidance is available. Advises on technical problems and supervision, and may plan, schedule and review work of professional engineers and technicians. May make recommendations concerning selection, training, discipline and remuneration of staff.
Engineer E	510.780.320	May have responsibility for coordinating engineering work assignments and making recommendations on technical applications developed by other professional personnel or consultants. May involve the direct supervision of a group of professionals. Provides guidance and training to less experienced staff. Checks work for accuracy and completeness. As a specialist, conducts special, complex and advanced level studies. Work is generally reviewed for results only. Makes independent decisions within broad guidelines and policies. May make recommendations concerning selection, training, discipline and remuneration of staff. May also responsible for construction.
Engineer F	510.780.310	Incumbent is considered an authority in an engineering field of specialization and acts as a technical consultant to the organization. This level is a dual-stream first level managerial position. Incumbents may be responsible for directing a staff of professional and support employees or act as a technical specialist. Responsible for planning and directing large engineering programs/projects; sets priorities and allocates resources; makes necessary decisions on all day-to-day operating matters within constraints of company policy. Receives work in terms of broad objectives. Usual qualifications include over 15 years' experience.
Engineering Technician	999.999.001	Perform technical support work for the Distribution and/or Transmission system: such as monitoring the performance of the distribution/transmission system by performing various technical studies, identifying and recommending solutions to the supervisor, providing field data and preliminary analysis for engineering studies. Negotiate property settlements on distribution/transmission lines and perform joint use activities. Provide administrative support related to preparation of estimates and work orders (WO) work schedules, line layouts, joint use, provision of underground cable and fault location service. Perform staking activities and prepare design packages for new connections, service upgrades, extensions, betterments and relocations.
Estimator/Scheduler	510.330.320	Supervise and direct the work operations of a group engaged in the preparation of capital construction projects, release and study estimates and schedules, construction cost estimates and cost reporting systems.

Benchmark Job	Survey Code	Generic Description
Financial Director	210.100.130	Responsible for providing overall direction for tax, insurance, budget, credit and treasury functions for the organization. Provide short to medium term direction for all corporate financial functions so that financial transactions, policies, and procedures meet the organization's short and medium-term business objectives and are conducted in accordance with regulations, and standards. Activities may include: credit control; cash flow; investment management; tax; insurance; treasury; internal audit; budgeting and forecasting; and foreign exchange. Lead, direct, evaluate, and develop a team of senior managers to ensure that the organization's financial strategy is implemented effectively, consistently and according to established guidelines.
Fleet Mechanic	999.999.011	Be responsible for the inspection, repair and maintenance, as well emergency repair of vehicles (e.g. bucket truck, all-terrain vehicles, go track, digger truck, ladder truck forklift, backhoe, manlift, vans/pickup trucks and the hydraulic equipment of the vehicles e.g. booms, buckets. Maintain inspection schedules and coordinate scheduling repairs to be contracted out. Work is performed in a garage or on site.
Heavy Equipment Operator	708.729.400	Equipment Operators are operators of heavy earth moving construction equipment such as bulldozers, front-end loaders, forklifts, excavators, backhoes, tension pulling machines, equipment for pole hold drilling and Hydro Vac excavation trucks etc. Generally assist both lines and stations crews. Under lines construction often operate and drive various types of cranes and boom trucks and must hold and maintain the required license(s) such as AZ, 339C, 339A based on the equipment being operated/driven. Operating Engineers/Heavy Duty Mechanics are trained to repair and maintain many types of heavy equipment.
Human Resource Manager / Consultant	120.100.220	This position supports the planning, design, development, implementation and administration of policies and programs through functional supervision in all or some of the following areas: employee relations, executive compensation, wage and salary administration, job evaluation, performance management, recruitment and selection and employment equity/human rights.
Labourer	700.792.431	Performs general labour work & assists other construction trades as required. The work involves material handling; hand excavation/backfill; operating equipment; demolition of structures including jack hammering to break up concrete; operating small tools; intermittent tractor/forklift/Bobcat operation; janitorial tasks, flagging, traffic control, equipment monitoring; assisting with formwork, scaffold erection/dismantling; and other miscellaneous labour related tasks as required.
Lineman - Journeyman	920.788.410	Responsible for the installation, maintenance, removal, and inspection of transmission/distribution power lines. Typically requires 4 years of experience and certification as a Power Line Technician (or equivalent).
Lines Apprentice	999.999.113	A four year apprenticeship leading to a Power Line Technician position.
Manager of Construction	708.100.220	Responsible for providing construction management and supervision within the construction group. Administers construction contracts. Is accountable for construction costs, schedules, safety, product quality and environment performance. Provides input into Project Execution Plans and the associated schedules and estimates. Usual qualifications include 10 to 12 years of experience including supervisory experience. Requires experience in construction management and supervision of various trades.
Operations Manager	700.793.240	Manage and supervise trade, technical and clerical staff. Develop work programs, organize schedules, provide instructions, guidance and checks, monitor work to ensure work quality and accuracy and in conformity to governing regulations. Ensure the administration of procedures, applicable legislation and collective agreements are met. Administer and control contract work. Review work methods, ensure appropriate training. Develops, maintains and enhance customer relationships through direct contact both internally and externally. This position is non-represented. Areas of accountability could be managing staff responsible for operating transmission or distribution systems, the execution of protection, control and station maintenance work programs or managing staff responsible for electrical services such as new connections/upgrades, trouble call/storm restoration or forestry work programs.
Protection and Control Technician	999.999.004	Perform initial inspections, conduct trouble-shooting and preventative maintenance, carry out modifications and repairs as required, on all types of protection, telecommunications, metering and control equipment which comes under Protection and Control (P&C) jurisdiction. Discuss and review results with supervisor, if the equipment is highly critical from the standpoint of system operation, before putting the equipment into service.

Benchmark Job	Survey Code	Generic Description
Regional Maintainer - Electrical	999.999.007	Responsible for the general maintenance and repair work on electrical systems and equipment at various geographical locations. Requires overhauling, maintaining and inspecting equipment such as conductors & insulators i.e. batteries, station bus, cable, compressed air systems, fire protection equipment switchgear i.e. circuit breakers, load interrupters metalclad switchgear, oil circuit breakers, SF6 breakers, air blast breakers, transformers, rotating machines, distribution stations & equipment. Has the necessary knowledge of the trade theory, operating principles, charts, tables, testing equipment and other reference works, to test, dismantle, repair, clean and assemble station electrical equipment within the required specifications. Requires certification as a construction and maintenance electrician. Also performs mechanical and protection and control work.
Regional Maintainer - Lines	999.999.006	Construct and maintain transmission and distribution lines and associated apparatus. Maintain power service to electrical customers. Understands and is able to operate the tools of his/her trade, and is familiar with the various instruments, i.e. voltmeters, ammeters and ohmmeters. Must be familiar with hydraulically-operated articulated or telescopic aerial devices. Must provide at own expense any tools listed for the classification if required in his/her work in accordance with the attached tool list. This classification also includes the requirement to hold a Power Line Technician certification (or equivalent).
Regional Maintainer - Lines (Supervisory)	999.999.008	This position is responsible for the safety, quality and quantity of the work performed by his/her crew. They plan work including staffing requirements, assigning work, coordinate work with other work groups, ensure proper work practices are followed, report on work performed and engage in good public relations. He/she performs the following physical work activities. Construct and maintain transmission and distribution lines and associated apparatus. Maintain power service to electrical customers. Also responsible for contract monitoring and lead hand responsibilities.
Regulatory Director	110.200.130	Executive with primary responsibility for preparing, managing, and leading company's testimony in utilities rate cases before local, regional or federal agencies. Responsibilities include development of all research associated with regulatory activities including activity across other regulatory entities and maintaining relationship with all regulators. Develops cost factors in association with utilities rate cases, may or may not, be involved in delivery of testimony. Typically reports to a Top Legal Executive, Chief Operations Officer or a Top Utilities Executive.
Senior Legal Counsel	115.100.340	Responsible for providing management and employees with advice on a broad range of moderately complex conflicting legal principles. The applicable laws and regulations are numerous and varied, and present difficult problems of interpretation. Applies independent judgement in recommending a course of action for a client department, providing input as to the ramifications of a course of action, a legal decision, or a new piece of legislation. Usual qualifications include a law degree, membership in a law society/bar association and/or other relevant jurisdiction with a minimum of 8 year's related experience.
Senior Protection and Control Supervisor	999.999.005	Provide advice and guidance to field and support groups on matters related to the work programs such as protection, instrumentation, control and telecommunications pertaining to the protection, operations, control and maintenance of the electrical power system. Also may participate in the development of standards and procedures. Minimum of 8 years' experience. Supervise staff engaged in the inspection and testing of electrical equipment to verify the equipment meets specified requirements and regulations.
Service Dispatcher	430.612.340	Responsible for handling incoming consumer calls to schedule and dispatch service technicians to problem areas (including high voltage switching). Maintains documentation of crew activities for continuous knowledge of line and substation work. Key coordinator during power failures provides notification to internal and external customers regarding restoration of power services.
Stock Keeper	999.999.009	Receives, receipts, stores, issues and ships materiel used in operations. Manages materiel, in accordance with established practices and regulations. Is responsible for materiel under his/her control. Performs maintenance, not requiring formal trades qualifications, and assists in tasks where unskilled or semi-skilled ability is required.
System Operator (Controller)	999.999.010	Monitor and operate the transmission/distribution system assets on a 24-hour basis. Determine condition and recommend on availability of equipment. Carry out Manual Block and Rotational Load Shedding Schedules procedures. Monitor, approve and report LV - load transfers. Direct / monitor personnel on a 24 hour basis (i.e. - switching agents, field crews) in the operation of the Transmission / Distribution network system assets. Troubleshoot & sectionalize for low voltage feeder faults.

# APPENDIX C

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## Detailed Compensation Benchmarking Methodology

Summarized in this appendix is supporting descriptions of how Mercer determined values for each of the major components of compensation. Specifically:

**Base Salary/Wage** – Annual base salary at October 1, 2017. If an hourly rate was reported, Mercer annualized the value by multiplying the standard number of hours per week by 52 weeks per year. If a weekly rate was reported, Mercer annualized the value by multiplying by 52 weeks per year.

**Total Cash Compensation** - Base salary *plus* most recent short-term incentive or bonus paid/lump sum.

**Benefits and Pensions** – To value benefit and pension programs, Mercer applied a relative value process to a set of standard employer paid cost factors, plus actuarial and demographic assumptions to measure all financially significant features of benefit and pension programs based on open and closed plans. See detailed methodology below.

**Total Compensation** - Total cash compensation *plus* estimated annual value of the most recent long-term incentive grant (i.e., expected value of stock options or share awards) and pensions and benefits.

Detailed Benefits and Pension Methodology – Total remuneration includes the following values for benefits and pensions:

- Mercer's relative value process applies a broad set of standard cost factors, plus actuarial and demographic assumptions to measure all of the financially significant features of benefit programs on a benefit line basis.
- Effectively, this process isolates the plan design and removes variable factors such as historical experience, demographics, and utilization trends specific to each participant in the study. For example, if two survey participants have an identical benefit offering, the values will be equal regardless of the actual plan costs to each of the employers.

## Aligning Values with Hydro One's Actual Costs

### Participation & Anti-Selection:

#### ***Active Flex Benefits:***

- Participation: Mercer uses a standardized set of participation assumptions for all participants that vary only by the number of options that are offered under the plan. Therefore, two identical flex programs will produce similar relative Total Values.
- Anti-Selection: A unique feature of flex plans is that employees who choose richer options are likely to be higher claimers than those choosing poorer options. This is reflected within our methodology by increasing the value of the richer options and reducing the value of the poorer options. The final relative values of the flex plan are a weighted average of the values of each of the options.
- Optional plans that are fully employee-paid (such as optional life) are excluded from the review.
- Low value core plans / catastrophic core plans and spousal top-up plans are excluded from the valuation.

### Projection Methodology for Pension Plans

#### ***Defined Benefit Plans***

- For defined benefit plans, annual service costs were estimated for each company's plan design at various earnings levels using a common sample employee demographic (age and years of service). The annual service costs were converted into company provided values by deducting any required employee contributions under each plan. The resulting company provided values were expressed as a percentage of earnings to be applied to the earnings associated with each benchmark job.

#### ***Defined Contribution Plans***

- For defined contribution benefit plans, the company provided value was set equal to the company contributions.
- Where employees are entitled to choose the level of their contributions, employees were assumed to contribute at the level that would maximize company contributions.

## **Projection Methodology for Post-Retirement Non-Pension (PRNP)**

Employee-specific factors including earnings and service are projected to each of the assumed retirement ages at which point the benefit payable is determined, actuarially valued and discounted with interest to the current age of the employee. The resulting values are split pro-rata on service into the benefit in respect of past service and the benefit in respect of future service, and the future service benefit value is converted to a level percentage of future pensionable earnings.

- The results are weighted by the assumed retirement rates and combined to produce a single value of future benefit accruals, as a percentage of future earnings, per member.
- Benefits are projected both before and after retirement based on benefit-specific (e.g. medical, dental) inflation assumptions.
- Benefits are coordinated with provincial medical and drug plans.
- Lifetime maximums are reflected where applicable.

### ***Flex Premium Cost Sharing & Credit Allocation:***

- Cost sharing is determined using each participant's actual price tag and credit formula.
- Assumptions are made as to where credits would commonly be used, unless they are allocated to specific benefits. These assumptions coordinate with the standardized participation assumptions outlined earlier.

### ***Standard Demographic Assumptions:***

- A common population reflecting the general demographics of a Canadian workforce group and adjusted to more closely mirror Hydro One's workforce is used in the analysis.
  - This population reflects a group of employees with an average age of 40 and average service of 12 years.
- For Pension and Post Retirement Non-Pension benefits, the above population is assumed to retiree approximately as follows:
  - 25% of the group retire at age 55
  - 60% of the group retire at age 60
  - 15% of the group retire at age 65
  - 70% of the active members are assumed to be married over their career while 90% of members are assumed to be married at the time of their retirement

***Other Actuarial Assumptions:***

- The following assumptions were used in the review:
  - Discount rate: 4.00% per annum
  - Inflation: 2.00% per annum
  - YMPE Increase: 3.00% per annum
  - Salary Increase: 4.00% per annum
  - Post Retirement mortality: 100% of CPM 2014 Public Sector Mortality projected with CPM-B Scale
  - Termination rates of 2% each year prior to age 55 (for pension values)
  - Medical and Dental inflation/utilization increases



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FORM A

Proceeding:.....

ACKNOWLEDGMENT OF EXPERT'S DUTY

1. My name is .....Iain Morris.....(name). I live at 368 Beresford Avenue (city), in the ...City of Toronto..... (province/state) of .....Ontario.....
  
2. I have been engaged by or on behalf of ..Hydro One Networks Inc. (name of party/parties) to provide evidence in relation to the above-noted proceeding before the Ontario Energy Board.
  
3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:
  - (a) to provide opinion evidence that is fair, objective and non-partisan;
  - (b) to provide opinion evidence that is related only to matters that are within my area of expertise; and
  - (c) to provide such additional assistance as the Board may reasonably require, to determine a matter in issue.
  
4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

Date ..... May 22, 2018 .....

  
Signature

## BIOGRAPHY IAIN MORRIS

### • ABOUT

- Iain is a Partner in Mercer's Career Business in Toronto. He advises large and complex organizations on the development and implementation of total rewards and EVP strategies and programs

### • EXPERIENCE/CLIENTS

- Iain's primary areas of expertise include incentive plan design, global job levelling and EVP consulting. He also has substantial experience in rewards compliance and complex cost analyses and benchmarking to support rate cases in the energy sector
- Iain has worked with organizations across most industry sectors including: retail, consumer products, financial services, manufacturing, and professional services during his 35+ years rewards consulting career

### • EDUCATION

- Iain is a graduate of Queen's University. He is frequently quoted in industry and business publications on total rewards and other human resource issues.



IAIN MORRIS  
Partner

An aerial photograph of a multi-lane highway interchange. The highway runs diagonally from the top right towards the bottom left. Several vehicles, including a white car, a blue car, and a black car, are visible on the road. The surrounding area includes green grass, a rocky embankment, and a paved road. A large white rectangular box is overlaid on the top left portion of the image, containing the title text.

# Hydro One PWU Benchmarking



# Segmented Workforce Philosophy

## Comparator Group Approach and Criteria

Hydro One’s comparator groups have been differentiated to reflect the segmented labour markets for talent, i.e., Operations and Core Services roles, and will be applied consistently for the following employee groups to ensure a consistent end-to-end approach for understanding market position holistically:

- Executives
- Management Group
- PWU represented roles
- Society represented roles (*benchmarking has yet to commence*)

	Segment Definition	Comparator Group Selection Criteria
Operations	<ul style="list-style-type: none"> <li>▪ Requires specific education, skills and knowledge in a professional area, directly related to concepts and methods associated with the transmission, distribution and regulation of power. Examples include: Operations, Engineering, Skilled Trades, Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Predominant focus on industry/nature of work:</i> reflects organizations where comparable specialized skill sets reside</li> <li>▪ <b>Industry:</b> Utility</li> <li>▪ <b>Geography:</b> Canada, with &lt;30% Alberta representation</li> <li>▪ <b>Size:</b> Revenue size &gt; \$500M</li> <li>▪ <b>Ownership:</b> Balance of public and private-sector ownership models</li> </ul>
Core Services	<ul style="list-style-type: none"> <li>▪ Roles requiring education, skills and knowledge not specific to the transmission, distribution and regulation of power. Examples of such functions include Finance, Human Resources and Information Technology</li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>Predominant focus on range of Ontario talent sources:</i> incorporates a variety of organizations based on labour market – assumes an Ontario labour market and recognizes the importance of Hydro One as an Ontario employer</li> <li>▪ <b>Industry:</b> General Industry (<i>excluding subsidiary Retail and Consumer Products</i>)</li> <li>▪ <b>Geography:</b> Ontario-based employers</li> <li>▪ <b>Size:</b> Private sector: &gt;\$500M, Public sector: &gt;\$100M &amp; Subsidiaries: &gt;\$1B</li> <li>▪ <b>Ownership:</b> All structures</li> </ul>

*A detailed company listing of both peer groups are noted in Appendix I*

## Background and Context

Willis Towers Watson was engaged by Hydro One to benchmark its represented roles. This preliminary report provides competitive market data for Hydro One's PWU represented roles

### Current Workforce Population Composition\*

Hydro One Employee Group	Employee Distribution		Total 2016 Payroll Costs (in Millions)
	# of Employees	% of Total	
Management and Non-Represented Employees	762	7.4%	\$105.6
<b>Represented Employees (including Casual and Hiring Hall)</b>	<b>9,569</b>	<b>92.6%</b>	<b>\$806.6</b>
Total	10,331	100%	\$912.2

PWU population accounts for approximately **80%** of the represented population. Society represents approximately **20%**

The represented population accounts for over **90%** of total Hydro One employees, accounting for **88%** of total 2016 payroll.

\*Source: Hydro One 2016 Actual Payroll Summary  
Society roles to be benchmarked at a later date



# Background and Context

Willis Towers Watson benchmarked over 90% of Hydro One's PWU represented workforce in this review

## Hydro One PWU workforce summary

PWU Segment	N count	% of PWU Incumbents benchmarked
Core Services	533	13%
Operations	3711	87%

Over 90% of all PWU represented staff are in jobs included in the benchmarking analysis (4244 of 4671)

The prevalence of represented roles matched to Willis Towers Watson's compensation surveys varies significantly across the segmented peer groups

## Peer Group Summary Statistics

Hydro One Peer Group	Prevalence of Annual Incentive Plan (AIP)*	% of unionized roles in the survey
Core Services	60%	9%
Operations	80%	56%

Broad-based AIP's are common among western-based utility comparators as a means to remain competitive with the oil & gas sector

Salary surveys are typically used as a means to review the competitiveness of an organization's non-represented workforce. A higher proportion of unionized roles are prevalent in the operations peer group (a reflection of the nature of work)

\* Represents the percentage of peer companies offering a broad-based AIP (levels below Management & Professional roles)

# Hydro One Salary Schedules

- PWU compensation is administered across a wide range of salary schedules that create internal equivalencies between jobs that are typically differentiated in the market place. Market benchmarking results provide some indication as to the differences
- At a high level, a summary of the typical titles and types of roles by schedule and by segment are summarized below:

PWU Schedule	Typical Titles by PWU Schedule
	Operations & Core Services
<b>Schedule 20</b>	Clerical/Technical/Technologist
<b>Schedule 21</b>	Helicopter Positions
<b>Schedule 25</b>	Trades
<b>Schedule 26</b>	Working Supervisors
<b>Schedule 27</b>	Motive Power Trades
<b>Schedule 28</b>	Regional Maintainers
<b>Schedule 30</b>	Controller/Dispatcher
<b>Schedule 32</b>	Trades - Services
<b>Schedule 50</b>	Certified Trades (other than civil trades)
<b>Schedule 86/87</b>	University/College Students

## Benchmarking Methodology

- PWU job steps within each schedule have been matched to a comparable job within Willis Towers Watson's Compensation Database, based on segmented peer groups outlined on Page 2
- For the purposes of this internal exercise, an additional comparator group is used for the Core Service segment which reflects the utility and energy sector companies used to assess operations jobs. This peer group is not aligned with the segmented compensation philosophy, nor does it reflect direct competitors for talent in Ontario for these roles. This perspective is provided as an additional data point, as it reflects a highly unionized sample
- The following pages outline market comparison as follows:
  - **Operations Segment** – aligned to the agreed operations peer group
  - **Core Services (Primary Comparison)** – aligned to the agreed core services peer group
  - **Core Services (Secondary Comparison)** – reflecting core services roles (i.e., clerical positions), assessed against companies in the Operations peer group
- All market data is presented on a base salary and total target cash compensation basis as follows:

Compensation Element	Hydro One	Market
Base salary	Actual base salary	Actual base salary
Total Target Cash Compensation	Actual base salary + actual share grant plan award ( <i>target 2.7% of salary</i> )	Actual base salary + target incentive plan awards



# Executive Summary

- Market Compensation benchmark results have been provided on a segmented basis for the benchmarked PWU roles, covering 90% of the PWU represented workforce

- On an overall basis, Hydro One's target total cash is, on average positioned at market (within +/- 10%) of its 50<sup>th</sup> percentile target market reference

Competitive Analysis

Hydro One Segment	% +/- Target Market Positioning		Employee Distribution
	Base Salary	Target Total Cash (TTC)	
Operations	-4%	-8%	87%
Core Services	63%	64%	13%
<b>Overall</b>	<b>9%</b>	<b>7%</b>	<b>100%</b>

Over **90%** of all PWU represented staff are included in the benchmarking analysis (4244 of 4671 incumbents)

Note: Overall market positioning represents an incumbent weighted average spanning both employee segments

Compensation Element	Hydro One	Market Data
Base salary	Actual base salary	Actual base salary
Total Target Cash Compensation	Actual base salary + actual share grant plan award (target 2.7% of salary)	Actual base salary + target incentive plan awards

Market data were sourced from Willis Towers Watson's 2017 General Industry and 2017 Energy Services, Middle Management, Professional and Support (MMPS) database

# Competitive Positioning

## Detailed Summary by Schedule

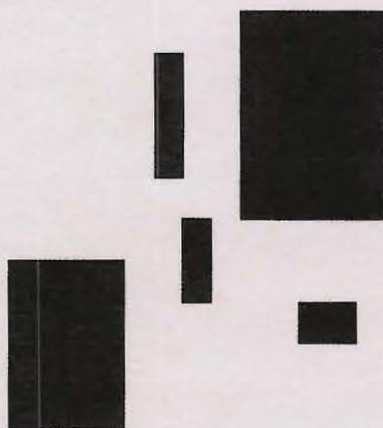
PWU Schedule	Average Competitive Positioning vs. Market Median							
	Operations & Core Services		Operations		Core Services (Primary)		Employee % Distribution	
	Base Salary	Target Total Cash (TTC)	Base Salary	Target Total Cash (TTC)	Base Salary	Target Total Cash (TTC)	Operations	Core Services
Schedule 20	26%	25%	6%	5%	78%	77%	18%	8%
Schedule 21	-	-	-	-	-	-	0%	0%
Schedule 25	7%	-18%	7%	-18%	-	-	2%	0%
Schedule 26	-11%	-18%	-11%	-18%	-	-	4%	0%
Schedule 27	-15%	-14%	-15%	-14%	-	-	2%	0%
Schedule 28	-12%	-14%	-12%	-14%	-	-	36%	0%
Schedule 30	-	-	-	-	-	-	3%	0%
Schedule 32	43%	47%	-	-	43%	47%	0%	2%
Schedule 50	-2%	-5%	-11%	-16%	45%	46%	22%	3%
Schedule 86	-	-	-	-	-	-	0%	0%
Schedule 87	-	-	-	-	-	-	0%	0%
<b>Overall</b>	9%	7%	-4%	-8%	63%	64%	87%	13%

### Hydro One PWU workforce summary

PWU Segment	N count	% of PWU Incumbents benchmarked
Core Services	533	13%
Operations	3711	87%

## Appendix I

### Comparator Groups by Segment





## Peer Group – Operations

For roles requiring an industry focus

Utilities Peer Group (n=21)		
Alberta Electric System Operator	Emera Inc.	NB Power
AltaLink	Enbridge Inc.	Nova Scotia Power
ATCO Ltd.	ENMAX Corporation	Ontario Power Generation
BC Hydro Power & Authority	EPCOR Utilities Inc.	Spectra Energy Transmission
Bruce Power LP	FortisAlberta Inc.	Toronto Hydro
Capital Power Corporation	GE Energy	TransAlta Corporation
Corix Group of Companies	Hydro Quebec	TransCanada Corp.

Percentile Statistics	Revenue	Assets
25 <sup>th</sup> Percentile	\$1,568,050,000	\$5,047,225,000
50 <sup>th</sup> Percentile	\$2,801,000,000	\$10,052,937,500
75 <sup>th</sup> Percentile	\$4,965,000,000	\$29,830,750,000

<b>Hydro One</b>	<b>\$6,500,000,000</b>	<b>\$25,300,000,000</b>
<i>Percentile Positioning</i>	86P	72P

Ownership Structure	% of Total
Government Agency	38%
Public Parent	28%
Wholly Owned Subsidiary	24%
Joint Venture	5%
Private Parent	5%

# Peer Group – Core Services

## General industry focus

Core Service Peer Group (n=93)			
AIG Insurance Company of Canada	CPP Investment Board	Johnson and Johnson Canada	RGA Canada
Air Canada	Eaton Canada	Kinross Gold	RioCan Real Estate Investment Trust
Algonquin Power and Utilities Corp.	Economical Insurance	LifeLabs	Rogers Communications
Allstate Insurance Company of Canada	Element Fleet Management	Loblaw Companies Limited	Royal Bank of Canada
Aviva Canada Inc.	Export Development Canada (EDC)	LoyaltyOne Co.	RSA
Avnet International Canada	Facebook, Inc. (Canada)	MacDonald, Dettwiler and Associates Ltd.	Samuel Son and Co.
Bank of Montreal	FCA Canada Inc.	Magna International Inc.	Scotiabank
Bayer Inc.	Ford Motor Company of Canada, Limited	Manulife Financial Corporate	Stantec Inc.
Bell Canada	Four Seasons Hotels and Resorts	Maple Leaf Foods	Sun Life Financial
Bunge Canada	GE Aviation Canada	McCain Foods Limited	TD Bank Financial Group
Canada Post Corporation	General Dynamics Land Systems - Canada	Microsoft Canada	TELUS Corporation
Canadian Imperial Bank of Commerce	General Electric Canada	Molson Coors Canada	The Co-operators Group Limited
Canadian Natural Resources Ltd.	Gerdau Long Steel North America	Munich Reinsurance Company of Canada	The Empire Life Insurance Company
Canadian Nuclear Laboratories	Gordau Food Service Canada	NAV Canada	TMX Group Limited
Canadian Tire Corporation	Great Canadian Gaming Corp.	Nissan Canada, Inc.	Toronto Hydro
Canadian Tire Financial Services	Great-West Lifeco Inc.	Northbridge Financial Corporation	Travelers Insurance Company of Canada
Capital One Canada	Holt Renfrew	Novelis Inc.	Treasury Board of Canada Secretariat
CBC/Radio Canada	Home Capital Group	Ontario Power Generation	Univar Canada
Celestica Inc.	HP Canada Co.	Ontario Teachers' Pension Plan	University Health Network
CH2M Hill Canada	Husky Injection Molding Systems Ltd.	Parmalat Canada	VIA Rail Canada Inc.
Chubb Insurance Company of Canada	Independent Electricity System Operator	PepsiCo Canada	Workplace Safety & Insurance Board
City of Mississauga	Intact Financial Corporation	Pfizer Canada Inc.	
CNH Industrial Canada	Investors Group Inc.	Purolator Inc.	
Compass Group Canada	John Deere Canada ULC	Revera Inc.	

Percentile Statistics		Revenue	Assets
25 <sup>th</sup> Percentile		\$1,201,145,500	\$2,500,773,000
50 <sup>th</sup> Percentile		\$2,271,811,000	\$8,020,730,000
75 <sup>th</sup> Percentile		\$7,984,113,000	\$28,188,750,000

<b>Hydro One</b>	<b>\$6,600,000,000</b>	<b>\$25,300,000,000</b>
<i>Percentile Positioning</i>	73P	74P

**2019 Team Scorecard**

Corporate Goal	Component Weight	Definition	Measure	Sub Component Weight	2019 Performance Levels		
					Threshold	Target	Maximum
<b>Health &amp; Safety *</b>	10%	Recordable Incidents	Incidents per 200,000 hours	100%	1.11	1.05	0.99
	25%	Transmissions (Tx) Reliability – Average duration of unplanned interruptions to multi-circuit (mc) supplied delivery points (SAIDI)	System Average Interruption Duration Index - mc (minutes)	25%		8.1	6.3
Distribution (Dx) Reliability – Average duration of interruptions in hours that a customer can expect to experience (SAIDI)		System Average Interruption Duration Index (hours)	25%	8.4	7.0	6.0	
Tx In-Service Additions - Delivery Accuracy, ability to deliver to a budget		Variance (%) to approved budget of \$951M	25%		+/- 6%	+/- 4%	+/- 1%
Dx In-Service Additions - Delivery Accuracy, ability to deliver to a budget		Variance (%) to approved budget of \$556.5M	25%		- 5% / + 4%	- 3% / + 2%	- 1% / + 1%
<b>Net Income</b>	30%	Net Income to Common Shareholders	\$M	100%		Redacted	
<b>Productivity</b>	10%	Savings in \$M	\$M	100%	\$164.1	\$193	\$222
<b>Customer</b>	25%	Residential & Small Business	Customer Satisfaction	40%		77%	80%
		Transmission Connected & Local Distribution Companies (LDCs)	Customer Satisfaction	40%		90%	92%
		Commercial and Industrial	Customer Satisfaction	20%	85%	77%	80%

\* If the company has a fatality, the attained Safety measure will be reduced to 0% based on the findings of the System Investigation 73%

Compensation Costs 2014-2022

Transmission Unrepresented	2014	2015	2016	2017	2018	2019	2020	2021	2022
Base Pay	33,396,323	34,508,999	33,641,927	38,772,661	36,544,290	38,524,614	43,137,614	45,511,365	45,048,884
Burdens	22,435,650	23,448,136	17,666,653	19,961,342	15,690,642	16,363,898	18,603,459	19,927,923	20,043,316
Other Allowances	3,452,267	2,367,920	3,296,601	3,983,397	5,723,344	3,596,819	4,021,881	4,237,275	4,194,217
STI	4,055,590	4,414,248	4,555,907	7,257,372	6,297,493	4,618,185	5,308,380	5,674,271	5,630,422
LTI	-	-	241,898	2,350,267	3,730,541	632,252	984,137	1,070,633	847,416
ESOP	-	-	774,963	886,803	540,602	1,771,039	1,963,382	2,046,258	1,998,514
<b>Transmission Unrepresented Total</b>	<b>63,339,829</b>	<b>64,739,302</b>	<b>60,177,949</b>	<b>73,211,844</b>	<b>68,526,913</b>	<b>65,506,806</b>	<b>74,018,853</b>	<b>78,467,725</b>	<b>77,762,769</b>

Headcount Total / FTE Transmission	331 / 285	313 / 277	319 / 275	357 / 308	360 / 290	307	334	345	336
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Distribution Unrepresented	2014	2015	2016	2017	2018	2019	2020	2021	2022
Base Pay	37,601,338	39,909,527	41,751,062	42,861,848	46,685,158	53,165,528	50,517,625	50,137,653	52,495,756
Burdens	25,260,579	27,117,681	21,925,067	22,066,579	20,044,720	22,582,842	21,786,151	21,953,622	23,356,606
Other Allowances	3,886,951	2,738,490	4,091,222	4,403,509	7,119,612	4,963,755	4,709,947	4,668,000	4,887,548
STI	4,578,312	5,117,332	5,712,824	8,142,916	7,564,939	7,819,365	7,464,246	7,442,291	7,839,166
LTI	-	-	249,764	2,535,402	4,764,858	1,870,199	1,374,938	1,140,263	1,210,384
ESOP	-	-	708,363	811,624	677,410	2,290,696	2,128,505	2,075,874	2,153,951
<b>Distribution Unrepresented Total</b>	<b>71,327,180</b>	<b>74,883,031</b>	<b>74,438,303</b>	<b>80,821,878</b>	<b>86,856,697</b>	<b>92,692,386</b>	<b>87,981,412</b>	<b>87,417,704</b>	<b>91,943,411</b>

Headcount Total / FTE Distribution	372 / 320	360 / 320	390 / 336	378 / 325	433 / 348	385	359	349	358
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Shareholder Allocated Unrepresented	3,089,801	2,615,254	9,597,169	9,660,409	13,112,786	23,748,837	24,288,558	24,881,971	25,490,502
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<b>TOTAL Unrepresented Labour</b>	<b>137,756,810</b>	<b>142,237,587</b>	<b>144,213,420</b>	<b>163,694,131</b>	<b>168,496,396</b>	<b>181,948,030</b>	<b>186,288,823</b>	<b>190,767,400</b>	<b>195,196,682</b>
<b>TOTAL Unrepresented Headcount / FTE/YE</b>	<b>703 / 605 / 584</b>	<b>673 / 597 / 585</b>	<b>709 / 611 / 596</b>	<b>735 / 633 / 627</b>	<b>793 / 638 / 641</b>	<b>692</b>	<b>693</b>	<b>694</b>	<b>694</b>

Transmission Society Represented	2014	2015	2016	2017	2018	2019	2020	2021	2022
Base Pay	67,393,687	66,909,144	65,179,365	72,517,488	70,250,107	83,210,524	91,575,087	96,245,302	95,123,535
Overtime	2,940,988	2,853,433	1,792,765	4,635,127	5,942,030	5,446,164	5,512,817	5,626,666	5,717,210
Lump Sums	-	-	618,063	1,312,146	-	-	-	-	-
Burdens	45,275,079	45,463,351	34,228,158	37,334,202	30,162,557	35,344,898	39,492,527	42,142,638	42,322,714
Share Grants	-	-	-	-	1,243,401	1,142,108	1,127,076	1,086,518	1,041,623
<b>Transmission Society Represented Total</b>	<b>115,609,754</b>	<b>115,225,928</b>	<b>101,818,351</b>	<b>115,798,964</b>	<b>107,598,095</b>	<b>125,143,693</b>	<b>137,707,506</b>	<b>145,101,125</b>	<b>144,205,083</b>

Headcount Total / FTE Transmission	660 / 608	636 / 595	624 / 569	685 / 627	678 / 607	699	755	778	754
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Distribution Society Represented	2014	2015	2016	2017	2018	2019	2020	2021	2022
Base Pay	75,689,891	77,185,295	79,896,923	76,588,835	84,388,775	104,483,618	98,355,141	97,474,771	101,619,468
Overtime	4,029,156	3,788,344	5,240,140	3,090,085	3,961,353	3,630,776	3,675,211	3,751,111	3,811,473
Lump Sums	-	-	757,623	1,385,814	-	-	-	-	-
Burdens	50,848,469	52,445,778	41,956,906	39,430,255	36,233,130	44,380,958	42,416,482	42,680,982	45,212,909
Share Grants	-	-	-	-	1,436,756	1,319,711	1,302,342	1,255,478	1,203,601
<b>Distribution Society Represented Total</b>	<b>130,567,516</b>	<b>133,419,417</b>	<b>127,851,592</b>	<b>120,494,989</b>	<b>126,020,015</b>	<b>153,815,064</b>	<b>145,749,176</b>	<b>145,162,341</b>	<b>151,847,451</b>

Headcount Total / FTE Distribution	741 / 683	734 / 687	764 / 698	724 / 662	815 / 730	878	810	788	806
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<b>TOTAL Society Represented Labour</b>	<b>246,177,271</b>	<b>248,645,345</b>	<b>229,669,943</b>	<b>236,293,954</b>	<b>233,618,109</b>	<b>278,958,757</b>	<b>283,456,682</b>	<b>290,263,465</b>	<b>296,052,535</b>
<b>TOTAL Society Represented Headcount / FTE/YE</b>	<b>1401 / 1291 / 1290</b>	<b>1370 / 1282 / 1285</b>	<b>1388 / 1267 / 1241</b>	<b>1409 / 1289 / 1288</b>	<b>1493 / 1337 / 1382</b>	<b>1,577</b>	<b>1,565</b>	<b>1,566</b>	<b>1,560</b>

<b>Transmission PWU Represented</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Base Pay	148,298,536	146,298,728	145,538,184	158,933,735	154,996,772	165,116,892	185,433,184	196,453,689	196,258,552
Overtime	28,468,143	24,728,915	15,636,038	36,486,246	46,990,537	43,212,279	44,677,729	45,980,102	47,243,112
Lump Sums	-	1,345,306	2,637,844	-	-	-	-	-	-
Burdens	99,626,956	99,406,896	76,427,624	81,823,907	66,549,350	70,135,836	79,969,621	86,020,581	87,320,079
Share Grants	-	-	-	3,778,937	3,382,051	3,283,939	3,254,468	3,156,020	3,007,446
<b>Transmission PWU Represented Total</b>	<b>276,393,635</b>	<b>271,779,845</b>	<b>240,239,691</b>	<b>281,022,825</b>	<b>271,918,710</b>	<b>281,748,947</b>	<b>313,335,001</b>	<b>331,610,392</b>	<b>333,829,189</b>

<b>Headcount Total / FTE Transmission</b>	<b>1695 / 1574</b>	<b>1687 / 1558</b>	<b>1687 / 1523</b>	<b>1917 / 1645</b>	<b>1951 / 1602</b>	<b>1,658</b>	<b>1,827</b>	<b>1,900</b>	<b>1,862</b>
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<b>Distribution PWU Represented</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Base Pay	166,554,177	168,767,821	178,400,835	171,624,220	177,985,805	181,793,217	177,529,193	171,927,760	173,268,590
Overtime	39,001,377	32,831,201	45,703,166	25,592,126	25,589,719	26,267,680	26,452,850	26,639,098	26,842,237
Lump Sums	-	1,551,922	3,233,471	-	-	-	-	-	-
Burdens	111,891,096	114,674,170	93,685,049	90,945,694	95,385,789	97,426,249	95,141,082	92,139,174	92,857,749
Share Grants	-	-	-	3,991,098	4,050,829	4,010,113	3,835,388	3,536,931	3,341,972
<b>Distribution PWU Represented Total</b>	<b>317,446,650</b>	<b>317,825,115</b>	<b>321,022,520</b>	<b>292,153,138</b>	<b>303,012,142</b>	<b>309,497,259</b>	<b>302,958,514</b>	<b>294,242,963</b>	<b>296,310,548</b>

<b>Headcount Total / FTE Distribution</b>	<b>1903 / 1768</b>	<b>1946 / 1798</b>	<b>2068 / 1868</b>	<b>2024 / 1737</b>	<b>2343 / 1925</b>	<b>2,081</b>	<b>1,963</b>	<b>1,924</b>	<b>1,990</b>
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<b>TOTAL PWU Represented Labour</b>	<b>593,840,285</b>	<b>589,604,960</b>	<b>561,262,211</b>	<b>573,175,963</b>	<b>574,930,853</b>	<b>591,246,206</b>	<b>616,293,515</b>	<b>625,853,355</b>	<b>630,139,737</b>
<b>TOTAL PWU Represented Headcount / FTE/YE</b>	<b>3598 / 3342 / 3271</b>	<b>3633 / 3356 / 3350</b>	<b>3755 / 3391 / 3411</b>	<b>3941 / 3382 / 3330</b>	<b>4294 / 3527 / 3529</b>	<b>3,739</b>	<b>3,790</b>	<b>3,824</b>	<b>3,852</b>

<b>Temporary Transmission</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Casual Trades	117,432,836	114,683,317	126,561,770	120,254,743	126,691,541	134,172,558	134,088,990	131,778,118	130,179,945
Unrepresented	1,037,380	1,062,954	1,429,735	659,976	839,280	223,899	248,376	261,054	259,128
Society Represented	2,184,967	2,099,278	1,820,954	1,537,491	1,117,826	562,536	580,988	477,407	472,698
PWU Represented	9,810,066	5,736,423	6,145,715	5,764,657	4,887,005	2,944,456	3,233,454	3,394,711	3,365,930
Overtime	10,311,405	8,102,478	4,863,103	10,950,269	18,688,912	13,415,649	13,206,444	13,486,554	13,549,763
Other Allowances	-	-	-	-	-	-	-	-	-
Burdens	8,939,318	8,507,504	9,066,085	8,652,709	9,331,999	9,361,693	9,492,662	9,436,827	9,413,095
<b>Temporary Transmission Total</b>	<b>149,715,971</b>	<b>140,191,954</b>	<b>149,887,362</b>	<b>147,819,845</b>	<b>161,556,564</b>	<b>160,680,791</b>	<b>160,850,913</b>	<b>158,834,670</b>	<b>157,240,559</b>

<b>Headcount Total / FTE Transmission</b>	<b>2819 / 1836</b>	<b>2619 / 1711</b>	<b>2701 / 1860</b>	<b>2319 / 1724</b>	<b>2171 / 1748</b>	<b>1,811</b>	<b>1,775</b>	<b>1,715</b>	<b>1,661</b>
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<b>Temporary Distribution</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Casual Trades	72,600,869	70,901,026	78,244,679	74,345,466	78,324,908	101,074,235	98,122,007	105,105,675	107,938,200
Unrepresented	1,165,082	1,226,207	1,752,571	697,029	1,008,195	281,140	266,765	264,389	276,824
Society Represented	2,453,938	2,421,692	2,232,127	1,623,810	1,342,802	706,350	624,003	483,506	504,978
PWU Represented	11,017,691	6,617,444	7,533,423	6,088,301	5,870,573	3,697,218	3,472,853	3,438,076	3,595,788
Overtime	14,126,632	10,757,207	14,214,548	7,300,180	12,459,275	8,943,766	8,804,296	8,991,036	9,033,176
Other Allowances	-	-	-	-	-	-	-	-	-
Burdens	6,436,628	5,938,744	6,694,070	5,599,152	6,069,464	7,096,338	6,979,716	7,471,414	7,727,044
<b>Temporary Distribution Total</b>	<b>107,800,840</b>	<b>97,862,320</b>	<b>110,671,417</b>	<b>95,653,937</b>	<b>105,075,217</b>	<b>121,799,047</b>	<b>118,269,640</b>	<b>125,754,096</b>	<b>129,076,009</b>



<b>Headcount Total / FTE Distribution</b>	<b>1895 / 1234</b>	<b>1732 / 1131</b>	<b>1794 / 1235</b>	<b>1845 / 1118</b>	<b>1721 / 1179</b>	<b>1,397</b>	<b>1,323</b>	<b>1,384</b>	<b>1,393</b>
<b>TOTAL Temporary Labour</b>	<b>257,516,811</b>	<b>238,054,274</b>	<b>260,558,779</b>	<b>243,473,782</b>	<b>266,631,781</b>	<b>282,479,838</b>	<b>279,120,554</b>	<b>284,588,766</b>	<b>286,316,568</b>
<b>TOTAL Temporary Headcount / FTE/YE</b>	<b>4714 / 3070 / 2191</b>	<b>4351 / 2842 / 2063</b>	<b>4495 / 3095 / 2278</b>	<b>4164 / 2842 / 2760</b>	<b>3892 / 2927 / 1984</b>	<b>3,208</b>	<b>3,098</b>	<b>3,099</b>	<b>3,054</b>

	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Total Capital Transmission Comp</b>	397,892,921	391,130,026	400,633,366	394,177,597	424,531,224	456,985,537	505,243,466	541,312,941	542,462,247
<b>Total OM&amp;A Transmission Comp</b>	207,166,269	200,807,004	151,489,987	223,675,880	185,069,058	176,094,700	178,968,609	170,959,233	168,791,018
<b>Total Transmission Compensation</b>	<b>605,059,190</b>	<b>591,937,030</b>	<b>552,123,353</b>	<b>617,853,477</b>	<b>609,600,282</b>	<b>633,080,237</b>	<b>684,212,075</b>	<b>712,272,174</b>	<b>711,253,265</b>

	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Total Capital Distribution Comp</b>	319,056,686	330,163,788	318,482,459	290,550,810	304,797,484	388,983,439	369,404,423	375,653,373	406,279,057
<b>Total OM&amp;A Distribution Comp</b>	308,085,500	293,826,096	315,501,373	298,573,133	316,166,588	288,820,317	285,554,318	276,923,731	262,898,362
<b>Total Distribution Compensation</b>	<b>627,142,186</b>	<b>623,989,883</b>	<b>633,983,832</b>	<b>589,123,943</b>	<b>620,964,071</b>	<b>677,803,756</b>	<b>654,958,741</b>	<b>652,577,103</b>	<b>669,177,419</b>

	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Total Capital Transmission + Distribution Comp</b>	716,949,607	721,293,813	719,115,826	684,728,407	729,328,708	845,968,976	874,647,889	916,966,314	948,741,304
<b>Total OM&amp;A Transmission + Distribution Comp</b>	515,251,769	494,633,100	466,991,359	522,249,013	501,235,646	464,915,017	464,522,927	447,882,964	431,689,380
<b>Total Shareholder Allocated Comp</b>	3,089,801	2,615,254	9,597,169	9,660,409	13,112,786	23,748,837	24,288,558	24,881,971	25,490,502
<b>Total Transmission + Distribution Compensation</b>	<b>1,235,291,177</b>	<b>1,218,542,167</b>	<b>1,195,704,354</b>	<b>1,216,637,829</b>	<b>1,243,677,139</b>	<b>1,334,632,830</b>	<b>1,363,459,374</b>	<b>1,389,731,249</b>	<b>1,405,921,186</b>

<b>Headcount FTE</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
MCP Represented Regular Employees	605	597	611	633	638	692	693	694	694
Society Represented Regular Employees	1,291	1,282	1,267	1,289	1,337	1,577	1,565	1,566	1,560
PWU Represented Regular Employees	3,342	3,356	3,391	3,382	3,527	3,739	3,790	3,824	3,852
Temporary and Casual Employees	3,070	2,842	3,095	2,842	2,927	3,208	3,098	3,099	3,054
<b>Total</b>	<b>8,308</b>	<b>8,077</b>	<b>8,364</b>	<b>8,146</b>	<b>8,429</b>	<b>9,216</b>	<b>9,146</b>	<b>9,183</b>	<b>9,160</b>

<b>Burdens Tx include:</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Pension	77,400,000	76,500,000	49,500,000	41,000,000	35,500,000	34,000,000	38,000,000	40,000,000	39,000,000
OPEB	59,600,000	52,400,000	57,500,000	61,200,000	55,800,000	50,000,000	55,000,000	58,000,000	59,000,000

<b>Burdens Dx include:</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Pension	90,100,000	94,700,000	54,100,000	43,400,000	37,000,000	36,000,000	35,000,000	34,000,000	34,000,000
OPEB	69,400,000	64,800,000	62,800,000	64,400,000	58,200,000	53,000,000	53,000,000	52,000,000	56,000,000

1 **PENSION COSTS**

2  
3 **1. INTRODUCTION**

4  
5 Hydro One Networks Inc. is a participant in the Hydro One Pension Plan (“the Plan”).  
6 The Plan is a contributory, defined-benefit pension plan whose members comprise  
7 represented employees of the Power Workers Union (“PWU”), the Society of United  
8 Professionals (“Society”), non-represented Management (“MCP”) employees, pensioners  
9 who were employees, and pensioners who are beneficiaries or surviving spouses of  
10 employees or pensioners.

11  
12 The Plan covers Hydro One and its subsidiaries. The Plan does not segregate assets in a  
13 separate account for individual subsidiaries, nor is the accrual cost of the benefit plans  
14 allocated to, or funded separately by, entities within the consolidated group. Accordingly,  
15 for Hydro One Networks, the Plan is accounted for as a defined contribution plan and no  
16 deferred pension asset or liability is recorded on Hydro One Network’s financial  
17 statements.

18  
19 Hydro One recovers its pension expense on a cash basis. Hydro One believes this method  
20 is more beneficial to its customers than the accrual basis because it results in lower costs  
21 recovered through rates. If Hydro One was to switch to the accrual basis, it would need  
22 to recover the current pension benefit regulatory asset over a 10 to 15 year period, thus  
23 resulting in the accrual basis costs being higher than the cash basis costs. The pension  
24 benefit regulatory asset had a balance at December 31, 2018 of \$547 million, and it  
25 represents the cumulative life to date difference between the cash basis and the accrual  
26 basis of the Plan. The cash basis is also more stable and predictable, allowing Hydro One  
27 to forecast the effect on rates for up to a three-year period.

Witness: Samir Chhelavda

**Table 1: Cash vs Accrual basis Pension Costs (\$ Millions)**

Pension Costs		2020		2021		2022	
		Cash	Accrual	Cash	Accrual	Cash	Accrual
OM&A	\$M	11	4	11	2	10	(1)
Capital	\$M	27	9	29	5	29	(1)
Recovery of Reg Asset (1)	\$M		29		29		29
	\$M	<b>38</b>	<b>42</b>	<b>40</b>	<b>36</b>	<b>39</b>	<b>27</b>

(1) Represents recovery of the \$547 million Pension Regulatory Asset at December 31, 2018, with an assumption that 45% of the Pension Regulatory Asset is attributable to Hydro One Transmission and is recovered over a period of 15 years.

Until recently, the OEB has allowed cash payments related to pension obligations to be recorded in rates in the following proceedings: RP-1998-0001; RP 2005-0020/EB-2005-0378; EB-2006-0501; EB-2008-0272; EB-2010-0002; EB-2012-0031; EB-2013-0416; EB-2014-0140; and EB-2016-0160. In its Decision and Order dated March 7, 2019 in respect of Hydro One’s application for distribution rates for 2018 to 2022 (“EB-2017-0049 Decision”), the OEB disallowed the recovery of pension costs on the grounds that the Plan was in a surplus position which the OEB implicitly concluded allowed Hydro One to take a pension contribution holiday. This finding is the subject of Hydro One’s motion to review and vary in EB-2019-0122 and an appeal to the Divisional Court which is being held in abeyance pending the outcome in EB-2019-0122. Section 2 below describes the conditions under which Hydro One is legally permitted to take a pension contribution holiday during the test period.

The pension cost allocated to Hydro One Networks is based on the ratio of base pensionable earnings for Hydro One Networks’ staff, as compared to the total base pensionable earnings for all of Hydro One employees. The method of allocation of the pension cost is consistent among all shared services costs, for operating and capital costs, and is consistent with the methodology reviewed in proceedings RP-2005-0020/EB-

Witness: Samir Chhelavda

1 2005-0378, EB-2006-0501, EB-2007-0681 and EB-2008-0272, EB-2009-0096, EB-2010-  
2 0002, EB-2012-0031 and EB-2014-0140, and EB-2016-0160.

3  
4 For Hydro One Transmission, the charge to be recovered through rates in 2020 is  
5 provided in Table 2.

6 **Table 2: 2020 Forecast Pension Costs (\$ Millions)**

2020 -Forecast					
Corporate Pension Costs		Transmission	Distribution	Other	Total
OM&A	\$M	11	18	2	32
Capital	\$M	27	20		48
	\$M	38	38	2	78

7  
8  
9 **2. PENSION COSTS RECOVERY**

10  
11 In its EB-2017-0049 Decision, the OEB disallowed the recovery of pension costs because  
12 there was “a significant surplus in its pension plan and there is no justification for  
13 continued inclusion of additional pension contributions in rates”.<sup>1</sup> The OEB implicitly  
14 concluded that a surplus allowed Hydro One to take a pension contribution holiday.

15  
16 Based on changes to the law relating to pension contribution holidays and the current  
17 funded status of the Plan, Hydro One would not be legally permitted to take a pension  
18 contribution holiday in 2021 and 2022 and may not be legally permitted to take a pension  
19 contribution holiday in 2020, as explained below.

20  
21 The obligation to make pension contributions is governed by the *Pension Benefits Act*  
22 (“PBA”) and the regulations under the PBA (the “Regulations”). Historically, an

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<sup>1</sup> EB-2017-0049 Decision, p. 94

Witness: Samir Chhelavda

1 employer could take a contribution holiday provided that a plan was fully funded on both  
2 a going concern and solvency basis<sup>2</sup> if a cost certificate is filed annually confirming the  
3 plan continues to be in a surplus position (the “Pre-May 1, 2018 Rules”).

4  
5 Effective May 1, 2018 pursuant to section 55.1 of the PBA and O. Reg 250/18, the  
6 Regulations were amended and then further amended on May 21, 2019 pursuant to O.  
7 Reg 105/19 (together, the “New Rules”). The New Rules provided generally that a  
8 private employer like Hydro One may only take a contribution holiday in a year if an  
9 actuary certifies the plan has a funded ratio of at least 105% calculated on a wind-up  
10 basis.<sup>3</sup>

11  
12 The current December 31, 2017 valuation report which is operative until December 31,  
13 2020<sup>4</sup> indicates that the Plan is only funded 73% on a wind-up basis, well below the new  
14 105% funding threshold required to take a contribution holiday under the New Rules. It  
15 is highly unlikely that the wind-up funded position of the Plan would improve to meet the  
16 new 105% threshold at any time during the test period.

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<sup>2</sup> “Going concern basis” valuations assume that a pension plan will continue indefinitely. The value of benefits is calculated using long-term assumptions that reflect the investment policy of the pension fund. “Solvency basis” valuations assume that the plan was terminated on a specific date. The value of benefits is calculated assuming members' benefits are settled through either a purchase of annuities or the transfer of commuted values on that specified date. The assumptions therefore reflect the estimated cost of annuities and the prescribed assumptions for commuted values and the interest rates tend to fluctuate on a monthly basis. Solvency valuations may exclude the value of future indexation of benefits and certain other benefits, which are required to be included in the wind up liabilities for purposes of the wind up valuation. [In Hydro One's case, the value of indexation is excluded in preparing the solvency basis valuation.]

<sup>3</sup> “Wind-up basis” valuations assume the plan is terminated and wound up on a specified date with all members' benefits being settled through either a purchase of annuities or the transfer of commuted values and the interest rates tend to fluctuate on a monthly basis. The assumptions therefore reflect the estimated cost of annuities and the prescribed assumptions for commuted values. The value of all benefits, including future indexation of benefits, is included in a wind up valuation.

<sup>4</sup> Exhibit F, Tab 5, Schedule 1, Attachment 1

1 Currently, the Pre-May 1, 2018 Rules govern the ability to take contribution holidays  
2 under the Plan. The New Rules will come into effect once a new valuation report for the  
3 Plan becomes operative. Once a new valuation report becomes operative, Hydro One  
4 will only be permitted to take a contribution holiday if the Plan has funded ratio of at  
5 least 105% on a wind-up basis.

6  
7 A new valuation report may become operative before the start of the test period of  
8 January 1, 2020 and will certainly be operative by December 31, 2020, which is the  
9 effective date of the next required valuation of the Plan. Therefore, assuming the Plan  
10 remains less than 105% funded on a wind-up basis, pension contributions will be required  
11 with no ability for Hydro One to take a contribution holiday during all of 2021 and 2022.  
12 Pension contributions may also be required during 2020 as well. This will depend upon  
13 (a) whether Hydro One elects to file a new valuation before December 31, 2020 as a  
14 prudent management decision and (b) the date on which the valuation report filed as part  
15 of the proposed Inergi/Vertex pension asset and liability transfer becomes operative as  
16 discussed below.<sup>5</sup>

17  
18 If FSRA approves the Inergi/Vertex pension transfer, Hydro One will be governed by the  
19 New Rules once the valuation report filed as part of the transfer application becomes  
20 operative. This could be retroactive to March 1, 2018 (the effective date of the transfer)  
21 or as late as the date the pension assets and liabilities are actually transferred (within 120  
22 days after FSRA's approval). For example, if the Inergi/Vertex pension transfer is

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<sup>5</sup> In the EB-2017-0049 Decision, Hydro One described that it was in-sourcing its call-centre, which at the time was outsourced to Inergi LP ("Inergi") (and had previously been outsourced to Vertex Customer Management (Canada) Ltd ("Vertex")). The in-sourcing transaction requires a transfer of pension assets and liabilities from the plans of Inergi and Vertex to the Plan. This transfer must be approved by the pension regulator (now the Financial Services Regulatory Authority ("FSRA")) under section 80 of the PBA. The proposed pension transfer is currently under consideration.

Witness: Samir Chhelavda

1 approved before September 1, 2019, the New Rules will apply by January 1, 2020 and  
2 Hydro One would, based on the current funded position of the Plan, not be in a position  
3 to legally take a contribution holiday in 2020. If the Inergi/Vertex pension transfer is  
4 approved after September 1, 2019, the Pre-May 1, 2018 Rules may continue to apply into  
5 2020 and a contribution holiday may be legally permissible.

6 In the result, assuming the Plan's funded status does not improve to 105% funded on a  
7 wind-up basis:

- 8
- 9 a) Hydro One will not be in a position to take a pension contribution holiday in  
10 2021 or 2022 once the New Rules apply; and
  - 11
  - 12 b) Hydro One may or may not be able to take a contribution holiday in 2020  
13 depending on whether the Pre-May 1, 2018 Rules or the New Rules apply at that  
14 time. This will be determined if and when FSRA approves the Inergi/Vertex  
15 pension asset transfer.
- 16

17 Hydro One proposes to track the difference between pension costs recovered in rates and  
18 pension payments made to the Plan and to dispose of the account balance at each annual  
19 update. Therefore, if Hydro One is able to take a pension contribution holiday in 2020,  
20 any over-collection in rates will be returned to ratepayers.

21

22

### 23 **3. ACTUARIAL CALCULATION**

24

25 The actuarial valuation for the Plan as at December 31, 2017 is provided as Attachment 1  
26 to this Exhibit. In April 2018, Hydro One filed this actuarial valuation with the Financial  
27 Services Commission of Ontario ("FSCO"), now known as FSRA. The valuation showed  
28 that the Plan had a surplus of \$812 million, on a going-concern basis. Although the

Witness: Samir Chhelavda

1 Hydro One Pension Plan has a positive surplus on a going concern and solvency basis,  
2 Hydro One Pension Plan is in a significant deficit position on a wind-up basis, -  
3 \$2,731,310,047 as of December 31, 2017.

4  
5 Starting in 2018, the required contribution for the Hydro One companies was set at \$71  
6 million, variable based on the level of base pensionable earnings.

7  
8 In accordance with applicable the Regulations, Hydro One makes all required  
9 contributions on a monthly basis.

10  
11 Hydro One's next triennial actuarial valuation is required by December 31, 2020. The  
12 valuation results will depend on investment returns, changes in benefits, and actuarial  
13 assumptions.

14  
15 During 2016, 2017 and 2018, actual contributions were \$108 million, \$87 million and  
16 \$75 million, respectively. Forecast 2019 contributions are \$71 million. Actual  
17 contribution requirements in 2019 and 2020 may differ depending on the level of base  
18 pension earnings used to compute the monthly contribution. The difference between the  
19 forecast and actual OM&A component of pension costs will be tracked in a variance  
20 account (see Exhibit H, Tab 1, Schedule 1).

Witness: Samir Chhelavda



1     **4.     PENSION PLAN GOVERNANCE AND PERFORMANCE**

2  
3     Hydro One is the Plan sponsor and administers the pension assets and obligations of the  
4     Plan. As of December 31, 2018, the Plan had a reported net asset value of \$7,209 million  
5     and about 13,402 members. Approximately 42% of the Plan’s members are active. The  
6     remaining Plan members are inactive, either retired, surviving spouses or beneficiaries of  
7     retirees, former employees eligible for a deferred pension, or members on long-term  
8     disability.

9  
10    The Fund has consistently outperformed the benchmark made up of passive market  
11    indices. In the period from June 29, 2001 (the Fund’s inception) to December 31, 2018,  
12    the Fund returned 6.95% annualized while the Fund’s target benchmark is 6.57%, thus  
13    outperforming its target benchmark return by 0.38%. The fund’s investments are divided  
14    into asset classes and each asset class has a corresponding market index (i.e. Global  
15    Equities market index is the MSCI ACWI). The actual performance of each asset class is  
16    then measured against this market index (policy benchmark). The Fund’s policy  
17    benchmark is a calculated weighted average benchmark based on the Fund’s strategic  
18    asset mix.

19  
20    **5.     DEFINED CONTRIBUTION PENSION PLAN**

21  
22    Effective January 1, 2016, Hydro One introduced a Defined Contribution Pension Plan  
23    (“the DC Plan”). The DC Plan allows eligible employees to contribute up to 6% of their  
24    pensionable earnings with a 100% match of contributions by Hydro One. The DC Plan is  
25    open to all new MCP employees, who are no longer eligible to participate in the Hydro  
26    One Pension Plan.

1 **6. OPEB COSTS**

2  
 3 Hydro One uses the accrual method of accounting for Other Post-Employment Benefit  
 4 (“OPEBs”) costs. Table 3 summarizes historical and forecast OPEB costs included in  
 5 rates. Please see Section 3.19 of Exhibit H, Tab 1, Schedule 2 for Hydro One’s proposed  
 6 regulatory treatment of its OPEB costs.

7  
 8 **Table 3: OPEB Costs Included in Rates (\$ Millions)**

9

OPEBs	Pre 2013	2013	2014	2015	2016	2017	2018	2019	2020	Total
Amounts included in Tx rates:										
OM&A	292	25	28	23	20	23	21	15	16	463
Capital (Note 1)	198	28	29	28	23	29	10	16	18	379
Deferral Account							22	19	21	62
<b>Sub-total</b>	<b>490</b>	<b>53</b>	<b>57</b>	<b>51</b>	<b>43</b>	<b>52</b>	<b>53</b>	<b>50</b>	<b>55</b>	<b>904</b>
Paid benefit amounts	150	19	20	20	19	19	21	26	28	322
Net excess amount included in rates greater than amounts actually paid	340	34	37	31	24	33	32	24	27	582

10  
 11  
 12 Note 1 – The capital component of OPEB costs is recovered over the useful life of the  
 13 assets to which it is capitalized and not in the years noted. Therefore, the Net Excess as  
 14 noted does not represent the excess recovery in each year.

15  
 16 Beginning in 2018, the capital component is impacted by the change in USGAAP for  
 17 which Hydro One requested an Other Post-Employment Benefit (OPEB) Cost Deferral  
 18 Account (EB-2017-0338). On May 10, 2018, the OEB approved the OPEB Cost Deferral  
 19 Account effective January 1, 2018 until the effective date of the next transmission  
 20 revenue requirement. On April 25, 2019, the OEB approved the continuation of the  
 21 OPEB Cost Deferral Account until the effective date of the revenue requirement in this  
 22 Application.

Witness: Samir Chhelavda

1 While capital expenditure amounts included in this Application are based on the  
2 assumption that Hydro One will be permitted to capitalize the non-service cost  
3 component of OPEBs (and therefore include the non-service portion of OPEB in capital  
4 project and program cost amounts), for the purposes of calculating revenue requirement,  
5 Hydro One has removed the non-service portion of OPEBs from rate base. Therefore, the  
6 revenue requirement does not include the non-service cost component for OPEBs. These  
7 amounts are tracked in the OPEB Cost Deferral Account. If the OEB does approve Hydro  
8 One's request to capitalize the non-service cost component of OPEBs, Hydro One will  
9 prepare an updated rate base during the draft rate order process reflecting this decision.

10  
11 Depending on the OEB's decision on the OPEB Cost Deferral Account and the treatment  
12 of the impact from the change in USGAAP on this Application, the impact would be as  
13 follows for 2020 from a revenue requirement perspective:

- 14 1. Capital component will increase by approximately \$21 million and the OPEB  
15 Cost Deferral Account will be reduced by the same amount of approximately  
16 \$21 million, if Hydro One is allowed to continue capitalizing its net periodic  
17 post-retirement benefit costs other than service costs by way of an OEB policy  
18 decision; or
- 19 2. Capital component will remain the same for 2020 as an equivalent amount is  
20 currently forecasted to be recorded in the OPEB Cost Deferral Account under  
21 the assumption that this account is approved for continuance by the OEB; or
- 22 3. In the case that continued capitalization is not approved and the OEB does not  
23 approve the OPEB Cost Deferral Account, the OPEB Cost Deferral Account will  
24 be reduced by approximately \$21 million for 2020 and OM&A expenditures  
25 will be increased by approximately \$21 million for 2020. There will be a  
26 reclassification from capital recorded in OPEB Cost Deferral Account to

- 1           4. OM&A of net periodic post-retirement benefit costs other than service costs.
- 2           The increased OM&A will result in a higher revenue requirement.

Private and Confidential

Delivered by Courier

April 30, 2018

**Canada Revenue Agency**  
Information Holdings  
Operations Section – Pension  
875 Huron Road, A-200  
Ottawa, ON K1A 1A2

**Hydro One Pension Plan (the “Plan”) – registration no. 1059104**

Dear Sir/Madam:

Please find enclosed the following with respect to the Plan:

- One copy of the Actuarial Valuation Report as at December 31, 2017; and
- One copy of the Actuarial Information Summary (“AIS”).

We confirm that the valuation report and AIS have also been filed with the Financial Services Commission of Ontario.

Please call if you have any questions.

Sincerely,



Davis Gonsalves

Enclosures

Copy: Robert Cultraro, Joanna Talbot – Hydro One  
David Kenny, Suzanne Jacques – Willis Towers Watson

Davis Gonsalves, FSA, ACIA  
Associate Director, Retirement

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Towers Watson Canada Inc.



HYDRO ONE INC.

HYDRO ONE PENSION PLAN

Actuarial Valuation as at December 31, 2017

April 30, 2018

Registration Number: 1059104

This document is being filed with the pension authorities as required by statute and contains confidential financial information regarding the plan, the plan sponsor, and the plan members. Therefore, pursuant to subsection 20(1)(b) of the *Access to Information Act (Canada)*, or a corresponding provision under any comparable federal or provincial legislation, a government institution shall not disclose this document to any party as a result of a request under the *Access to Information Act (Canada)* or other applicable legislation.

**WillisTowersWatson** 

## DISCLAIMERS

This document is an actuarial valuation report of a pension plan. It is technical in nature and the reader should seek expert advice to fully understand it. The actuarial results presented here are based on numerous economic and demographic assumptions as to future events. Emerging experience, differing from the assumptions, will result in gains or losses that will be revealed in future actuarial valuations.

This report is based on the terms of engagement listed in Appendix A.

This report is based on the premise that all the plan's assets, including any letters of credit, are available to meet the plan's liabilities included in this valuation.

This report is based on the premise that the plan remains a going concern. This report does not address the disposition of any surplus assets remaining in the event of plan windup. If an applicable pension regulator or other entity with jurisdiction directs otherwise, certain financial measures contained in this report, including contribution requirements, may be affected.

The results presented in this report have been developed using a particular set of actuarial assumptions. Other results could have been developed by selecting different actuarial assumptions. The results presented in this report are reasonable actuarial results based on actuarial assumptions reflecting our expectation of future events.

Future contribution levels may change as a result of future changes in the actuarial methods and assumptions, the membership data, the plan provisions and the legislative rules, or as a result of future experience gains or losses, none of which have been anticipated at this time.

The results were developed with various data as at the valuation date that were provided to us: plan membership data, plan assets data, plan provisions and statement of investment policy. Towers Watson Canada Inc. ("Willis Towers Watson") has relied on these data after verifying them and assessing their reasonableness. However, Willis Towers Watson has not independently audited these data.

The information contained in this report was prepared for Hydro One Inc., for its internal use and for filing with the Pension authorities, in connection with the actuarial valuation of the plan prepared by Willis Towers Watson. This report is not intended, nor necessarily suitable, for other parties or for other purposes. Furthermore, some results in this report are based on assumptions mandated by legislation. These results may not be appropriate for purposes other than those for which they were prepared. Willis Towers Watson is available to provide additional information with respect to this report to the above-mentioned intended users upon request.

The numbers in this report are not rounded. The fact that numbers are not rounded does not imply a greater level of precision than if the numbers had been rounded.

## Definitions:

**Pension authorities** means the Financial Services Commission of Ontario and the Canada Revenue Agency ("CRA").

**Pension legislation** means the *Pension Benefits Act (Ontario)* and Regulation thereto and the *Income Tax Act (Canada)* and Regulations thereto ("ITA").



# Table of Contents

<b>Introduction</b> .....	<b>3</b>
<b>Section 1 : Going Concern Financial Position</b> .....	<b>4</b>
1.1 <i>Statement of Financial Position</i> .....	4
1.2 <i>Reconciliation of Financial Position</i> .....	5
1.3 <i>Contributions (Ensuing Year)</i> .....	6
1.4 <i>Reconciliation of Prior Year Credit Balance</i> .....	7
<b>Section 2 : Solvency and Hypothetical Windup Financial Position</b> .....	<b>8</b>
2.1 <i>Statement of Solvency and Hypothetical Windup Financial Position</i> .....	8
2.2 <i>Determination of the Statutory Solvency Excess (Deficiency)</i> .....	10
<b>Section 3 : Contributions</b> .....	<b>11</b>
3.1 <i>Estimated Minimum Employer Contribution (Ensuing Years)</i> .....	11
3.2 <i>Estimated Maximum Employer Contribution (Ensuing Year)</i> .....	12
3.3 <i>Timing of Contributions</i> .....	12
<b>Section 4 : Actuarial Opinion</b> .....	Error! Bookmark not defined.
<b>Appendix A : Significant Terms of Engagement and Certificate of the Plan Administrator</b> .....	<b>15</b>
A.1 <i>Significant Terms of Engagement</i> .....	15
A.2 <i>Certificate of the Plan Administrator</i> .....	16
<b>Appendix B : Assets</b> .....	<b>17</b>
B.1 <i>Statement of Market Value</i> .....	17
B.2 <i>Asset Class Distribution</i> .....	18
B.3 <i>Reconciliation of Invested Assets</i> .....	19
B.4 <i>Development of the Going Concern Value of Assets</i> .....	20
<b>Appendix C : Actuarial Basis - Going Concern Valuation</b> .....	<b>21</b>
C.1 <i>Methods</i> .....	21
C.2 <i>Actuarial Assumptions</i> .....	22
C.3 <i>Rationale for Actuarial Assumptions</i> .....	25
<b>Appendix D : Actuarial Basis - Solvency and Hypothetical Windup Valuations</b> .....	<b>28</b>
D.1 <i>Methods</i> .....	28
D.2 <i>Solvency Incremental Cost Actuarial Method</i> .....	28
D.3 <i>Actuarial Assumptions</i> .....	29

*D.4 Rationale for Actuarial Assumptions* ..... 31

**Appendix E : Membership Data**..... 34

**Appendix F : Summary of Plan Provisions** ..... 39

*F.1 DB Provisions*..... 39

**Appendix G : Sensitivity Analysis and Other Disclosures**..... 49

*G.1 Sensitivity Information* ..... 49

*G.2 Solvency Incremental Cost* ..... 49

# Introduction

## Purpose

This report with respect to the Hydro One Pension Plan has been prepared for Hydro One Inc., the plan administrator, and presents the results of the actuarial valuation of the plan as at December 31, 2017.

The principal purposes of the report are:

- Ŷ to present information on the financial position of the plan on going concern, solvency and hypothetical windup bases; and
- Ŷ to provide the basis for employer contributions.

## Significant Events since Previous Actuarial Valuation (December 31, 2016)

There have been no changes to the plan provisions, legislative standards or to actuarial standards. Changes to the going concern basis, if any, are described in Appendix C. Changes to the solvency basis are described in Appendix D.

## Subsequent Events

We completed this actuarial valuation on April 10, 2018.

On May 19, 2017, the Ontario Ministry of Finance announced proposed reforms to the funding framework for defined benefit pension plans, and further details were released on December 14, 2017. Final regulations taking effect on May 1, 2018 were released on April 20, 2018. This report has been prepared on the basis that it will be filed with the Pension authorities before May 1, 2018 and is not subject to the new funding rules. The impact of the new funding rules will be reflected in a subsequent report, as may be required.

We understand that Hydro One Inc. is currently reviewing the target asset mix of the plan and may potentially implement changes after this report is filed. Any future changes to the target asset mix and any potential impact on the measurement of the plan's going concern liabilities and normal costs will be reflected in future valuations after those changes have been finalized.

Except as noted above, to the best of our knowledge and on the basis of our discussions with Hydro One Inc., no other events which would have a material financial effect on the actuarial valuation occurred between the actuarial valuation date and the date this actuarial valuation was completed.

## Next Valuation

The next actuarial valuation of the plan must be performed with an effective date not later than December 31, 2020.

# Section 1: Going Concern Financial Position

## 1.1 Statement of Financial Position

	December 31, 2017	December 31, 2016
<b>Going Concern Value of Assets</b>	\$ 6,932,459,000	\$ 6,514,349,000
<b>Actuarial Liability</b>		
Active and disabled members	\$ 1,894,495,063	\$ 2,004,991,863
Retired members and beneficiaries	4,188,945,730	4,031,088,676
Terminated vested members	37,189,476	44,570,154
<b>Total</b>	<b>\$ 6,120,630,269</b>	<b>\$ 6,080,650,693</b>
Additional voluntary contribution	0	20,000
<b>Total actuarial liability</b>	<b>\$ 6,120,630,269</b>	<b>\$ 6,080,670,693</b>
<b>Actuarial Surplus (Unfunded Actuarial Liability)</b>	<b>\$ 811,828,731</b>	<b>\$ 433,678,307</b>
Prior Year Credit Balance	(48,000,000)	(48,000,000)
<b>Actuarial Surplus (Unfunded Actuarial Liability) After Prior Year Credit Balance</b>	<b>\$ 763,828,731</b>	<b>\$ 385,678,307</b>
<b>Funded Ratio<sup>1</sup></b>	<b>112%</b>	<b>106%</b>
<b>Excess Actuarial Surplus<sup>2</sup></b>	<b>\$ 0</b>	<b>\$ 0</b>

**Note:**

<sup>1</sup> After reflecting prior year credit balance.

<sup>2</sup> Considered to be nil if there is a hypothetical windup or solvency deficit.

**Comment:**

Ŷ The prior year credit balance is employer contributions made prior to the actuarial valuation date that are in excess of the minimum required and are set aside as a reserve for application towards future contribution requirements.

## 1.2 Reconciliation of Financial Position

Actuarial surplus (unfunded actuarial liability) as at December 31, 2016 before reflecting the Prior Year Credit Balance		\$ 433,678,307
Net special payments		0
Application of:		
ÿ Actuarial surplus	\$ 0	
ÿ Prior year credit balance	0	0
Expected interest on:		
ÿ Actuarial surplus (unfunded actuarial liability)	\$ 22,984,950	
ÿ Net special payments	0	
ÿ Application of actuarial surplus	0	
ÿ Application of prior year credit balance	0	22,984,950
Plan experience:		
ÿ Investment gains (losses)	\$ 321,628,141	
ÿ Salary and YMPE gains (losses)	(36,538,815)	
ÿ Retirement gains (losses)	(39,877,877)	
ÿ Withdrawal gains (losses)	(4,811,955)	
ÿ Mortality gains (losses)	(4,475,926)	
ÿ Gains (losses) from contractual pension increases	27,142,635	
ÿ Miscellaneous liability gains (losses)	8,309,467	271,375,670
Change in actuarial assumptions		83,789,804
Actuarial surplus (unfunded actuarial liability) as at December 31, 2017 before reflecting the Prior Year Credit Balance		\$ 811,828,731

### 1.3 Contributions (Ensuing Year)

	December 31, 2017	December 31, 2016
<b>Employer Normal Actuarial Cost</b>		
Normal actuarial cost in respect of benefits	\$ 120,445,195	\$ 120,072,874
Estimated member contributions	(49,552,747)	(46,811,492)
Employer normal actuarial cost	\$ 70,892,448	\$ 73,261,382
Estimated payroll <sup>1</sup>	533,584,509	533,898,396
Employer normal actuarial cost as % of payroll	13.3%	13.7%

**Note:**

<sup>1</sup> Reflects adjustments for members expected to retire or terminate during the year.

#### Reconciliation of Employer Actuarial Cost Rule

Employer normal actuarial cost as a % of payroll at December 31, 2016	13.7%
ÿ Changes in membership profile	0.2%
ÿ Changes in actuarial assumptions	(0.6)%
Employer normal actuarial cost as a % of payroll at December 31, 2017	13.3%

## 1.4 Reconciliation of Prior Year Credit Balance

Prior year credit balance as at December 31, 2016		\$	48,000,000
Actual employer contributions:			
ÿ Defined benefit normal actuarial cost	\$	76,056,505	
ÿ Going concern amortization payments		0	
ÿ Solvency amortization payments		0	
ÿ Transfer deficiency payments		0	
ÿ Prior year credit balance		0	
ÿ Other contributions		0	76,056,505
Minimum employer contributions required:			
ÿ Defined benefit normal actuarial cost	\$	(76,056,505)	
ÿ Going concern amortization payments		0	
ÿ Solvency amortization payments		0	
ÿ Transfer deficiency payments		0	
ÿ Other contributions		0	(76,056,505)
Application against unfunded actuarial liability			0
Prior year credit balance as at December 31, 2017		\$	48,000,000

## Section 2: Solvency and Hypothetical Windup Financial Position

### 2.1 Statement of Solvency and Hypothetical Windup Financial Position

	December 31, 2017	December 31, 2016
<b>Solvency Value of Assets</b>		
Market value of assets	\$ 7,305,522,000	\$ 6,916,827,000
Provision for plan windup expenses	(7,000,000)	(7,000,000)
Total solvency value of assets	\$ 7,298,522,000	\$ 6,909,827,000
<b>Solvency Liability</b>		
Active and disabled members	\$ 2,172,760,741	\$ 2,369,597,002
Retired members and beneficiaries	4,334,621,102	4,127,326,152
Terminated vested members	40,324,067	46,840,401
Total solvency liability	\$ 6,547,705,910	\$ 6,543,763,555
Additional voluntary contribution	0	20,000
<b>Total solvency liability</b>	<b>\$ 6,547,705,910</b>	<b>\$ 6,543,783,555</b>
<b>Solvency Surplus (Unfunded Solvency Liability)</b>	<b>\$ 750,816,090</b>	<b>\$ 366,043,445</b>
Solvency ratio	Not less than 100%	Not less than 100%
Value of excluded benefits	\$ 3,482,126,137	\$ 3,475,558,136
<b>Total hypothetical windup liability</b>	<b>\$ 10,029,832,047</b>	<b>\$ 10,019,341,691</b>
<b>Hypothetical Windup Surplus (Unfunded Hypothetical Windup Liability)</b>	<b>\$ (2,731,310,047)</b>	<b>\$ (3,109,514,691)</b>
Lesser of estimated employer contributions for the period until the next actuarial valuation and the prior year credit balance	\$ 48,000,000	\$ 48,000,000
Transfer ratio	73%	69%



	December 31, 2017	December 31, 2016
<b>PBGF Information</b>		
Ontario PBGF liability	\$ 6,547,705,910	\$ 6,543,763,555
Ontario asset ratio	Not less than 100%	Not less than 100%
Ontario portion of the fund	7,305,522,000	6,916,827,000
PBGF assessment base	0	0
Ontario additional PBGF liability	\$ 0	\$ 0

**Comments:**

- Ŷ The solvency actuarial valuation results presented in this report are determined under a scenario where, following a plan windup, the employer continues its operations.
- Ŷ The hypothetical windup valuation results presented in this report are determined under a scenario where, following a plan windup, the employer continues its operations.
- Ŷ As the transfer ratio is less than 1.00, transfer deficiencies must be paid over a maximum period of five years unless the cumulative transfer deficiencies are within the limits prescribed by the Pension legislation or the employer remits additional contributions in respect of the transfer deficiencies. Pursuant to Regulations 19(4) or 19(5) to the Pension legislation, approval of the Superintendent will be required to make commuted value transfers if there has been a significant decline in the transfer ratio after the actuarial valuation date.

## 2.2 Determination of the Statutory Solvency Excess (Deficiency)

In calculating the statutory solvency excess (statutory solvency deficiency), various adjustments can be made to the solvency financial position.

	December 31, 2017	December 31, 2016
Solvency surplus (unfunded solvency liability)	\$ 750,816,090	\$ 366,043,445
Adjustments to solvency position:		
ÿ Present value of existing amortization payments	\$ 0	\$ 58,727,046
ÿ Smoothing of asset value	(373,063,000)	(402,478,000)
ÿ Averaging of liability discount rate	201,718,938	265,730,782
ÿ Prior year credit balance	(48,000,000)	(48,000,000)
ÿ Total	\$ (219,344,062)	\$ (126,020,172)
Statutory solvency excess (statutory solvency deficiency)	\$ 531,472,028	\$ 240,023,273

## Section 3: Contributions

### 3.1 Estimated Minimum Employer Contribution (Ensuing Years)

Year	2018		2019		2020	
Employer Normal Actuarial Cost	\$	70,892,448	\$	70,391,462	\$	69,901,688
Amortization Payments						
Going concern	\$	0	\$	0	\$	0
Solvency		0		0		0
Sub-total	\$	0	\$	0	\$	0
Application of Prior Year Credit Balance <sup>1</sup>		0		0		0
Application of Surplus <sup>2</sup>		(70,892,448)		(70,391,462)		(69,901,688)
Estimated Minimum Employer Contribution	\$	0	\$	0	\$	0

**Note:**

<sup>1</sup> As at the actuarial valuation date a \$48,000,000 Prior Year Credit Balance exists, which may be applied to reduce Employer contributions in 2018, 2019 or 2020.

<sup>2</sup> Amounts shown reflect the funding rules in force at the time this current valuation was filed and are subject to the preparation of a cost certificate at the beginning of year confirming the level of available surplus that may be applied in 2019 and 2020. At the time this report was filed, any potential impact resulting from the funding regulations taking effect on May 1, 2018 on the application of surplus for the period covered by this report was not clear.

### 3.2 Estimated Maximum Employer Contribution (Ensuing Year)

	<b>December 31, 2017</b>
Employer Normal Actuarial Cost	\$ 70,892,448
Greater of the Unfunded Actuarial Liability and the Unfunded Hypothetical Windup Liability	2,731,330,047
Estimated Maximum Employer Contribution	<u>\$ 2,802,222,495</u>

### 3.3 Timing of Contributions

Employer normal cost and member contributions: monthly and within 30 days of the month to which they pertain.

Amortization payments: monthly before the end of the month to which they pertain (or replaced by an equivalent letter of credit), if applicable.

Adjustment to contributions made since the valuation date: within 60 days from the date that this report is filed with the Pension authorities.

## Section 4: Actuarial Opinion

In our opinion, for the purposes of the going concern, solvency and hypothetical windup valuations:

- Ŷ the membership data on which the actuarial valuations are based are sufficient and reliable,
- Ŷ the assumptions are appropriate, and
- Ŷ the methods employed in the actuarial valuations are appropriate.

This report has been prepared, and our opinion has been given, in accordance with accepted actuarial practice in Canada. The actuarial valuations have been conducted in accordance with our understanding of the funding and solvency standards prescribed by the Pension legislation.

Towers Watson Canada Inc.



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David Kenny  
FCIA



---

Suzanne Jacques  
FCIA

*Toronto, Ontario  
April 30, 2018*



# Appendix A: Significant Terms of Engagement and Certificate of the Plan Administrator

## A.1 Significant Terms of Engagement

For purposes of preparing this actuarial valuation report, the plan administrator has directed that:

- Ŷ The actuarial valuation is to be prepared as at December 31, 2017.
- Ŷ The margin for adverse deviations mentioned in Appendix C are to be used.
- Ŷ The investment policy dated November 11, 2016, which is the most up-to-date version, should be considered. Management is currently reviewing the plan's target asset mix and future changes to the target asset mix should be reflected in future valuations.
- Ŷ The going concern value of assets is to be determined using the averaging technique described in the Asset Valuation Method section in Appendix C.
- Ŷ The going concern actuarial cost method to be used is the projected unit credit (benefit accrual) described in the Actuarial Cost Method section in Appendix C.
- Ŷ For purposes of determining the solvency liabilities of the plan, the value of benefits arising from future inflation are to be excluded.
- Ŷ The solvency and hypothetical windup valuation results are to be determined under a scenario where the employer continues to operate and certain expenses are paid from the pension fund (consistent with past practice) while the employer pays other plan expenses.
- Ŷ This report is to be prepared on the basis that the employer is entitled to apply the actuarial surplus, if any, to meet its contribution requirements under the plan.

Should these directions from the plan administrator be amended or withdrawn, Willis Towers Watson reserves the right to amend or withdraw this report.

## A.2 Certificate of the Plan Administrator

I hereby certify that to the best of my knowledge and belief:

- the significant terms of engagement contained in Appendix A of this report are accurate and reflect the plan administrator's judgement of the plan provisions and/or an appropriate basis for the actuarial valuation of the plan;
- the information on plan assets, including the information on the investment policy and intended changes to the asset mix distribution after the valuation date, if any, forwarded to Towers Watson Canada Inc. and summarized in Appendix B of this report is complete and accurate;
- the data forwarded to Towers Watson Canada Inc. and summarized in Appendix E of this report are a complete and accurate description of all persons who are members of the plan, including beneficiaries who are in receipt of a retirement income, in respect of service up to the date of the actuarial valuation;
- the summary of plan provisions contained in Appendix F of this report is accurate; and
- other than the events mentioned in the Introduction of this report, there have been no events which occurred between the actuarial valuation date and the date this actuarial valuation was completed that may have a material financial effect on the actuarial valuation.



Signature

April 30, 2018

Date

Robert Cultraro

Name

SVP, Chief Investment and Pension Officer

Title



## Appendix B: Assets

### B.1 Statement of Market Value

	December 31, 2017	December 31, 2016
Total assets	\$ 7,305,522,000	\$ 6,909,437,000
Net outstanding amounts:		
ÿ Contributions receivable		
– Employer normal cost	\$ 0	\$ 7,390,000
– Members contributions	0	0
– Amortization payments	0	0
– Others	0	0
ÿ Benefits payable	0	0
ÿ Expenses and other payables	0	0
ÿ Total net outstanding amounts	\$ 0	\$ 7,390,000
Total Assets	\$ 7,305,522,000	\$ 6,916,827,000

#### Comments:

ÿ The data relating to the invested assets are based on the draft financial statements issued by KPMG. The data relating to net outstanding amounts were furnished by Hydro One Inc.

## B.2 Asset Class Distribution

The following table shows the target asset allocation stipulated by the plan's current investment policy in respect of major asset classes and the actual asset allocation as at December 31, 2017.

	<b>Target asset allocation</b>	<b>Actual asset allocation as at December 31, 2017</b>
Canadian equities	12.0%	12.7%
Foreign equities	38.0%	47.3%
Bonds and debentures	33.0%	28.6%
Real estate and infrastructure	10.0%	7.8%
Cash and short-term investments	2.0%	3.6%
Private Equities	5.0%	0.0%
Total	100.0%	100.0%

### B.3 Reconciliation of Invested Assets

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Assets as at December 31, 2016		\$ 6,909,437,000
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Receipts:

Ŷ Contributions:

–	Employer normal actuarial cost	\$ 83,447,000	
–	Employer amortization payments	0	
–	Member required contributions	48,276,000	
–	Past service contributions	428,000	
–	Provision for non-investment expenses	0	\$ 132,151,000

Ŷ	Investment return, net of investment expenses		658,336,000
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Ŷ	Total receipts		\$ 790,487,000
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Disbursements:

Ŷ Benefit payments:

–	Pension payments	\$ (313,487,000)	
–	Lump sum settlements	(53,711,000)	
–	Other benefit payments	0	\$ (367,198,000)

Ŷ	Non-investment expenses		(27,204,000)
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Ŷ	Total disbursements		\$ (394,402,000)
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Assets as at December 31, 2017		\$ 7,305,522,000
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**Comments:**

Ŷ This reconciliation is based on the draft financial statements issued by KPMG and certain cash flow information provided by Hydro One.

Ŷ The rate of return earned on the market value of assets, net of all expenses, from December 31, 2016 to December 31, 2017 is approximately 9.3%.

## B.4 Development of the Going Concern Value of Assets

	Adjusted Market Value Beginning from:				
	December 31, 2013	December 31, 2014	December 31, 2015	December 31, 2016	December 31, 2017
Adjusted market value as at December 31, 2013	\$ 5,743,450,000				
Net cash flow for 2014	(106,744,000)				
Assumed investment return	330,068,000				
Adjusted market value as at December 31, 2014	5,966,774,000	\$ 6,311,204,000			
Net cash flow for 2015	(117,373,000)	(117,373,000)			
Assumed investment return	342,717,000	362,695,000			
Adjusted market value as at December 31, 2015	6,192,118,000	6,556,526,000	\$ 6,745,869,000		
Net cash flow for 2016	(182,014,000)	(182,014,000)	(182,014,000)		
Assumed investment return	329,525,000	349,203,000	359,427,000		
Adjusted market value as at December 31, 2016	6,339,629,000	6,723,715,000	6,923,282,000	\$ 6,909,437,000	
Net cash flow for 2017	(235,047,000)	(235,047,000)	(235,047,000)	(235,047,000)	
Assumed investment return	329,852,000	350,209,000	360,786,000	360,052,000	
Adjusted market value as at December 31, 2017	\$ 6,434,434,000	\$ 6,838,877,000	\$ 7,049,021,000	\$ 7,034,442,000	\$ 7,305,522,000
<b>Going Concern Value of Assets</b>					
Average of the five adjusted market values as at December 31, 2017					\$ 6,932,459,000
Net outstanding amounts					0
Going concern value of assets as at December 31, 2017					\$ 6,932,459,000

**Comment:**

Ŷ The rate of return earned on the going concern value of assets, net of all expenses, from December 31, 2016 to December 31, 2017 is approximately 10.2%.

# Appendix C: Actuarial Basis - Going Concern Valuation

## C.1 Methods

### Asset Valuation Method

The going concern value of assets was calculated as the average of the market value of invested assets at the valuation date and the four previous years' adjusted market values. The market values at December 31 of each of the four preceding years were accumulated to the valuation date with net cash flow (i.e., contributions less benefit payments) and assumed investment return. Net cash flow was assumed to occur uniformly throughout each year. Assumed investment return for a year was calculated assuming that each year, the assets earned interest at the going concern discount rate in effect for that year. Finally, this 5-year average of adjusted market values was then adjusted for net outstanding amounts.

The objective of the asset valuation method is to produce a smoother pattern of going-concern surplus (deficit) and hence a smoother pattern of contributions, consistent with the long-term nature of a going concern valuation.

Such smoothing is achieved by use of an averaging process which systematically recognizes investment returns different from expectations over a 5-year period, with 20% recognized at the valuation date and the remainder at a rate of 20% per year. This method will be expected to average periods of outperformance with periods of underperformance.

The expected return of the going concern discount rate has been selected to equal the expected return on the assets over long periods of time, with a margin for adverse directions. As such, it is anticipated that, on average, the asset valuation method will tend to produce a result that is somewhat less than the market value of assets.

### Actuarial Cost Method

The actuarial liability and the normal actuarial cost were calculated using the projected unit credit cost method (benefit accrual).

### Additional Voluntary Contributions

For the purposes of the going concern valuation, the determination of the actuarial liability for the additional voluntary contributions does not involve the use of an actuarial cost method, nor does it involve actuarial assumptions. By definition, the actuarial liability under the additional voluntary contributions corresponds with the market value of the members' additional voluntary contribution accounts at the actuarial valuation date.

## C.2 Actuarial Assumptions

	December 31, 2017	December 31, 2016
<b>Economic Assumptions (per annum)</b>		
Liability discount rate	5.40%	5.30%
Rate of inflation	2.00%	Same
Rate of salary increase	2.50% plus Merit and Promotion (see Table 1) <sup>1</sup>	Same
Escalation of YMPE under Canada/Québec Pension Plan <sup>2</sup>	3.00%	Same
Escalation of <i>Income Tax Act (Canada)</i> maximum pension limitation <sup>3</sup>	3.00%	Same
Interest on members' contributions	2.00%	Same
<b>Demographic Assumptions</b>		
Mortality	95% of the 2014 Private Sector Canadian Pensioners' Mortality Table, projected generationally using Scale CPM-B	Same
Retirement from active membership	Age and service related rates (see Table 2)	Same
Pension commencement after termination of employment	Age 65	Same
Withdrawal	Age-related rates (see Table 3)	Same
Disability incidence/recovery	Age-related rates (see Table 4)	Same
<b>Other</b>		
Percentage of members with an eligible spouse at pension commencement and electing joint and survivor pension form	90%	Same
Years male spouse older than female spouse	3	Same
Provision for non-investment expenses	None; return on plan assets is net of all expenses	Same

**Notes:**

- <sup>1</sup> For Society for 2018, 0.5% increase plus merit and promotion (per current collective bargaining agreement).
- <sup>2</sup> The YMPE of \$55,900 for 2018 is the starting value for the YMPE projection as at the current actuarial valuation and is indexed starting in 2019.
- <sup>3</sup> The *Income Tax Act (Canada)* maximum pension limit of \$2,944.44 per year of service in 2018 is the starting value for maximum pension limit projection as at the current valuation and is indexed starting in 2019.

**Table 1 — Merit and Promotion Scale**

Age	First 4 Years of Employment	Subsequent Years
Under 25	7.5%	2.0%
25 - 29	5.5%	2.0%
30 - 34	3.5%	2.0%
35 - 39	3.5%	1.5%
40 - 44	3.5%	1.5%
45 - 49	2.0%	1.0%
50 - 54	2.0%	1.0%
55 - 59	1.0%	0.5%
60 & over	1.0%	0.0%

**Table 2 — Retirement Rates**

Age	Eligible for Unreduced Retirement		Not Eligible for Unreduced Retirement
	Based on points (82 or 85)	35 years of service and over	
Under 55	10%	30%	0%
55 to 59	15%	30%	5%
60 to 64	12%	30%	7%
65	50%	30%	20%
66 to 69	25%	30%	15%
70 and over	100%	100%	100%

**Table 3 — Withdrawal Rates**

<b>Service (years)</b>	<b>Male &amp; Female</b>
Under 20	1%
20 and over	0%

**Table 4 — Sample Disability Rates**

<b>Age</b>	<b>Male &amp; Female</b>
Under 30	0%
30	0.105%
35	0.110%
40	0.115%
45	0.120%
50	0.295%
55	1.000%
60 and above	1.878%



### C.3 Rationale for Actuarial Assumptions

The rationale for the material actuarial assumptions used in the going concern valuation is summarized below.

The going concern assumptions do not include margins for adverse deviations, except as noted below.

#### Liability discount rate

The assumption is an estimate of the expected long-term return on plan assets adjusted as follows:

ÿ	Expected long-term return on plan assets before adjustments	5.98%
ÿ	Investment management fees	(0.04)%
ÿ	Adjustment for non-investment expenses paid by the plan	(0.10)%
ÿ	Margin for adverse deviations	(0.40)%
ÿ	Rounding effect (discount rate is rounded to 10 basis points)	(0.04)%
ÿ	Expected long-term return on plan assets after adjustments and margin	5.40%

#### Rate of inflation

Estimate of future rates of inflation considering economic and financial market conditions at the valuation date.

#### Rate of salary increase

ÿ	Assumed rate of inflation per annum	2.00%
ÿ	Effect of real economic growth and productivity gains in the economy	0.50%
ÿ	Individual employee merit and promotion based on a scale which varies by age and service	
ÿ	Total rate of salary increase	2.50% plus Merit and Promotion (see Table 1)

#### Escalation of YMPE under C/QPP and ITA limit

Indexed annually based on increases in the Industrial Aggregate Wage index for Canada, assumed to be a rate of inflation of 2.00% per annum, plus 1.00% per annum for the effect of real economic growth and productivity gains in the economy.

## **Mortality**

Base mortality rates from the CPM2014Priv table, with a multiplier of 95% based on a review of the experience of the plan's actual mortality experience over the period 2007-2015 are considered reasonable for the actuarial valuation. Applying improvement scale CPM-B generationally provides allowance for improvements in mortality after 2014 and is considered reasonable for projecting mortality experience into the future.

## **Retirement from active membership**

The rates of retirement were developed based on a review of plan experience for the years 2007 to 2015 and an assessment of future expectations. All members are assumed to commence their pension at retirement date.

## **Pension commencement after termination of employment**

All terminated members are assumed to commence their pension at the age that produces the highest liability.

## **Withdrawal**

The rates of withdrawal were developed based on a review of plan experience for the years 2007 to 2015 and an assessment of future expectations.

## **Percentage of involuntary terminations of employment**

No allowance has been made for involuntary terminations of employment since assuming otherwise would not have a material impact on the actuarial valuation results.

## **Disability incidence/recovery**

The rates of disability incidence/recovery are based on a prior assessment performed by Mercer (Canada) Limited. The use of a different assumption would not have material impact on the actuarial valuation results.

### **Percentage of members with an eligible spouse at pension commencement and electing joint and survivor pension form**

When provided, the actual data for the spouse and form of payment were used for retired members. For other members, the assumed percentage of members with a spouse is based on the percentages for the general population and an assessment of future expectations for members of the plan.

### **Years male spouse older than female spouse**

When provided, the actual data for the spouse were used for retired members. For other members, the assumption is based on surveys of the age difference in the general population, a review of plan data for the years 2007 to 2015, and an assessment of future expectations for members of the plan.

### **Provision for non-investment expenses**

The liability discount rate is net of all expenses. The assumed level of expenses reflected in the liability discount rate is based on recent experience of the plan and an assessment of future expectations.

# Appendix D: Actuarial Basis - Solvency and Hypothetical Windup Valuations

## D.1 Methods

### Asset Valuation Method

The market value of assets, adjusted for net outstanding amounts, has been used for the solvency and hypothetical windup valuations. The resulting value has been reduced by a provision for plan windup expenses.

The adjustment in respect of the smoothing of solvency assets for purposes of determining the statutory solvency deficiency was calculated as the difference between the going concern value of assets used for the going concern valuation and the market value of assets.

### Liability Calculation Method

The solvency and hypothetical windup liabilities for members were calculated using the traditional unit credit cost method.

### Other Considerations

The solvency and hypothetical windup valuations have been prepared on a hypothetical basis. In the event of an actual plan windup, the plan assets may have to be allocated between various classes of plan members or beneficiaries as required by applicable Pension legislation. Such potential allocation has not been performed as part of these solvency and hypothetical windup valuations.

## D.2 Solvency Incremental Cost Actuarial Method

To calculate the Solvency Incremental Cost ("SIC"), we used the same method as for the solvency valuation.

No new entrants have been considered on the basis that such assumptions would not have a material impact on the SIC. The benefits and members' contributions were projected using the going concern valuation assumptions and the plan provisions.

We adjusted the expected settlement method at the end of the projection period to reflect demographic evolution. Regardless of that change, we used the discount rate applicable to the settlement method at the valuation date for each member.

The liability discount rates (before averaging) are assumed to remain at their current level over the projection period. .

### D.3 Actuarial Assumptions

	December 31, 2017	December 31, 2016
<b>Economic Assumptions (per annum)</b>		
Liability discount rate		
ÿ Annuity purchase (non-indexed)	3.10%	3.10%
ÿ Annuity purchase (fully-indexed)	-0.13%	-0.09%
ÿ Annuity purchase (partially-indexed) <sup>1</sup>	0.68%	0.71%
ÿ Commuted value transfer (non-indexed)	2.60% for 10 years, 3.40% thereafter	2.20% for 10 years, 3.50% thereafter
ÿ Commuted value transfer (fully-indexed)	1.40% for 10 years, 1.60% thereafter	1.10% for 10 years, 1.30% thereafter
ÿ Commuted value transfer (partially-indexed) <sup>1</sup>	1.70% for 10 years, 2.00% thereafter	1.40% for 10 years, 1.90% thereafter
Liability discount rate (after averaging for solvency)		
ÿ Annuity purchase	3.37%	3.44%
ÿ Commuted value transfer	2.48% for 10 years, 3.80% thereafter	2.44% for 10 years, 3.84% thereafter
Discount rate for determining amortization payments <sup>2</sup>	N/A	3.00%
Escalation of <i>Income Tax Act</i> (Canada) maximum pension limitation <sup>3</sup>	1.10% for 10 years, 2.04% thereafter	1.13% for 10 years, 2.14% thereafter
<b>Demographic Assumptions</b>		
Mortality	CPM2014 Canadian Pensioners' Mortality Table, projected generationally using Scale CPM-B	Same
Retirement/pension commencement	Described in section D.4	Same
<b>Other</b>		
Percentage of members with an eligible spouse at pension commencement and electing joint and survivor pension form	90%	Same
Years male spouse older than female spouse	3	Same

	December 31, 2017	December 31, 2016
Percentage of members receiving settlement by commuted value transfer <sup>4</sup>	Retired members and beneficiaries: 0%	Same
	Other members:	
	ÿ Not eligible for retirement: 60%	
	ÿ Eligible for retirement: 20%	
Provision for expenses		
ÿ Solvency and Hypothetical windup	\$7,000,000	Same

**Notes:**

- <sup>1</sup> Applicable to New Society and New Management members only.
- <sup>2</sup> Equal to the liability-weighted average of the liability discount rates for settlements by commuted value transfer (rate in effect for the first 10 years) and annuity purchase.
- <sup>3</sup> The *Income Tax Act (Canada)* maximum pension limit is \$2,944.44 per year of service in 2018 and is indexed starting in 2019.
- <sup>4</sup> The balance are assumed to receive settlement by annuity purchase.

## D.4 Rationale for Actuarial Assumptions

The rationale for the material actuarial assumptions used in the solvency and hypothetical windup valuations is summarized below.

The actuarial assumptions used in the solvency and hypothetical windup valuations do not include margins for adverse deviations.

### Liability discount rate for solvency (before averaging) and hypothetical windup

Portion of the solvency and hypothetical windup liabilities expected to be settled by a group annuity purchase: based on the CIA annuity purchase guidance applicable at the valuation date which corresponds to an approximation of the annuity purchase rate. The duration of the liabilities assumed to be settled through the purchase of non-indexed annuities is 12.0.

Portion of the solvency and hypothetical windup liabilities expected to be settled by commuted value transfer: determined in accordance with the *Standards of Practice for Pension Commuted Values* in effect at the valuation date.

### Liability discount rate for solvency (after averaging)

The average discount rates for calculation of the statutory solvency deficiency are based on the following:

Ŷ Benefits that are expected to be settled by a group annuity purchase, the average of the annualized approximate annuity purchase rates at December 31, 2017 and the four previous year-ends<sup>1</sup>, determined as follows:

December 31, 2013	4.38%
December 31, 2014	3.18%
December 31, 2015	3.10%
December 31, 2016	3.10%
December 31, 2017	3.10%
Average	<u>3.37%</u>

#### Note:

<sup>1</sup> The approximate annuity purchase interest rates prior to October 1, 2015 have been adjusted to reflect the change in the mortality table assumption applicable to the determination of liabilities settled by group annuity purchase.

† Benefits that are expected to be settled by commuted value transfers, the average of the interest rates determined under the *Standards of Practice for Pension Commuted Values*, published by the Canadian Institute of Actuaries, at December 31, 2017 and the four previous year-ends<sup>1</sup>, determined as follows:

	Rate for 10 years	Rate after 10 years
December 31, 2013	3.00%	4.60%
December 31, 2014	2.50%	3.80%
December 31, 2015	2.10%	3.70%
December 31, 2016	2.20%	3.50%
December 31, 2017	2.60%	3.40%
Average	2.48%	3.80%

**Note:**

<sup>1</sup> The *Standards of Practice for Pension Commuted Values* effective on December 31, 2017 are assumed to have always been in effect when determining the interest rates prior to October 1, 2015.

**Escalation of *Income Tax Act* (Canada) maximum pension limitation**

The maximum pension is indexed annually with the expected increase in the Industrial Aggregate Wage index (commuted value transfers, inflation rate, plus 1.0%).

**Pre-retirement and Post-retirement pension increases**

For the solvency valuation, as permitted under the Pension legislation, post-retirement pension increases are assumed to be nil. For the hypothetical windup valuation, the assumption has been determined by applying the post-retirement increase provision specified in the plan to the inflation assumption.

**Mortality**

For the benefits that are expected to be settled by a group annuity purchase: based on CIA annuity purchase guidance.

For benefits that are expected to be settled by commuted value transfer: prescribed table. No pre-retirement mortality has been assumed in order to approximate the value of pre-retirement death benefits.

**Retirement/pension commencement**

For active and disabled members:

† Members eligible to retire: pension commences at the age that produces the highest actuarial value (including statutory grow-in rights).



Ŷ Members with age plus continuous service greater than or equal to 55 years: pension commences at the age that produces the highest actuarial value of pension (including statutory grow-in rights).

Ŷ Other members: age that produces the highest actuarial value.

For deferred vested members:

Ŷ Members are assumed to retire at the earliest age at which they qualify for an unreduced pension.

For the benefits that are expected to be settled by a group annuity purchase, this is consistent with the expected assumption that will be used by insurers to price the group annuity. For benefits that are expected to be settled by commuted value transfers, this assumption is in accordance with the Canadian Institute of Actuaries' Standards of Practice for Pension Commuted Values.

### **Percentage of members with an eligible spouse at pension commencement and electing joint and survivor pension form**

See rationale for going concern assumptions in Appendix C.

### **Years male spouse older than female spouse**

See rationale for going concern assumptions in Appendix C.

### **Percentage of members receiving settlement by commuted value transfer**

This assumption has been determined by considering the benefit provisions of the plan, legislative requirements to offer specific settlement options to various classes of members, and, in particular, the options to be provided to members upon plan windup.

The assumption also reflects the expectation that members further from retirement are more likely to elect to settle their pension benefit by a commuted value transfer, while members closer to retirement are more likely to elect to settle their pension benefit through a group annuity purchase where this option is available. In addition, the assumption reflects past plan experience for terminating and retiring members.

### **Provision for expenses**

Allowance was made for normal administrative, actuarial, legal and other costs which would be incurred if the plan were to be wound up (excluding costs relating to the resolution of surplus or deficit issues). The actuarial valuation is premised on a scenario in which the employer continues to operate after the windup date. In establishing the allowance for plan windup costs, certain administrative costs were assumed to be paid from the pension fund (consistent with past practice) while other costs were assumed to be borne directly by the employer.

## Appendix E: Membership Data

	December 31, 2017	December 31, 2016
<b>Active members</b>		
Ŷ Number	5,165	5,310
Ŷ Average age	43.7	44.1
Ŷ Average service	12.6	13.0
Ŷ Annual payroll	\$548,752,740	\$550,645,330
Ŷ Average salary	\$106,244	\$103,700
Ŷ Accumulated contributions with interest	\$381,013,270	\$374,506,285
<b>Disabled members</b>		
Ŷ Number	143	137
Ŷ Average age	54.2	54.3
Ŷ Average service	22.3	22.3
Ŷ Annual payroll	\$12,955,921	\$12,298,641
Ŷ Average salary	\$90,601	\$89,771
Ŷ Accumulated contributions with interest	\$9,899,469	\$9,357,538
<b>Retired members</b>		
Ŷ Number	5,698	5,562
Ŷ Average age	71.6	71.7
Ŷ Total annual pension	\$250,806,450	\$238,697,672
Ŷ Average annual pension <sup>1</sup>	\$44,017	\$42,916
Ŷ Total temporary annual pension	\$21,816,672	\$24,729,454
<b>Beneficiaries and Survivors</b>		
Ŷ Number	1,751	1,772
Ŷ Average age	81.4	80.9
Ŷ Total annual pension	\$46,336,455	\$45,251,888
Ŷ Average annual pension <sup>1</sup>	\$26,463	\$25,537
Ŷ Total temporary annual pension	\$351,395	\$510,660

	December 31, 2017	December 31, 2016
<b>Terminated vested members</b>		
Ŷ Number	305	309
Ŷ Average age	54.2	53.9
Ŷ Total annual pension <sup>2</sup>	\$3,080,065	\$3,151,778
Ŷ Average annual pension	\$10,099	\$10,200

**Notes:**

<sup>1</sup> Excluding temporary annual pension.

<sup>2</sup> Prior to application of Income Tax Act maximum pension limits.

The following distribution relates to active and disabled members. The following meanings have been assigned to:

Ŷ Age: Age as at December 31, 2017

Ŷ Credited Service: Credited service as at December 31, 2017

† Active and Disabled Members

		<i>Credited Service</i>								
<i>Age</i>		<i>0 - 4</i>	<i>5 - 9</i>	<i>10 - 14</i>	<i>15 - 19</i>	<i>20 - 24</i>	<i>25 - 29</i>	<i>30 - 34</i>	<i>35 +</i>	<i>Total</i>
< 25	Number	35								35
	Average Earnings	76,444								76,444
25 - 29	Number	334	95	1						430
	Average Earnings	86,635	92,424							
30 - 34	Number	287	669	86						1,042
	Average Earnings	89,879	99,172	100,937						96,758
35 - 39	Number	154	369	250	31					804
	Average Earnings	93,010	100,023	107,114	110,623					101,294
40 - 44	Number	77	204	174	93	1				549
	Average Earnings	94,058	104,672	105,462	110,444					
45 - 49	Number	53	165	137	57	15	76	1		504
	Average Earnings	99,525	106,671	110,459	110,087	111,796	107,675			
50 - 54	Number	48	142	122	88	12	311	165	1	889
	Average Earnings	92,881	104,311	107,859	108,856	125,094	111,764			
55 - 59	Number	35	100	82	84	11	134	174	57	677
	Average Earnings	95,152	104,368	105,270	112,797	135,599	105,389	108,645	111,009	107,493
60 - 64	Number	15	52	38	39	5	43	46	57	295
	Average Earnings	100,548	104,467	102,221	104,697	155,856	105,771	108,950	111,973	106,199
65 +	Number	2	12	15	9	1	12	12	20	83
	Average Earnings	74,148	114,360	110,114	99,400		114,753	102,405	116,320	
Total	Number	1,040	1,808	905	401	45	576	398	135	5,308
	Average Earnings	90,089	101,240		109,745	130,746	109,356	130,708		102,586

Average Age = 44.0

Average Credited Service = 12.9

## Review of Membership Data

The membership data were supplied by Hydro One Inc.'s third-party administrator, Morneau Shepell, as at December 31, 2017.

Elements of the data review included the following:

- Ŷ ensuring that the data were intelligible (i.e., that an appropriate number of records was obtained, that the appropriate data fields were provided and that the data fields contained valid information);
- Ŷ preparation and review of membership reconciliations to ascertain whether the complete membership of the plan appeared to be accounted for;
- Ŷ review of consistency of individual data items and statistical summaries between the current actuarial valuation and the previous actuarial valuation;
- Ŷ review of reasonableness of individual data items, statistical summaries and changes in such information since the previous actuarial valuation date; and
- Ŷ comparison of the membership data and the plan's financial statements for consistency.

However, the tests conducted as part of the membership data review may not have captured certain deficiencies in the data. We have also relied on the certification of the plan administrator as to the quality of the data.

**Membership Reconciliation**

	<b>Actives</b>	<b>Disabled</b>	<b>Terminated vested</b>	<b>Retired</b>	<b>Beneficiaries and survivors</b>	<b>Total</b>
As at December 31, 2016	5,310	137	309	5,562	1,772	13,090
ÿ New entrants (including re-employed)	225	0	0	0	0	225
ÿ From disabled	3	(3)	0	0	0	0
ÿ To disabled	(21)	21	0	0	0	0
ÿ Terminated (with lump sum payment)	(37)	(2)	(18)	0	0	(57)
ÿ Termination (with vested pension entitlement)	(33)	0	33	0	0	0
ÿ Retirement	(279)	(8)	(18)	305	0	0
ÿ Deceased (without beneficiary) <sup>1</sup>	(1)	(1)	0	(76)	(119)	(197)
ÿ Deceased (with beneficiary)	(2)	(1)	0	(94)	97	0
ÿ New ex-spouse	0	0	0	0	1	1
ÿ Data corrections	0	0	(1)	1	0	0
ÿ Net change	(145)	6	(4)	136	(21)	(28)
As at December 31, 2017	5,165	143	305	5,698	1,751	13,062

<sup>1</sup> Includes pensioners whose guarantee period has expired.

## Appendix F: Summary of Plan Provisions

The following is an outline of the principal features of the plan which are of financial significance to valuing the plan benefits. This summary is based on the plan document as at November 7, 2016 and amendments up to and including the valuation date, as provided by Hydro One Inc.. It is not a complete description of the plan terms and should not be relied upon for administration or interpretation of benefits. For a detailed description of the benefits, please refer to the plan document.

### F.1 DB Provisions

#### Membership

The following categories of employees are members of the Pension Plan:

- a) All regular employees (see Note 1a and Note 1b);
- b) Employees for whom the Office and Professional Employees International Union was the bargaining agent prior to July 30, 1982;
- c) Continuing construction employees who were members admitted to the Ontario Electricity Financial Corporation Pension Plan and its predecessors;
- d) Employees who became continuing construction clerical employees after July 29, 1982 and before August 8, 1984;
- e) Employees who have completed three months of continuous employment as a probationary employee (see Note 1a and Note 1b).

*Note 1a: Management employees hired on or after January 1, 2004 and Society represented employees hired on or after November 17, 2005 are eligible after completing three months of continuous employment but are not required to join the Pension Plan.*

*Note 1b: Management employees who were not eligible to elect to become a member of the Pension Plan on or after September 30, 2015 are no longer eligible to join the Pension Plan.*

Any other employee who has completed twenty-four months of continuous employment and who has at least 700 hours of employment or earnings of 35% of the Year's Maximum Pensionable Earnings ("YMPE"), as defined under the Canada Pension Plan in each of the two previous consecutive calendar years, may elect to become a member of the Pension Plan.

### Normal Retirement Date

- a) Female members whose continuous employment commenced prior to January 1, 1976: The first day of the month when she in fact retires, coincident with or next following the attainment of age 60 or any subsequent month up to the month coincident with or next following her 65th birthday.
- b) All other members: The first day of the month coincident with or next following the attainment of age 65.

### Amount of Accrued Pension

#### Life Pension

- a) 2% of the member's "high three-year average" (see Note 6) for each year of credited service, subject to a maximum of 35 years (see Note 2 and Note 3).

*Note 2: For Management employees hired on or after January 1, 2004, and Society represented employees hired on or after November 17, 2005 the reference to "high three-year average" is changed to "high five-year average" for pensionable service while a Management or Society-represented employee.*

*Note 3: For members represented by PWU and the Society, for service accrued after March 31, 2025 for current employees and new hires, the benefit calculated will be determined using "high five-year average" (updated from "high three-year average" used for service accrued until March 31, 2025) as outlined in the respective collective agreements.*

#### LESS

- b) 0.625% of the member's "high five-year average" up to the "average YMPE" (see Note 6) for each year of credited service included in (a) above subsequent to December 31, 1965, subject to a maximum of 35 years – see Note 4.

*Note 4: Effective July 1, 2001, for members of the PWU, and effective January 1, 2004, for Society represented members hired before November 17, 2005; the factor is reduced from 0.625% to 0.50%.*

#### Bridge Pension (see Note 5)

0.625% of the member's "high five-year average" up to the "average YMPE" (see Note 6) for each year of credited service included in (a) above, subject to a maximum of 30 years, multiplied by 35, and divided by 30. This is generally payable until age 65.

The bridge benefit is reduced for early retirement in accordance with the same early retirement reduction provision applicable to the early retirement life pension described below.



*Note 5: For Management employees hired on or after January 1, 2004 and Society represented employees hired on or after November 17, 2005, no bridge pension is payable for pensionable service while a Management or Society-represented employee. Effective January 1, 2018, Society represented employees hired on or after November 17, 2005 will be entitled to a bridge benefit equal to 0.625% up to the average YMPE for each year of service from January 1, 2018 onward while the member is earning a benefit under the basic formula.*

*Note 6: "High three-year average"/ "high five-year average" is the average of the member's base annual earnings plus bonuses up to a set percentage during the 36/60 consecutive months when the base earnings were highest. For earnings after 1999, the percentage of bonus under the performance achievement plan included in pensionable earnings is 50%. The "average YMPE" is the average of the YMPE's during the 60 consecutive months when the base earnings were highest.*

## **Early Retirement**

### Age Plus Service (See Note 7 and Note 8)

A member may retire prior to the normal retirement date without any reduction in the accrued pension, if the sum of the member's age and years of continuous employment is equal to or greater than 82 or the member has 35 years of continuous employment, whichever occurs first (see Note 7).

*Note 7: For Management employees hired on or after January 1, 2004 and Society represented employees hired on or after November 17, 2005, retirement without reduction is available when the sum of the employee's age and years of pensionable service is equal to or greater than 85 or the employee has 35 years of pensionable service, whichever occurs first.*

*Note 8: For members represented by PWU, for service accrued after March 31, 2025, the early retirement criteria for an unreduced pension will be changed from the sum of the employee's age and years of pensionable service is equal to or greater than 82 to the 85 as outlined in the collective agreement.*

### 25 or More Years of Continuous Employment (see Note 9)

A member who does not qualify for the early retirement provisions above who is at least age 55 and has 25 or more years of continuous employment may retire prior to age 60, in which case the member's accrued pension is reduced by 3% for each year by which early retirement precedes age 60. These reductions also apply to members who elected a deferred pension when they left the Pension Plan and had 25 or more years of continuous employment.

### Female Members with More Than 15 Years or Other Members with 15 or More Years but Less than 25 Years of Continuous Employment (see Note 9)

A female member whose continuous employment commenced prior to 1976 with at least 15 years of continuous employment, or any other member with 15 or more years but less than 25 years of continuous employment, who does not qualify for any of the previously mentioned early retirement provisions, may

retire within 10 years of normal retirement date. In such a case the member's accrued pension is reduced by 2% for each year up to five years and 3% for each additional year by which the early retirement date precedes the member's normal retirement date.

These reductions apply with respect to a female member whose employment commenced prior to 1976 and who has a deferred pension and at least 25 years of continuous employment at retirement. For any other members who have a deferred vested pension and have fewer than 25 years of continuous employment and are at least age 55 when they request that the pension payments begin, the deferred vested pension will be actuarially reduced (unless the member was eligible for an unreduced early retirement provision in effect when the member terminated active employment).

### Other Members

A member, who does not qualify under any of the previously mentioned early retirement provisions, may retire within 10 years of normal retirement date. If the retirement occurred prior to July 1, 2012, the member is also required to have at least two years of Pension Plan membership. In such a case, the pension is the actuarial equivalent of the member's deferred pension provided that the reduction shall not be less than the minimum early retirement reduction required under the *Income Tax Act* (Canada).

### Terminated Members with Deferred Pensions

A terminated member with a deferred pension may retire under any of the previously mentioned provisions for early retirement without reduction provided that such provision was in effect on the date of termination. In addition, if the member's employment is terminated on or after July 1, 2012, the member may be eligible for grow-in benefits under the *Pension Benefits Act* (Ontario) ("PBA"), resulting in the member being entitled to early retirement benefits under the Pension Plan that the member would not otherwise be eligible to receive on the date of termination.

*Note 9: For Management employees hired on or after January 1, 2004 and Society represented employees hired on or after November 17, 2005 all references to "continuous employment" are to be replaced with "pensionable service" for service while a Management or Society-represented employee.*

### **Postponed Retirement**

Members who work past their normal retirement date shall continue to accrue benefits until December 1st of the calendar year they reach age 71 (or the Income Tax Act age limit, if different), they reach the 35 year service limit, or they terminate employment, whichever occurs first. If a member reaches 35 years of service and ceases contributions to the Pension Plan, service after 35 years is not counted in the calculation of the member's pension, but the pension is calculated using the member's base earnings up to the date of postponed retirement. If the member works past age 71, the member's pension will commence to be paid not later than December 1st of the year in which the member turns age 71.

## Pension Increases

Pension increases of 100% (see Note 10) of the increase in the Consumer Product Index ("CPI") (Ontario), for the 12-month period ending in June of the previous year, will be given every January 1 to pensioners, beneficiaries and terminated employees with deferred pensions to an annual maximum of 8% each year after 1999. Any excess will be carried forward to use in future years up to the 8% limit.

*Note 10: For Management employees hired on or after January 1, 2004 and Society represented employees hired on or after November 17, 2005, pension increases of 75% CPI (Ontario) for the 12-month period ending in June of the previous year will be given every January 1, to an annual maximum increase of 6%, with no carry forward.*

## Disability

A totally disabled employee receives benefits from an income replacement plan and ceases to contribute to the Pension Fund, but continues to accrue credited service. For this member, the base annual earnings for pension purposes are deemed to be increased by the same percentage increases described for pensions above.

## Employee Contributions

Members represented by the Management hired on or after January 1, 2004 contribute at the following rates until they complete 35 years of credited service (see Note 11):

Up to and including March 31, 2018,

- i. 7.75% of base annual earnings up to the YMPE; and
- ii. 9.75% of base annual earnings in excess of the YMPE;

On and after April 1, 2018,

- i. 8.25% of base annual earnings up to the YMPE; and
- ii. 10.75% of base annual earnings in excess of the YMPE;

up to the limits established by the Income Tax Act.

Members represented by the Management hired before January 1, 2004 contribute at the following rates until they complete 35 years of credited service (see Note 11):

Up to and including March 31, 2018,

- iii. 8.00% of base annual earnings up to the YMPE; and
- iv. 10.00% of base annual earnings in excess of the YMPE;

On and after April 1, 2018,

- iii. 8.75% of base annual earnings up to the YMPE; and
- iv. 11.25% of base annual earnings in excess of the YMPE;

up to the limits established by the Income Tax Act.

Members represented by the Society hired on or after November 17, 2005 contribute at the following rates until they complete 35 years of credited service (see Note 11):

Up to and including March 31, 2018,

- v. 7.75% of base annual earnings up to the YMPE; and
- vi. 9.75% of base annual earnings in excess of the YMPE;

On and after April 1, 2018,

- v. 8.25% of base annual earnings up to the YMPE; and
- vi. 10.75% of base annual earnings in excess of the YMPE;

up to the limits established by the Income Tax Act.

Members represented by the Society hired before November 17, 2005 contribute at the following rates until they complete 35 years of credited service (see Note 11):

Up to and including March 31, 2018,

- vii. 8.25% of base annual earnings up to the YMPE; and
- viii. 10.25% of base annual earnings in excess of the YMPE;

On and after April 1, 2018,

- vii. 8.75% of base annual earnings up to the YMPE; and
- viii. 11.25% of base annual earnings in excess of the YMPE;

up to the limits established by the Income Tax Act.

*Note 11: For Society represented members hired before November 17, 2005, contributions increase by 0.5% in the event that after January 1, 2004 a valuation report reveals that the solvency assets are lower than 106% of the solvency liabilities. Effective April 1, 2018 this clause is no longer applicable.*

Members represented by the PWU contribute at the following rates until they complete 35 years of credited service:

On and after December 31, 2017,

- ix. 8.75% of base annual earnings up to the YMPE; and
- x. 11.25% of base annual earnings in excess of the YMPE;

up to the limits established by the Income Tax Act.

## **Death Before Retirement**

### No Surviving Spouse or Eligible Dependent Children

*Fewer than two years of Pension Plan membership (Deaths prior to July 1, 2012)*

The member's beneficiary or estate receives a cash refund of the member's contributions plus interest.

*Two or more years of Pension Plan membership*

The beneficiary or estate will receive the following:

- Ŷ For pre-1987 service: a cash refund of the member's contributions plus interest.
- Ŷ For post-1986 service: a lump sum equal to the commuted value of the member's pension earned since 1986, plus a refund of any excess contributions.

For deaths occurring on or after July 1, 2012, the beneficiary or estate will be entitled to the death benefits described above regardless of the member's length of service.

Surviving Spouse (see Note 12)

*Fewer than two years of Pension Plan membership and less than 10 years of continuous employment*

The beneficiary or estate receives a cash refund of the member's contributions plus interest.

*Fewer than two years of Pension Plan membership and more than 10 years of continuous employment*

The surviving spouse receives an immediate pension of 66.67% of the member's accrued pension earned to the date of death.

*More than two years of Pension Plan membership, but less than 10 years of continuous employment*

For pre-1987 service: The beneficiary or estate receives a cash refund of the member's contributions plus interest.

For post-1986 service:

- Ŷ The beneficiary or estate receives a refund of any excess member contributions; and
- Ŷ The surviving spouse chooses either:
  - a. a lump-sum payment equal to the commuted value of the pension earned after 1986, or
  - b. an immediate or deferred pension with a commuted value equal to pension earned after 1986.

*More than two years of Pension Plan membership, and more than 10 years of continuous employment*

For pre-1987 service: The surviving spouse receives an immediate pension of 66.67% of the member's accrued pension earned prior to 1987.

For post-1986 service:

- Ŷ The beneficiary or estate receives a refund of any excess member contributions; and
- Ŷ The surviving spouse chooses either:
  - Ŷ a lump-sum payment equal to the commuted value of the pension earned after 1986, or
  - Ŷ an immediate or deferred pension with a commuted value equal to pension earned after 1986. The immediate pension will not be less than 66.67% of the pension earned after 1986.

*Note 12: For deaths occurring on or after July 1, 2012, the surviving spouse's entitlement to death benefits for post-1986 service shall be determined without reference to whether the member had more or less than two years of Pension Plan membership. In addition, for deaths occurring on or after July 1, 2012, if the surviving spouse is entitled to the death benefits in respect of the member's post-1986 service, the surviving spouse is also entitled to an amount equal to the member's contributions, with interest, in respect of pre-1987 service, rather than the designated beneficiary or estate.*

### Dependent Children, No Surviving Spouse

If the member completed 10 years of continuous employment, the survivor's pension is payable to the surviving spouse until death or, if there is no eligible spouse, to the dependent children until age 18 (longer if disabled or in full-time attendance at a school or university). The total benefits paid are subject to a minimum of the member's contributions with interest. A payment of the commuted value of the member's deferred pension less the commuted value of the pension payable to any dependent children is made to the beneficiary or estate.

### **Death After Retirement**

A survivor's pension, being an amount equal to 66.67% of the pension to which the member would have been entitled, is payable on death after retirement to the surviving spouse, subject to other options chosen at the time of retirement. If the survivor spouse subsequently dies and is survived by the dependent children, or the member does not have a surviving spouse and is survived only by dependent children, the 66.67% survivor pension is split among the dependent children and is payable to age 18 (longer if disabled or in full-time attendance at a school or university).

If the member does not have a surviving spouse at retirement, the normal form of pension is a pension payable for life with a guarantee of 60 payments.

Optional forms of pension are available on an actuarially equivalent basis.

### **Termination of Employment** (see Note 14)

#### *Less Than One Year of Pension Plan Membership*

A cash refund of the member's contributions plus interest.

#### *More Than One Year But Fewer Than Two Years of Pension Plan Membership*

The member is entitled to elect a cash refund of the member's contributions plus interest, or may leave the earned pension benefit in the Pension Plan to be paid upon retirement.

#### *More Than Two Years but fewer than 10 Years of Pension Plan Membership and, either under Age 45, or Fewer Than 10 Years of Continuous Employment*

For pre-1987 service: the member is entitled to a cash refund of the member's contributions plus interest, or may leave all of the earned pension benefit in the Pension Plan until retirement.

For post-1986 service: the member is entitled to leave all of the earned pension benefit in the Pension Plan until retirement; or to transfer (see Note 13) the commuted value of the earned pension.

*More Than Two Years but fewer than 10 Years of Pension Plan Membership, and Age 45 or Older with More Than 10 Years of Continuous Employment*

For pre-1987 service: the member is entitled to leave all of the earned pension benefit in the Pension Plan until retirement; or to transfer (see Note 13) 75% of the commuted value of the pension and receive a refund of 25% of the commuted value of your earned pension; or to leave 75% of the earned pension benefit in the Pension Plan until retirement, and receive a refund of 25% of the commuted value of the earned pension.

For post-1986 service: the member is entitled to leave all of the earned pension benefit in the Pension Plan until retirement; or to transfer (see Note 13) the commuted value of the earned pension.

*More Than 10 Years of Pension Plan Membership, But Younger Than Age 45*

For service from 1965 to 1986: the member is entitled to a cash refund of the member's contributions plus interest; or to leave all of the earned pension benefit in the Pension Plan until retirement; or to leave 75% of the earned pension benefit in the Pension Plan until retirement and receive a refund of 25% of the commuted value of the earned pension.

For post-1986 service: the member is entitled to leave all of the earned pension benefit in the Pension Plan until retirement; or to transfer (see Note 13) the commuted value of the earned pension.

*More than 10 Years of Pension Plan Membership and Age 45 or Older*

For pre-1965 service: the member is entitled to a cash refund of the member's contributions plus interest; or to leave all of the earned pension benefit in the Pension Plan until retirement; or to leave 75% of the earned pension benefit in the Pension Plan until retirement and receive a refund of 25% of the commuted value.

For service from 1965 to 1986: the member is entitled to leave all of the earned pension benefit in the Pension Plan until retirement; or to leave 75% of the earned pension benefit in the Pension Plan until retirement and receive a refund of 25% of the commuted value; or to transfer (see Note 13) the greater of the commuted value of 75% of the earned pension or the member's contributions with interest and receive a refund of 25% of the commuted value of the earned pension.

For post 1986 service: the member is entitled to leave all of the earned pension benefit in the Pension Plan until retirement; or to transfer the commuted value of the earned pension.

If a member is terminated on or after July 1, 2012, the member may be eligible for grow-in benefits under the PBA, which could result in the member being entitled to early retirement benefits under the Pension Plan that the member would not otherwise be eligible to receive on the date of termination. If grow-in benefits apply, this may affect the value of the benefits the member is entitled to receive on termination of employment or retirement.



*Note 13: Amounts must be transferred to a pension fund related to another pension plan, a prescribed retirement savings arrangement, or a life annuity which does not commence before the earliest date on which the member would have been entitled to retire.*

*Note 14: In respect of terminations occurring on or after July 1, 2012, a member is entitled to the earned pension benefits for all service regardless of length of Pension Plan membership, continuous employment or age.*

### **Excess Contributions**

Upon the earliest of termination of employment, death or retirement, the amount by which the member's post-1986 contributions with interest exceed 50% of the commuted value of the vested deferred pension accrued after 1986 is refunded to the member (or to the spouse, beneficiary or estate, as applicable in the case of death before retirement).

Upon termination of employment, if a member who has attained age 45 and completed 10 or more years of continuous employment elects to fully divest the pension accrued prior to 1987, the member is entitled to receive the amount by which the contributions with interest made after 1964 but prior to 1987 exceeds the commuted value of the pension accrued after 1964 but prior to 1987. (See Note 15)

*Note 15: For terminations occurring on or after July 1, 2012, entitlement to excess contributions in respect of pre-1987 service shall be determined without reference to age or years of continuous employment.*

### **Maximum Benefits**

The benefits in respect of continuous employment after 1991 are limited to the maximum allowable under the Income Tax Act (Canada).



# Appendix G: Sensitivity Analysis and Other Disclosures

## G.1 Sensitivity Information

Amounts determined with a discount rate 1% lower:

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Going concern actuarial liability	\$ 7,058,586,468
ÿ As percent increase	15.3%
Solvency actuarial liability	\$ 7,494,486,854
ÿ As percent increase	14.5%
Normal actuarial cost in respect of benefits	\$ 159,477,397
ÿ As percent increase	32.4%
Employer normal actuarial cost as a percentage of payroll	20.6%

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## G.2 Solvency Incremental Cost

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Solvency Incremental Cost (up to next valuation date)	\$ 752,868,042
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## Actuarial Information Summary

See the instructions for completing this form. If an item does not apply, enter "N/A".

### Part I – Plan Information and Contributions

<b>A. 001. Name of registered pension plan</b> Hydro One Pension Plan				
<b>B. 002. Registration number</b> Canada Revenue Agency: <u>1059104</u> Other: _____				
<b>C. 003. Is this plan a designated plan?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<b>D. 004. Valuation date of report</b> Year Month Day <u>2017</u>   <u>12</u>   <u>31</u>		<b>E. 005. End date of period covered by report</b> Year Month Day <u>2020</u>   <u>12</u>   <u>31</u>
<b>F. 006. Purpose of the report (indicate all reasons for which the report was prepared)</b> <input type="checkbox"/> Initial report for a newly established plan <input checked="" type="checkbox"/> Regular (triennial or annual) report for an ongoing plan <input type="checkbox"/> Interim report in respect of an amendment to an ongoing plan <input type="checkbox"/> Partial termination <input type="checkbox"/> Termination <input type="checkbox"/> Conversion <input type="checkbox"/> Other (explain) _____				
<b>G. Contributions (prior to application of any credits or surplus) for covered period</b>				
Periods (see instructions)	Period 1	Period 2	Period 3	Period 4
<b>007. Period start date (YYYY-MM-DD)</b>	2 0 1 8 - 0 1 - 0 1	2 0 1 9 - 0 1 - 0 1	2 0 2 0 - 0 1 - 0 1	
<b>008. Period end date (YYYY-MM-DD)</b>	2 0 1 8 - 1 2 - 3 1	2 0 1 9 - 1 2 - 3 1	2 0 2 0 - 1 2 - 3 1	
<b>Normal cost (defined benefit provision)</b>				
<b>009. Members</b>	49,552,747	49,519,093	49,080,567	
<b>010. Employer</b>	70,892,448	70,391,462	69,901,688	
<b>010a. Explicit expense allowance included in employer normal cost above</b>				
<b>Normal cost (money purchase provision)</b>				
<b>011. Members</b>				
<b>012. Employer</b>				
<b>Special payments</b> Special payments for going-concern unfunded liability and solvency deficiency				
<b>013. Employer</b>	0	0	0	
<b>013a. Members</b>	0	0	0	
<b>Fixed contributions</b>				
<b>014. Estimated dollar amounts of fixed employer and, if applicable, member contributions (defined benefit provision)</b>				
<b>014a. Estimated dollar amounts of fixed employer and, if applicable, member contributions (money purchase provision)</b>				

### Part II – Membership and Actuarial Information

<b>H. Membership information</b>	Number	Average age	Average pensionable service	Average salary	Average annual pension
<b>015. Active members</b>	5,308	44.00	12.90	105,823	N/A
<b>016. Retired members</b>	7,449	73.90	N/A	N/A	39,890
<b>017. Other participants</b>	305	54.20	N/A	N/A	10,099
<b>I. Actuarial basis for going-concern valuation (see instructions)</b>					
<b>020. Asset valuation method</b> <input type="checkbox"/> Market <input checked="" type="checkbox"/> Smoothed Market <input type="checkbox"/> Book <input type="checkbox"/> Book and Market combination <input type="checkbox"/> Other (specify) _____					
<b>021. Liability valuation method</b> <input checked="" type="checkbox"/> Accrued benefit (unit credit) <input type="checkbox"/> Entry age normal <input type="checkbox"/> Individual level premium <input type="checkbox"/> Aggregate <input type="checkbox"/> Attained Age <input type="checkbox"/> Other (specify) _____					

**I. Actuarial basis for going-concern valuation (continued)**

Selected actuarial assumptions

Where a flat rate is used, enter the rate under "Ultimate rate" and "N/A" under "Initial rate" and "Number of years".

Valuation interest rate	Initial rate (%)	Number of years	Ultimate rate (%)
025. Active members	N/A	N/A	5.40
026. Retired members	N/A	N/A	5.40
027. Rate of indexation	N/A	N/A	2.00
028. Rate of general wage and salary increase	N/A	N/A	2.50
029. YMPE escalation rate	N/A	N/A	3.00
030. <i>Income Tax Regulations'</i> maximum pension limit escalation	N/A	N/A	3.00
031. Rate of CPI increase	N/A	N/A	2.00

035. Year *Income Tax Regulations'* maximum pension limit escalation commences ..... 2 | 0 | 1 | 8

**036. Mortality table**

- 1994 GAM Static   
  1994 Group Annuity Reserving (GAR)   
  1994 UP   
  80% of 1983 GAM   
  CPM2014  
 CPM2014Publ   
 CPM2014Priv   
 Other (specify) \_\_\_\_\_

**036a. Improvement scale**

- Has a projection of mortality improvement been made? .....  Yes  No
- i) Has an assumption of generational mortality improvements been made? .....  Yes  No
- ii) If applicable, what is the year in which the mortality improvements have been projected? ..... [ ][ ][ ][ ]
- iii) Which scale have you used?

- Scale AA   
 Scale CPM-B   
 Scale CPM-B1D2014   
 Other (specify) \_\_\_\_\_

**036b. Adjustment to the mortality table**

- i) Has an adjustment to the mortality table been made? .....  Yes  No
- ii) If yes, which percentage did you apply to ..... Male 0.95 Female 0.95

**037. Allowance for promotion, seniority, and merit increases**

- Included in (line 028) above   
 Separate scale based on age or service   
 No allowance

**038. Allowance for expenses**

- 038a. Allowance for investment expenses**
- Implicit   
 Explicit   
 Both explicit and implicit

- 038b. Allowance for administrative expenses**
- Implicit   
 Explicit   
 Both explicit and implicit

**039. If a multi-employer plan, number of hours of work per member per plan year** \_\_\_\_\_

040. Was a withdrawal scale used? .....  Yes  No

041. Were variable retirement rates used? .....  Yes  No

042. If no, what is the assumed retirement age? ..... \_\_\_\_\_

**J. Actuarial basis for solvency valuation**

Valuation interest rate	Initial rate (%)	Select period	Ultimate rate (%)
045. Benefits to be settled by lump sum transfer	2.60	10	3.40
046. Benefits to be settled by purchase of deferred annuity	N/A	N/A	3.10
047. Benefits to be settled by purchase of immediate annuity	N/A	N/A	3.10
048. Rate of indexation	N/A	N/A	N/A

**049. Mortality table**

- Lump sum:  1994 UP Generational   
 CPM2014Priv   
 CPM2014   
 CPM2014Publ   
 Other (specify) \_\_\_\_\_
- Annuity Purchase:  1994 UP Generational   
 CPM2014Priv   
 CPM2014   
 CPM2014Publ   
 Other (specify) \_\_\_\_\_



**049a. Improvement scale used**

Lump sum:  Scale AA  Scale CPM-B  Scale CPM-B1D2014  Other (specify) \_\_\_\_\_  None

Annuity Purchase:  Scale AA  Scale CPM-B  Scale CPM-B1D2014  Other (specify) \_\_\_\_\_  None

**K. Balance sheet information (DB provisions, see instructions)**

**050.** Market value of assets, adjusted for receivables and payables ..... 7,305,522,000

**051.** Amount of contributions receivable included in market value above ..... 0

**Going-concern valuation**

**052.** Going-concern assets ..... 6,932,459,000

**053.** Optional ancillary contributions account balance included in going-concern assets above for a flexible pension plan (if applicable) .....

**Going-concern liabilities**

**060.** For active members ..... 1,894,495,063

**061.** For retired members ..... 4,188,945,730

**062.** For other participants ..... 37,189,476

**063.** For optional ancillary benefits to be provided under a flexible pension plan (if applicable) .....

**064.** Other reserve .....

**065.** Reserve type  Expenses  Ad-hoc indexing  Provision for Adverse Deviation  Other (specify) \_\_\_\_\_

**070.** Net funded position—surplus/deficit ..... 811,828,731

**071.** Additional voluntary contributions ..... 0

**072.** Money purchase assets (if applicable) ..... 0

**Solvency valuation**

Complete lines 080 to 100 only if the report contains an explicit solvency valuation

**Solvency assets**

**080.** Solvency assets with adjustment for expense provision, if any ..... 7,298,522,000

**081.** Amount of wind-up expense provision reflected in line 080 ..... 7,000,000

**082.** Optional ancillary contributions account balance included in solvency assets above for a flexible pension plan (if applicable) .....

**Solvency liabilities**

**090.** For active members ..... 2,172,760,741

**091.** For retired members ..... 4,334,621,102

**092.** For other participants ..... 40,324,067

**093.** For optional ancillary benefits to be provided under a flexible pension plan (if applicable) .....

**094.** Other reserve .....

**095.** Reserve type .....  Expenses  Other (specify) \_\_\_\_\_

**100.** Net solvency position—surplus/deficit ..... 750,816,090

**101.** Incremental cost ..... 752,868,042

**If the plan provides benefit increases coming into effect during the period covered by the report but after the valuation date, have those increases been reflected in:**

**102.** The going-concern liabilities in lines 060 to 064? .....  Yes  No  N/A

**103.** The solvency liabilities in lines 090 to 094? .....  Yes  No  N/A

**Discount rate sensitivity**

	Change in percentage using discount rate 1% lower	Change in amount using discount rate 1% lower	Change in amount using discount rate 1% higher
<b>104.</b> Going-concern liabilities	15.30	937,956,199	813,319,087
<b>105.</b> Normal cost	32.40	39,032,202	29,483,138
<b>106.</b> Solvency liabilities	14.50	946,780,944	827,173,802

**L. Actuarial gains or losses**

**110.** Was a gain/loss analysis done? .....  Yes  No

**111.** If line 110 is yes, indicate the date of the last filed funding valuation report and the net funded position as of that date. .... Year Month Day 2 0 1 6 1 2 3 1 ..... 433,678,307

If line 110 is **yes**, indicate amount of gain or loss due to:

112. interest on surplus (unfunded liability) .....	22,984,950
113. special payments made.....	
114. amount used for contribution holiday.....	
115. change in actuarial assumptions .....	83,789,804
116. change in the asset valuation method .....	
117. change in liability valuation method .....	
118. plan amendments/changes.....	
119. investment experience .....	321,628,141
120. retirement experience.....	(39,877,877)
121. mortality experience.....	(4,475,926)
122. withdrawal experience .....	(4,811,955)
123. salary increase experience.....	(36,538,815)
124. optional ancillary contributions forfeited .....	
Are there major contributing sources other than lines 112 to 124 above (if <b>yes</b> , specify)	
125. contractual pension increases .....	27,142,635
126. N/A .....	N/A
127. all other sources (combined).....	8,309,467

**M. Subsequent events**

135. Are there any subsequent event(s) that have not been reflected in the valuation? (refer to SOP) .....  Yes  No

**N. Statements of opinion**

136. Does the report include the statements of opinion required by the SOP (data, assumptions, methods, accepted actuarial practice)?.....  Yes  No

136a. Are any of the actuary's statements of opinion qualified?.....  Yes  No

**Part III – Information required by the Financial Services Commission of Ontario**

**O. Additional valuation information**

**Going-concern valuation**

137. Are benefits under the pension plan provided by an annuity purchase?.....  Yes  No

138. If line 137 is **yes**,

a) enter the total asset value of the annuities purchased.....

b) enter the total liability of the annuities purchased .....

139. Have escalated adjustments been included in going-concern liabilities?.....  Yes  No  N/A

**Solvency valuation**

140.1 If line 137 is **yes**,

a) enter the total asset value of the annuities purchased.....

b) enter the total liability of the annuities purchased .....

140.2 Enter the value of any solvency deficiency payment that is guaranteed by a letter of credit.....

140.3 Enter the expiry date of the letter of credit, if any ..... 

Year	Month	Day

141. Have any of the excludable benefits been excluded?.....  Yes  No  N/A

142. If line 141 is **yes**, enter the total amount of liabilities being excluded ..... 3,482,126,137

143. With respect to the type of benefits provided under the plan for service after the valuation date, complete the following table:

Provision type	Benefit accruals for service after valuation date (Yes/No)	Closed(Yes/No)
Defined Benefit	Yes	No
Defined Contribution	No	No



144. (i) Has an averaging method been applied to the market value of assets in determining the solvency asset adjustment?  Yes  No

a) If line (i) is yes, indicate the positive or negative amount by which the solvency assets are adjusted as a result of applying the averaging method. (373,063,000)

(ii) Has the averaging method used in determining the solvency asset adjustment changed since the last valuation?  Yes  No

If line (ii) is yes, complete (ii)a or (ii)b, as appropriate:

a) The change in method increases solvency asset adjustment by the amount of \_\_\_\_\_

b) The change in method decreases solvency asset adjustment by the amount of \_\_\_\_\_

**P. Miscellaneous**

145. Prior year credit balance 48,000,000

146. Transfer ratio (express in decimal format) 0.7300

**Guarantee fund assessment**

147. PBGF liabilities 6,547,705,910

148. PBGF assessment base 0

149. Amount of additional liability for plant closure and/or permanent layoff benefits as described in "E" of subsection 37(4) of Regulation 909, R.R.O. 1990, as amended 0

149a. Number of Ontario plan beneficiaries 13,062

**Part IV – Information required by the Canada Revenue Agency**

**R. Additional information**

173. Surplus/deficit determined at the valuation date as per the instructions:

173a. Going-concern basis 763,828,731

173b. Wind-up basis -2731310047

173c. For designated plans, maximum funding valuation basis \_\_\_\_\_

174. Excess surplus determined at the valuation date:

174a. Going-concern basis 0

174b. For designated plans, maximum funding valuation basis \_\_\_\_\_

175. For designated plans, employer normal cost determined under the maximum funding valuation basis:

Period 1 \_\_\_\_\_

Period 2 \_\_\_\_\_

Period 3 \_\_\_\_\_

Period 4 \_\_\_\_\_

176. Minimum surplus required under applicable pension benefit legislation before contribution holiday:

176a. Going-concern basis 1

176b. Wind-up basis \_\_\_\_\_

177. Maximum amount that could be claimed as eligible employer contribution(s) – defined benefit provisions – under subsection 147.2(2) of the *Income Tax Act*:

177a. Unfunded liability 763,828,731

177b. Normal cost:

Period 1 120,445,195

Period 2 119,910,555

Period 3 118,982,255

Period 4 \_\_\_\_\_

178. Do you have any employees contributing over the limit stipulated under paragraph 8503(4) of the *Income Tax Regulations*?  Yes  No

	Present Value	Amortization payments			
		Period 1	Period 2	Period 3	Period 4
202. Technical funding deficiency					
202a. Payable by the members					
202b. Payable by the employer					
203. Stabilization funding deficiency					
203a. Payable by the members					
203b. Payable by the employer					
204. Improvement funding deficiency					
204a. Payable by the members					
204b. Payable by the employer					

**Part VI – Certification by Actuary**

As the actuary who signed the funding valuation report (the report), I certify that this completed form accurately reflects the information provided in the report.

Dated this 30 day of April, 2018  
(day) (month) (year)

Suzanne Jacques  
(Signature of actuary)

Suzanne Jacques  
Print or type name of actuary

Willis Towers Watson  
Name of firm

416 960 7460  
Telephone number

Suzanne.jacques00@willistowerswatson.com  
Email Address\*

**\* Optional information. The Canada Revenue Agency will not communicate on plan specific matters with clients by email, since we cannot guarantee the confidentiality of emailed information.**

Personal information is collected under the authority of section 147.2 of the *Income Tax Act* and is used for the administration of a registered pension plan. It may also be used for any purpose related to the administration or enforcement of the Act such as audit and compliance. Information may also be shared or verified under information-sharing agreements to the extent authorized by law. Under the *Privacy Act*, individuals have the right to access their personal information and request correction if there are errors or omissions. Refer to Info Source [cra.gc.ca/gncy/tp/nfsrc/nfsrc-eng.html](http://cra.gc.ca/gncy/tp/nfsrc/nfsrc-eng.html), Personal Information Bank CRA PPU 226.



**Part V – Information required by Retraite Québec**

**S. Additional Information**

185. Date on which the valuation report was prepared .....

186. Value of additional liabilities arising from an improvement on a funding basis .....

187. Value of additional liabilities arising from an improvement on a solvency basis .....

188. Surplus assets that can be allocated to fund contributions .....

189. Special payments.....

190. Total of the letters of credit taken into account in the assets .....

191. Insured annuities from an insurer taken into account in the actuarial valuation on a solvency basis.....

**T. Additional information for plans whose employer is a municipality, a municipal housing bureau, or an educational institution at the university level**

**For service prior to the establishment of the stabilization fund**

192. Reserve on a funding basis .....

	Present Value	Amortization payments			
		Period 1	Period 2	Period 3	Period 4
193. Deficiency attributable to the employer					
194. Funding deficiency					
194a. Payable by the members					
194b. Payable by the employer					

**For service following the establishment of the stabilization fund**

195. Stabilization fund value .....

	Stabilization contributions			
	Period 1	Period 2	Period 3	Period 4
196. Members				
197. Employer				

	Present Value	Amortization payments			
		Period 1	Period 2	Period 3	Period 4
198. Technical funding deficiency					
198a. Payable by the members					
198b. Payable by the employer					

**U. Additional information for pension plans other than those mentioned in Section T, and for which solvency funding does not apply.**

199. Target level (as a percentage) of the required stabilization provision .....

	Stabilization contributions			
	Period 1	Period 2	Period 3	Period 4
200. Members				
201. Employer				

## Appendix 2-KA OPEBs (Other Post-Employment Benefits) Costs

**A** Please indicate if OPEBs were recovered on a cash or accrual accounting basis for each year since the

**Notes:**

(Please add any information to explain the accounting basis used for OPEBs cost recovery in rate setting. If basis is other than Cash or

Hydro One utilizes the accrual method for accounting of Other Post-Employment Benefit ("OPEBs") costs. The accrual method is appropriate because it reflects the costs incurred during the time period and, as such, more accurately attributes those costs to the appropriate ratepayers.

**B** Please complete the following table:

OPEBS	First Year of recovery to 2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
<b>Amounts included in Rates</b>										
OM&A	\$ 292	\$ 25	\$ 28	\$ 23	\$ 20	\$ 23	\$ 21	\$ 15	\$ 16	\$ 463
Capital ( <b>Note 1</b> )	\$ 198	\$ 28	\$ 29	\$ 28	\$ 23	\$ 29	\$ 10	\$ 16	\$ 18	\$ 379
Deferral Account							\$ 22	\$ 19	\$ 21	\$ 62
<b>Total</b>	<b>\$ 490</b>	<b>\$ 53</b>	<b>\$ 57</b>	<b>\$ 51</b>	<b>\$ 43</b>	<b>\$ 52</b>	<b>\$ 53</b>	<b>\$ 50</b>	<b>\$ 55</b>	<b>\$ 904</b>
<b>Paid benefit amounts</b>	<b>\$ 150</b>	<b>\$ 19</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 19</b>	<b>\$ 19</b>	<b>\$ 21</b>	<b>\$ 26</b>	<b>\$ 28</b>	<b>\$ 322</b>
<b>Net excess amount included in rates relative to amounts actually paid.</b>	<b>\$ 340</b>	<b>\$ 34</b>	<b>\$ 37</b>	<b>\$ 31</b>	<b>\$ 24</b>	<b>\$ 33</b>	<b>\$ 32</b>	<b>\$ 24</b>	<b>\$ 27</b>	<b>\$ 582</b>

**Note 1:** Please see impacts to the capital component of OPEB costs as noted in Exhibit F, Tab 5, Schedule 1.

**C** Please describe what the distributor has done with the recoveries in excess of cash payments:

The Capital component of OPEB costs is recovered over the useful life of the assets to which it is capitalized and not in the years noted. Therefore, the Net excess as noted does not represent the excess recovery in each year.

1                    **DEPRECIATION AND AMORTIZATION EXPENSES**

2  
3            **1.        INTRODUCTION**

4  
5        The purpose of this evidence is to summarize the method and amount of Hydro One  
6        Transmission’s depreciation and amortization expense for the 2020 to 2022 test years.

7  
8        The depreciation and amortization expense for Hydro One’s submission for 2007 and  
9        2008 Electricity Transmission revenue requirements (EB-2006-0501) was supported by  
10       an independent study conducted by Foster Associates Inc. (Foster), completed in June,  
11       2006. In EB-2008-0272, Hydro One submitted a 2008 Technical Update conducted by  
12       Foster completed in August 2008 that supported the 2009 and 2010 depreciation and  
13       amortization expense. Net Depreciation Study or Technical Update was carried out for  
14       2011 and 2012 rates and depreciation rates were not changed from those previously  
15       approved. In EB-2014-0140, Hydro One submitted an independent study conducted by  
16       Foster, completed in August 2013, that supported depreciation rates for 2015 and 2016  
17       depreciation and amortization expense. In EB-2016-0160, Hydro One submitted an  
18       independent study conducted by Foster, completed in October 2015 that supported  
19       depreciation rates for 2017 to 2018 depreciation and amortization expense. The Board  
20       accepted the costs flowing from the previous Depreciation Studies and Technical Updates  
21       for the purpose of supporting Transmission rates in those years. Foster Associates has  
22       completed a new Depreciation study for Hydro One Transmission in support of its 2020  
23       to 2022 application. The new study can be found at Exhibit F, Tab 6, Schedule 1,  
24       Attachment 1.

Witness: Samir Chhelavda

**2. DEPRECIATION EXPENSE**

In accordance with the Board’s Decision (EB-2016-0160), Hydro One Transmission used the Foster methodology, updated to reflect the results from the new Depreciation Study for Transmission assets only, completed in 2017 for determining the depreciation rates proposed to be used in the calculation of depreciation expenses for 2020 and 2022. Hydro One has historically employed the half-year rule in calculating depreciation expense for capital additions, and has continued this practice for the test years.

Detailed depreciation schedules are filed at Exhibit F, Tab 6, Schedule 1, Attachment 2.

The depreciation expense for 2020 to 2022 is summarized in the table below.

**Table 1: Transmission Depreciation Expense (\$ Million)**

Description	Historic				Bridge	Test		
	2015	2016	2017	2018	2019	2020	2021	2022
Depreciation On Fixed Assets	339.0	350.8	370.6	387.3	416.7	421.0	441.4	463.6
Less Capitalized Depreciation	(9.0)	(12.0)	(12.6)	(13.0)	(13.1)	(13.3)	(13.5)	(13.6)
Asset Removal Costs	29.0	34.6	38.3	37.7	57.3	54.1	59.7	61.5
Losses/(Gains) On Asset Disposition	-	(0.1)	(2.0)	(0.5)	-	-	-	-
<b>Total</b>	<b>359.0</b>	<b>373.3</b>	<b>394.3</b>	<b>411.5</b>	<b>460.8</b>	<b>461.8</b>	<b>487.6</b>	<b>511.5</b>

1 **3. AMORTIZATION EXPENSE**

2  
3 Amortization expense addresses the recovery of amounts that Hydro One Transmission  
4 has deferred to a future date. The Board has approved this method in previous rate  
5 proceedings.

6  
7 Amortization schedules for test, bridge and historical years are filed at Exhibit F, Tab 6,  
8 Schedule 1, Attachment 2. Table 2 below, reproduces the summary.

9  
10 **Table 2: Transmission Amortization Expense (\$ Million)**

Description	Historic				Bridge	Test		
	2015	2016	2017	2018	2019	2020	2021	2022
Environmental Assets and Other	7.1	6.8	8.1	6.7	6.9	12.8	17.6	19.4

11  
12 The increase in spend in test years is primarily due to increased polychlorinated biphenyl  
13 (PCB) retro-fill activities as Hydro One is approaching the Environment Canada  
14 December 31, 2025 deadline to remove all but the lowest levels of PCBs in contaminated  
15 equipment.

16  
17 **Environmental Assets and Other**

18 Hydro One Transmission provides for estimated future expenditures required to  
19 remediate past environmental contamination and to comply with current environmental  
20 legislation. Since these future expenditures are expected to be recovered in future rates,  
21 Hydro One Transmission has recognized the net present value of these estimated future  
22 expenditures as a regulatory asset on its Balance Sheet. The environmental regulatory  
23 asset balance is amortized on a basis consistent with the pattern of current expenditures  
24 expected to be incurred up to the year 2024. Hydro One Distribution received

Witness: Samir Chhelavda

1 concurrence from the Board for this accounting treatment as part of the RP-2000-0023  
2 Decision. Hydro One Transmission's treatment of these costs in its Application for 2007-  
3 2008 Transmission Rates (EB-2006-0501) was consistent with that Decision and was  
4 accepted by the Board. The treatment of these costs in this Submission is consistent with  
5 both of these prior proceedings.

# 2017 Depreciation Rate Review



— *Transmission Operations*

# CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>SECTION I</b>
INTRODUCTION .....	1
PLANT ACCOUNT STRUCTURE .....	1
CURRENT DEPRECIATION RATES .....	2
2017 DEPRECIATION RATE REVIEW .....	3
SCOPE OF REVIEW .....	3
DEPRECIATION SYSTEM .....	3
RECOMMENDED DEPRECIATION RATES .....	4
<b>STUDY PROCEDURE</b>	<b>SECTION II</b>
INTRODUCTION .....	6
SCOPE .....	6
DATA COLLECTION .....	6
LIFE ANALYSIS AND ESTIMATION .....	7
CLASS/CATEGORY SERVICE LIVES .....	10
USOA SERVICE LIVES .....	11
DEPRECIATION RESERVE ANALYSIS .....	11
DEVELOPMENT OF ACCRUAL RATES .....	12
<b>STATEMENTS</b>	<b>SECTION III</b>
INTRODUCTION .....	15
STATEMENT A – REMAINING–LIFE ACCRUAL RATES .....	16
STATEMENT B – REMAINING–LIFE ACCRUALS .....	17
STATEMENT C – DEPRECIATION RESERVE SUMMARY .....	18
STATEMENT D – CURRENT AND PROPOSED PARAMETERS .....	19
STATEMENT E – ASSET CATEGORY SUMMARY (BU 210) .....	20
<b>ANALYSIS</b>	<b>SECTION IV</b>
INTRODUCTION .....	28
SCHEDULE A – GENERATION ARRANGEMENT .....	28
SCHEDULE B – AGE DISTRIBUTION .....	29
SCHEDULE C – PLANT HISTORY .....	29
SCHEDULE D – ACTUARIAL LIFE ANALYSIS .....	30
SCHEDULE E – GRAPHICS ANALYSIS .....	30



**TRANSMISSION**

1715 – STATION EQUIPMENT

SCHEDULE A – GENERATION ARRANGEMENT ..... 24  
SCHEDULE B – AGE DISTRIBUTION ..... 26  
SCHEDULE C – PLANT HISTORY ..... 28  
SCHEDULE D – ACTUARIAL LIFE ANALYSIS ..... 30  
SCHEDULE E – GRAPHICS ANALYSIS ..... 33

**EXPERT RULE 13A**

**SECTION V**

CONFIRMATION ..... 36  
FORM A ..... 37  
PROFESSIONAL QUALIFICATIONS ..... 38

*Executive Summary*

# EXECUTIVE SUMMARY

## INTRODUCTION

This report presents a review and update of depreciation rates and parameters for Transmission plant owned and operated by Hydro One Networks Inc. (Company or Hydro One Networks). Work on this review, conducted by Foster Associates Consultants, LLC (Foster Associates), commenced in March 2017 and progressed through mid-August, at which time the project was completed.

Foster Associates is a public utility economic consulting firm headquartered in Fort Myers, Florida offering economic research and consulting services on issues and problems arising from governmental regulation of business. Areas of specialization supported by our Fort Myers office include service life and technological forecasting, depreciation estimation, and valuation of industrial property.

Foster Associates has undertaken numerous depreciation engagements for both public and privately owned business entities, including detailed statistical life studies, analyses of required net salvage rates, and the selection of depreciation systems that will most nearly achieve the goals of depreciation accounting under the constraints of either government regulation or competitive market pricing. Foster Associates is widely recognized for industry leadership in the development of depreciation systems, life analysis techniques and computer applications for conducting depreciation and valuation studies.

## PLANT ACCOUNT STRUCTURE

The hierarchical structure of plant accounting records maintained by Hydro One Networks for major asset categories provides: a) Uniform System of Account (USoA) categories; b) cost of asset components (Category ID); and c) vintage identification (Asset ID).

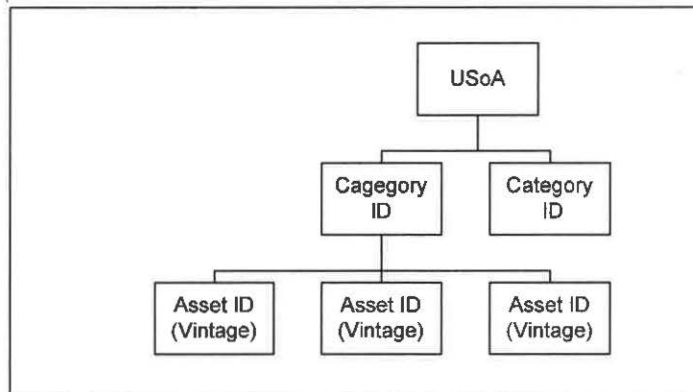


Fig. 1 Account Structure

The lowest level at which the installed cost of a property unit (*e.g.*, a single pole or transformer) can be estimated is by vintage year of placement within a Category ID. (The cost of a property unit within a vintage can be estimated by dividing the vintage cost by the recorded number of installed property units). A Category ID is

an aggregation of vintage costs sharing common physical or functional attributes. All vintages of power transformers larger than 230 kV, for example, or all vintages of underground cable are classified in unique Category IDs. It is neither practical nor feasible, however, to estimate service lives and maintain accumulated depreciation reserves for each property unit.

### **CURRENT DEPRECIATION RATES**

Depreciation rates currently used by Hydro One Networks for Transmission and Common operations were developed in a 2013 depreciation review conducted by Foster Associates. The Ontario Energy Board (OEB) approved depreciation expense derived from the depreciation review pursuant to a Settlement Agreement in EB-2014-0140 (Rate Order dated January 8, 2015).<sup>1</sup>

Life tables were constructed in the 2015 review for each USoA plant account for which retirements were recorded over the period 2000-2014. Life tables constructed over this limited historical period exhibited uniformly high degrees of censoring and indeterminate measurements of service life. These results were directly attributable to insufficient retirement experience over the available band of activity years.

Absent the availability of sufficient retirement activity to conduct statistical service life studies, depreciation rates developed in the 2015 review were derived from a composite of category lives for class categories established by Hydro One Networks in 2008 in preparation for implementation of International Financial Reporting Standards (IFRS) and reviewed in 2013. While Hydro One Networks has received an exemption from an otherwise mandatory adoption of IFRS for rate regulated entities, the Company intends to continue maintaining category classifications for engineering operations and business planning purposes.

The review of category lives undertaken in 2013 included onsite meetings with Company engineers, accountants and other subject matter experts having managerial responsibilities for the assets under review. Meetings of the project team were facilitated by Foster Associates. Discussions were held with representatives from planning, operations, maintenance, information technology and facilities to assess the reasonableness of recommended category lives within their respective areas of expertise. Consideration was also given to the range of service lives recommended in the Asset Amortization Study prepared for the Ontario Energy Board by Kinectrics Inc.

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<sup>1</sup> Depreciation rates were subsequently developed in a 2015 depreciation review in EB-2016-0160 for 2017 and 2018 rate setting purposes. Rates developed in the 2015 review have been retained pending a decision in EB-2016-0160.



Projection lives for USoA categories were derived from harmonic weighting of the constituent category lives recommended by the project team. Iowa survivor curves considered descriptive of the forces of retirement acting upon each USoA category were selected by Foster Associates based on experience and an understanding of the parametric form of the associated probability density functions.

## **2017 DEPRECIATION RATE REVIEW**

The principal findings and recommendations of the Hydro One Networks 2017 Depreciation Rate Review are summarized in the Statements section of this report. Statement A provides a comparative summary of current and recommended annual depreciation rates for each USoA rate category. Statement B provides a comparison of current and recommended annual depreciation accruals. Statement C provides a comparison of recorded, computed and redistributed depreciation reserves for each rate category. Statement D provides a comparative summary of current and recommended parameters including projection life, projection curve, average service life, and average remaining life. Statement E provides the computation of recommended USoA projection lives derived from an analysis of component category lives.

### **Scope of Review**

Principal activities undertaken in the 2017 review included:

- Collection of plant and reserve data;
- Reconciliation of assembled database to Company records;
- Discussions with Hydro One Networks plant accounting personnel;
- Estimation of projection lives and retirement dispersion patterns;
- Analysis and redistribution of recorded depreciation reserves; and
- Development of recommended accrual rates for each rate category.

### **Depreciation System**

A depreciation rate is formed by combining the elements of a depreciation system composed of a method, a procedure and a technique. A depreciation method (*e.g.*, straight-line) describes the system component that produces acceleration or deceleration of depreciation accruals in relation to either time or use. A depreciation procedure (*e.g.*, vintage group) identifies the level of grouping or sub-grouping of assets within a plant category. The level of grouping specifies the weighting used to obtain composite life statistics for a group plant account. A depreciation technique (*e.g.*, remaining-life) describes the life statistic used in the system.

With the exception of intangible plant and selected general support asset categories for which amortization accounting has been adopted, Hydro One Networks is currently using a depreciation system composed of the straight-line method, vintage group procedure, and remaining-life technique. Amortization accounting is used for plant categories in which the unit cost of plant items is small in relation to the number of units classified in the account. Plant is retired (*i.e.*, credited to plant and

charged to the reserve) as each vintage achieves an age equal to the amortization period.

Depreciation theory provides that the cost of an asset (or group of assets) should be allocated to operations over an estimate of the economic life of the asset in proportion to the consumption of service potential. It is the opinion of Foster Associates that the objectives of depreciation accounting are being achieved using the currently approved vintage-group procedure, which distinguishes service lives among vintages, and the remaining-life technique, which provides cost apportionment over the estimated weighted-average remaining life of a rate category. It is also the opinion of Foster Associates that amortization accounting remains appropriate for BU 210 general plant amortization categories summarized in Table 1 below.

Account Number	Description	Amortization Period
A	B	C
1610	Computer Software	10 yrs.
1925	Computer Software - Major	6 yrs.

**Table 1. Amortization Accounts**

### Recommended Depreciation Rates

Table 2 below provides a summary of the changes in annual rates and accruals resulting from the 2017 review of Hydro One Networks' Transmission Operations (BU 210).

Function	Accrual Rate			2017 Annualized Accrual		
	Current	Proposed	Difference	Current	Proposed	Difference
A	B	C	D=C-B	E	F	G=F-E
Intangible	9.49%	9.49%	0.00%	\$ 156,907	\$ 156,907	\$ -
Transmission	1.81%	1.83%	0.02%	257,212,511	259,248,891	2,036,380
General Plant	5.23%	4.60%	-0.63%	53,451,933	47,072,433	(6,379,500)
Total	2.04%	2.02%	-0.02%	\$ 310,821,351	\$ 306,478,231	\$ (4,343,120)

**Table 2. Transmission Operations**

The composite accrual rate recommended for Transmission Operations is 2.04 percent. The current equivalent rate is also 2.02 percent. The recommended change in the composite depreciation rate is a reduction of 0.02 percentage points.

A continued application of current rates would provide annualized depreciation expense of \$310,821,351 compared with an annualized expense of \$306,478,231 using the recommended rates. The resulting 2017 expense reduction of \$4,343,120 is largely attributable to rebalancing depreciation reserves for amortizable accounts classified in both general and intangible plant functions. The re-alignment of reserves is designed to produce reserve balances equal to plant balances when each vintage achieves an age equal to the adopted amortization periods.

*Study Procedure*



# STUDY PROCEDURE

## INTRODUCTION

The purpose of a depreciation study is to analyze the mortality characteristics, net salvage rates and adequacy of the depreciation accrual and recorded depreciation reserve for each rate category. The 2017 review provides the foundation and documentation for recommended changes in the depreciation accrual rates used by Hydro One Networks for Transmission Operations. The recommended rates are subject to approval by the Ontario Energy Board.

## SCOPE

The steps involved in conducting the 2017 depreciation review can be grouped into four major tasks:

- Data Collection;
- Life Analysis and Estimation;
- Depreciation Reserve Analysis; and
- Development of Accrual Rates.

The scope of the 2017 review included a consideration of each of these tasks as described below.

## DATA COLLECTION

The minimum database required to conduct a statistical life study consists of a history of vintage year additions and unaged activity–year retirements, transfers and adjustments. These data must be appropriately adjusted for transfers, sales and other plant activity that would otherwise bias the measured service life of normal retirements. The age distribution of surviving plant for unaged data can be estimated by distributing plant in service at the beginning of the study year to prior vintages in proportion to the theoretical amount surviving from a projection or survivor curve identified in the life study. The statistical methods of life analysis used to examine unaged plant data are known as *semi-actuarial techniques*.

A far more extensive database is required to apply statistical methods of life analysis known as *actuarial techniques*. Plant data used in an actuarial life study most often include age distributions of surviving plant at the beginning of a study year and the vintage year, activity year, and dollar amounts associated with normal retirements, reimbursed retirements, sales, abnormal retirements, transfers, corrections, and extraordinary adjustments over a series of prior activity years. An actuarial database may include age distributions of surviving plant at the beginning of the earliest activity year, rather than at the beginning of the study year. Plant additions, however, must be included in a database containing an opening age distribution to derive aged survivors at the beginning of the study year. All activity year transactions with vintage year identification are coded and stored in a database. These data are processed by a computer program and transaction summary reports are created in a format reconcilable to official plant records. The availability of such



detailed information is dependent upon an accounting system that supports aged property records. The Continuing Property Record (CPR) system used by Hydro One Networks provides aged transactions for all plant accounts.

Prior to 1998, plant accounting records were maintained by Hydro One Networks in a legacy Fixed Asset Management System (FAMS) developed by Ontario Hydro. FAMS was replaced with an SAP system in 1998. The SAP system was replaced with a PeopleSoft asset accounting system in 2000. The PeopleSoft system was configured with the asset categories maintained in the SAP system and uploaded with age distributions of surviving plant at December 31, 1999.<sup>1</sup> The PeopleSoft system was replaced in August 2009 by an updated version of the SAP system.

Plant and reserve data used in conducting the 2017 depreciation review were assembled and initially coded by Hydro One Networks personnel. Additional coding was provided by Foster Associates as needed. Plant accounting transactions recorded between January 1, 2015 and December 31, 2016 were extracted from the SAP system, coded and appended to the database used in conducting the 2015 review. An additional dataset of category plant balances at December 31, 2016 was assembled and reconciled to aggregate USoA balances. (See Statement E).

Age distributions of surviving plant (*i.e.*, plant surviving by vintage year of placement) at December 31, 2016 were derived by Foster Associates from the vintaged plant transactions and reconciled to age distributions provided by Hydro One Networks. The complexity of the process through which the database was compiled and mapped to USoA plant categories prevented Foster Associates from reconciling the database to any public reports of Hydro One Networks. The integrity of the assembled database, however, was confirmed by the Company.

## **LIFE ANALYSIS AND ESTIMATION**

Life analysis and life estimation are terms used to describe a two-step procedure for estimating the mortality characteristics of a plant category. The first step (*i.e.*, life analysis) is largely mechanical and primarily concerned with history. Statistical techniques are used in this step to obtain a mathematical description of the forces of retirement acting upon a plant category and an estimate of the *projection life* of the account. Mathematical expressions used to describe these life characteristics are known as *survival functions* or *survivor curves*.

The second step (*i.e.*, life estimation) is concerned with predicting the expected remaining life of property units still exposed to forces of retirement. It is a process

---

<sup>1</sup>In 2003, Hydro One undertook a two-phase project to a) map asset categories maintained in PeopleSoft to USoA plant classifications; and b) align quantities maintained in a Power System Data Base (PSDB) to the re-mapped USoA account classifications. The PSDB provides property unit identification and quantities associated with investments maintained in PeopleSoft. Asset categories maintained in SAP were not mapped to USoA plant account classifications. This limitation prohibited using pre-2000 plant accounting activity in the 2017 depreciation review.

of blending the results of a life analysis with informed judgment (including expectations about the future) to obtain an appropriate projection life and curve descriptive of the parent population from which a plant account is viewed as a random sample. The amount of weight given to a life analysis will depend upon the extent to which past retirement experience is considered predictive of the future.

The analytical methods used in a life analysis are broadly classified as actuarial and semi-actuarial techniques. Actuarial techniques can be applied to plant accounting records that reveal the age of a plant asset at the time of its retirement from service. Stated differently, each retirement unit must be identifiable by date of installation and age at retirement. Semi-actuarial techniques can be used to derive service life and dispersion estimates when age identification of retirements is not maintained or readily available.

An actuarial life analysis program designed and developed by Foster Associates was employed in this review. The first step in an actuarial analysis involves a systematic treatment of the available data for the purpose of constructing an observed life table. A complete life table contains the life history of a group of property units installed during the same accounting period and various probability relationships derived from the data. A life table is arranged by age-intervals (usually defined as one year) and shows the number of units (or dollars) entering and leaving each age-interval and probability relationships associated with this activity. A life table minimally shows the age of each survivor and the age of each retirement from a group of units installed in a given accounting year.

A life table can be constructed in any one of at least five methods. The annual-rate or retirement-rate method was used in this review. The mechanics of the annual-rate method require the calculation of a series of ratios obtained by dividing the number of units (or dollars) surviving at the beginning of an age interval into the number of units (or dollars) retired during the same interval. This ratio—called a “retirement ratio”—is an estimator of the hazard rate or conditional probability of retirement during an age interval. The cumulative proportion surviving is obtained by multiplying the retirement ratio for each age interval by the proportion of the original group surviving at the beginning of that age interval and subtracting this product from the proportion surviving at the beginning of the same interval. The annual-rate method is applied to multiple groups or vintages by combining the retirements and/or survivors of like ages for each vintage included in the analysis.

The second step in an actuarial analysis involves graduating or smoothing the observed life table and fitting the smoothed series to a family of survival functions. The functions used in this review are the Iowa-type curves which are mathematically described by the Pearson frequency curve family. Observed life tables were smoothed by a weighted least-squares procedure in which first, second and third degree orthogonal polynomials were fitted to the observed retirement ratios. The



resulting function was expressed as a survivorship function and numerically integrated to obtain an estimate of the projection life. The observed proportions surviving were then fitted by a weighted least-squares procedure to the Iowa-curve family to obtain a mathematical description or classification of the dispersion characteristics of the data.

The set of computer programs used in this review provides multiple rolling-band, shrinking-band and progressive-band analyses of an account. Observation bands are defined by the dimensions of a "retirement era" that restricts the analysis to the retirement activity of all vintages represented by survivors at the beginning of a selected era. In a rolling-band analysis, a year of retirement experience is added to each successive retirement band and the earliest year from the preceding band is dropped. A shrinking-band analysis begins with the total retirement experience available and the earliest year from the preceding band is dropped for each successive band. A progressive-band analysis adds a year of retirement activity to a previous band without dropping earlier years from the analysis. Rolling, shrinking and progressive band analyses are used to detect the emergence of trends in the behavior of the dispersion and projection life.

Options available in the actuarial life analysis program designed and developed by Foster Associates include the width and location of both placement and observation bands; the interval of years included in a selected band analysis; the estimator of the hazard rate (actuarial, conditional proportion retired, or maximum likelihood); the elements to include on the diagonal of a weight matrix (exposures, inverse of age, inverse of variance, or unweighted); and the age at which an observed life table is truncated. The program also provides both tabular and graphics output to aid in the analysis.

As noted above, the database for Hydro One Networks contains plant accounting transactions for activity years 2000–2016. While it is theoretically possible to obtain life indications from an actuarial analysis of a single activity year, retirements during the year must be widely distributed over the beginning-of-year surviving vintages of a nearly mature plant account.<sup>2</sup> A similar limitation applies to the database of Hydro One Networks which contains minimal retirement activity during the available activity years. Retirements must be sufficiently distributed across vintages within these years in order to obtain meaningful service life indications from a statistical analysis.

Life tables were constructed for each USoA plant account for which retirements were recorded over the period 2000–2016. Life tables constructed over this limited historical period exhibited uniformly high degrees of censoring and indeterminate

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<sup>2</sup>Plant maturity is achieved when the age distribution of surviving plant resembles a complete survivor curve descriptive of the forces of retirement acting upon the plant category.

measurements of service life. These results were directly attributable to an insufficient distribution of retirements over the available band of activity years.

As was noted in the 2015 review, limitations in conducting life analyses were also imposed by vintage years “banded” by the Company in 1992 and again in 1998 when age distributions from a Fixed Asset Management System (FAMS) were uploaded to SAP. All pre-1950 vintages were assigned a vintage year of 1950. Plant installed between 1951 and 1955 was assigned a vintage year of 1955. Similarly, plant installed during the intervals 1956–1960, 1961–1965 and 1966–1970 were assigned vintage years 1960, 1965 and 1970, respectively. Although discontinued in 1971, the banding of pre-1970 vintages will continue to produce unreliable life indications until most of the earlier vintages have been retired from service.

Pending the availability of sufficient or normal retirement activity to conduct service life studies, it is the opinion of Foster Associates that a composite of the parameters estimated for the asset categories recorded in a USoA account provides the best available estimate of service life statistics for the current depreciation review.

### Class/Category Service Lives

Class categories used in the 2017 review are those established in 2008 in preparation for implementation of International Financial Reporting Standards (IFRS). While Hydro One Networks has received an exemption from an otherwise mandatory adoption of IFRS for rate regulated entities, the Company intends to continue maintaining category classifications for engineering operations and business planning purposes.

The review of category lives undertaken in the 2013 review included onsite meetings with Company engineers, accountants and other subject matter experts having managerial responsibilities for the assets under review. Meetings of the project team were facilitated by Foster Associates. Discussions were held with representatives from planning, operations, maintenance, information technology and facilities to assess the reasonableness of proposed category lives within their respective areas of expertise. Consideration was also given to the range of service lives recommended in the Asset Amortization Study prepared for the Ontario Energy Board by Kinectrics Inc.

Category lives were reviewed in the 2015 and current study via written surveys distributed to the subject matter experts who participated in the 2013 review. Each participant was asked to revisit currently approved category lives within their respective areas of expertise and to document reasons for any suggested changes or adjustments. No adjustments were recommended by these participants. Accordingly, category lives recommended and approved in the 2015 review were retained in the 2017 review.



## USoA Service Lives

Proposed projection lives for USoA categories were derived from harmonic weighting of the constituent category lives recommended by the project team. Iowa survivor curves considered descriptive of the forces of retirement acting upon each USoA category were selected by Foster Associates based on experience and an understanding of the parametric form of the associated probability density functions. Projection lives and projection curves recommended for all depreciable USoA categories are summarized in Statement E.

## **DEPRECIATION RESERVE ANALYSIS**

The purpose of a depreciation reserve analysis is to compare the current level of recorded reserves with the level required to achieve the goals or objectives of depreciation accounting if the amount and timing of future retirements and net salvage are realized as predicted. The difference between a required (or theoretical) depreciation reserve and a recorded reserve provides a measurement of the expected excess or shortfall that will remain in the depreciation reserve if corrective action is not taken to eliminate the reserve imbalance.

Unlike a recorded reserve which represents the net amount of depreciation expense charged to previous periods of operations, a theoretical reserve is a measure of the implied reserve requirement at the beginning of a study year if the timing of future retirements and net salvage is in exact conformance with a survivor curve chosen to predict the probable life of property still exposed to the forces of retirement. Stated differently, a theoretical depreciation reserve is the difference between the recorded cost of plant currently in service and the sum of depreciation expense and net salvage that will be charged in the future if retirements are distributed over time according to a specified retirement frequency distribution.<sup>3</sup>

Survivor curves used in the calculation of a theoretical depreciation reserve are intended to describe forces of retirement that will be operative in the future. However, retirements caused by forces such as accidents, physical deterioration and changing technology seldom, if ever, remain stable over time. It is unlikely, therefore, that a probability or retirement frequency distribution can be identified that will accurately describe the age of plant retirements over the complete life cycle of a vintage. It is for this reason that depreciation rates should be reviewed periodically and adjusted for observed or expected changes in the parameters chosen to describe the underlying forces of mortality.

Although reserve records are commonly maintained by various account classifications, the total recorded reserve in relation to the sum of account computed reserves provides a meaningful indicator of the adequacy (or inadequacy) of recorded reserves. If statistical life studies have not been conducted or retirement dispersion

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<sup>3</sup>Hydro One Networks does not accrue for net salvage.

has been ignored in setting depreciation rates, it is likely that some accounts will be over-depreciated and other accounts will be under-depreciated relative to a calculated or theoretical reserve. Differences between theoretical and recorded reserves will also arise as a normal occurrence when service lives, dispersion patterns and net salvage estimates are adjusted in the course of depreciation reviews. Differences can also arise from plant accounting activity such as transfers and adjustments that may require an identification of reserves at a level lower than maintained in the accounting system. It is appropriate, therefore, and consistent with group depreciation theory to periodically redistribute or rebalance recorded reserves among primary accounts based upon the most recent estimates of retirement dispersion and net salvage rates.

It is the opinion of Foster Associates that a redistribution of recorded reserves is appropriate for Hydro One Networks at this time. Offsetting reserve imbalances attributable to the passage of time should be realigned among primary accounts to reduce offsetting imbalances and increase depreciation rate stability.

With the exception of amortizable categories in which theoretical or computed reserves replace recorded reserves, all remaining reserves were redistributed by multiplying the calculated reserve for each USoA primary account by the ratio of the sum of recorded reserves to the sum of calculated reserves. The sum of redistributed reserves is, therefore, equal to the sum of recorded depreciation reserves before the redistribution.

Statement C provides a comparison of recorded, computed and rebalanced reserves for Transmission Operations (BU 210) at December 31, 2016. The recorded reserve was \$5,559,043,476 or 36.6 percent of the depreciable plant investment. The corresponding computed reserve is \$5,002,644,977 or 32.9 percent of the depreciable plant investment. A proportionate amount of the measured reserve imbalance of \$556,398,499 will be amortized over the composite weighted-average remaining life of each rate category using the remaining life depreciation rates proposed in this review.

#### **DEVELOPMENT OF ACCRUAL RATES**

The goal or objective of depreciation accounting is cost allocation over the economic life of an asset in proportion to the consumption of service potential. Ideally, the cost of an asset—which represents the cost of obtaining a bundle of service units—should be allocated to future periods of operation in proportion to the amount of service potential expended during an accounting interval. The service potential of an asset is the present value of future net revenue (*i.e.*, revenue less expenses exclusive of depreciation and other non-cash expenses) or cash inflows attributable to the use of that asset alone.



Cost allocation in proportion to the consumption of service potential is often approximated by the use of depreciation methods employing time rather than net revenue as the apportionment base. Examples of time-based methods include sinking-fund, straight-line, declining balance, and sum-of-the-years' digits. The advantage of a time-based method is that it does not require an estimate of the remaining amount of service potential an asset will provide or the amount of potential consumed during an accounting interval. Using a time-based allocation method, however, does not change the goal of depreciation accounting. If it is reasonable to predict that the net revenue pattern of an asset will either decrease or increase over time, then an accelerated or decelerated time-based method should be used to approximate the rate at which service potential is actually consumed.

The time period over which the cost of an asset will be allocated to operations is determined by the combination of a procedure and a technique. A depreciation procedure describes the level of grouping or sub-grouping of assets within a plant category. Broad group, vintage group, equal-life group, and item (or unit) are a few of the more widely used procedures. A depreciation technique describes the life statistic used in a depreciation system. Whole life and remaining life (or expectancy) are the most common techniques.

Depreciation rates recommended in the 2017 review were developed using the currently approved system composed of the straight-line method, vintage group procedure, and remaining-life technique. It is the opinion of Foster Associates that this system will remain appropriate for Hydro One Networks, provided depreciation reviews are conducted periodically and parameters are routinely adjusted to reflect changing operating conditions.

It is also the opinion of Foster Associates that amortization accounting currently approved for selected general support asset accounts is consistent with the goals and objectives of depreciation accounting derived from cost allocation and depreciation accounting theory.

The treatment of amortization accounts in the current and prior depreciation reviews was designed to produce annualized accruals equivalent to applying a rate equal to the reciprocal of an amortization period to plant balances after retirements have been recorded. Applying a rate equal to the reciprocal of the amortization period to plant balances prior to posting retirements would overstate the annualized amortization expense. Accrual rates contained in Statement A have been applied to plant balances containing vintages that will be retired upon approval of the 2017 review. Accrual rates contained in Statement A should be applied to current plant balances. Accrual rates equal to the reciprocal of the amortization periods (Statement D, Column H) should be applied to these categories after plant balances have been reduced by all vintages that have achieved an age equal to the amortization period.

*Statements*



# STATEMENTS

## INTRODUCTION

This section provides a comparative summary of depreciation rates, annual depreciation accruals, recorded, computed and redistributed depreciation reserves, and current and recommended service life statistics for Hydro One Networks Transmission Operations. The content of these statements is briefly described below.

- Statement A provides a comparative summary of current and recommended annual depreciation rates using the vintage group procedure, remaining-life technique.
- Statement B provides a comparison of current and recommended annualized 2017 depreciation accruals derived from the depreciation rates contained in Statement A.
- Statement C provides a comparison of recorded, computed and redistributed reserves for each rate category at December 31, 2016.
- Statement D provides a comparative summary of current and recommended parameters and statistics including projection life, projection curve, average service life and average remaining life.
- Statement E displays the computation of recommended USoA projection lives derived from recommended Category ID lives.

Current depreciation accruals shown on Statements B are the product of the plant investment (Column B) and current depreciation rates shown on Statement A. These are the effective rates used by Hydro One Networks for the mix of investments recorded on December 31, 2016. Similarly, recommended depreciation accruals shown on Statement B are the product of the plant investment and recommended depreciation rates shown on Statement A. Recommended remaining-life accrual rates (Statement A) are given by:

$$\text{Accrual Rate} = \frac{1.0 - \text{Reserve Ratio}}{\text{Remaining Life}}$$

**HYDRO ONE NETWORKS INC. (BU 210)**

Statement A

Comparison of Current and Proposed Accrual Rates

Current: VG Procedure / RL Technique

Proposed: VG Procedure / RL Technique

Account Description A	Current			Proposed			
	Rem. Life B	Net Salvage C	Accrual Rate D	Rem. Life E	Net Salvage F	Reserve Ratio G	Accrual Rate H
<b>INTANGIBLE PLANT</b>							
1610 Computer Software	← 10 Year Amortization →		9.49%	← 10 Year Amortization →			9.49%
<b>Total Intangible Plant</b>			9.49%	3.50		66.80%	9.49%
<b>TRANSMISSION PLANT</b>							
1705D Land - Depreciable	75.60		0.96%	71.60		31.50%	0.96%
1706 Land Rights	74.50		0.96%	70.84		32.31%	0.96%
1708 Buildings and Fixtures	29.81		1.82%	29.96		45.84%	1.81%
1715 Station Equipment	31.16		2.07%	31.40		34.52%	2.09%
1720 Towers and Fixtures	55.36		1.27%	55.00		29.78%	1.28%
1730 Overhead Conductors and Devices	43.16		1.44%	42.45		38.67%	1.44%
1735 Underground Conduit	32.19		1.64%	32.77		45.76%	1.66%
1740 Underground Conductors and Devices	48.99		1.79%	48.25		13.59%	1.79%
1745 Roads and Trails	30.50		1.79%	30.73		44.52%	1.81%
<b>Total Transmission Plant</b>			1.81%	35.72		34.76%	1.83%
<b>GENERAL PLANT</b>							
<b>Depreciable</b>							
1905D Land - Depreciable	79.48		0.98%	75.48		27.72%	0.96%
1908 Buildings and Fixtures	27.36		2.10%	25.72		49.10%	1.98%
1910 Leasehold Improvements	1.00		-2.39%	1.00		108.41%	-8.41%
1922 Computer Hardware - Major	2.11		6.12%	7.15		42.98%	7.97%
1955 Communication Equipment	12.05		4.60%	10.84		54.94%	4.16%
1980 System Supervisory Equipment	5.09		6.78%	5.03		71.08%	5.75%
<b>Total Depreciable</b>			5.28%	8.13		61.14%	4.65%
<b>Amortizable</b>							
1925 Computer Software - Major	← 6 Year Amortization →		0.05%	← 6 Year Amortization →			0.05%
<b>Total Amortizable</b>			0.05%	1.00		99.95%	0.05%
<b>Total General Plant</b>			5.23%	7.94		61.49%	4.60%
<b>TOTAL TRANSMISSION OPERATIONS</b>			2.04%	30.77		36.56%	2.02%

**HYDRO ONE NETWORKS INC. (BU 210)**

Statement B

Comparison of Current and Proposed Accruals  
 Current: VG Procedure / RL Technique  
 Proposed: VG Procedure / RL Technique

Account Description A	12/31/16 Plant Investment B	2017 Annualized Accrual		
		Current C	Proposed D	Difference E=D-C
<b>INTANGIBLE PLANT</b>				
1610 Computer Software	\$ 1,654,200	\$ 156,907	\$ 156,907	\$ -
<b>Total Intangible Plant</b>	<b>\$ 1,654,200</b>	<b>\$ 156,907</b>	<b>\$ 156,907</b>	<b>\$ -</b>
<b>TRANSMISSION PLANT</b>				
1705D Land - Depreciable	\$ 971,630	\$ 9,328	\$ 9,328	\$ -
1706 Land Rights	239,932,927	2,303,356	2,303,356	
1708 Buildings and Fixtures	466,096,738	8,482,961	8,436,351	(46,610)
1715 Station Equipment	8,636,051,657	178,766,269	180,493,480	1,727,211
1720 Towers and Fixtures	2,406,248,912	30,559,361	30,799,986	240,625
1730 Overhead Conductors and Devices	1,705,696,951	24,562,036	24,562,036	
1735 Underground Conduit	310,594,051	5,093,742	5,155,861	62,119
1740 Underground Conductors and Devices	150,212,155	2,688,798	2,688,798	
1745 Roads and Trails	265,176,530	4,746,660	4,799,695	53,035
<b>Total Transmission Plant</b>	<b>\$ 14,180,981,551</b>	<b>\$ 257,212,511</b>	<b>\$ 259,248,891</b>	<b>\$ 2,036,380</b>
<b>GENERAL PLANT</b>				
<b>Depreciable</b>				
1905D Land - Depreciable	\$ 3,246,825	\$ 31,819	\$ 31,170	\$ (649)
1908 Buildings and Fixtures	121,382,983	2,549,043	2,403,383	(145,660)
1910 Leasehold Improvements	100,228	(2,395)	(8,429)	(6,034)
1922 Computer Hardware - Major	14,388,081	880,551	1,146,730	266,179
1955 Communication Equipment	425,285,133	19,563,116	17,691,862	(1,871,254)
1980 System Supervisory Equipment	448,745,857	30,424,969	25,802,887	(4,622,082)
<b>Total Depreciable</b>	<b>\$ 1,013,149,107</b>	<b>\$ 53,447,103</b>	<b>\$ 47,067,603</b>	<b>\$ (6,379,500)</b>
<b>Amortizable</b>				
1925 Computer Software - Major	\$ 9,293,454	\$ 4,830	\$ 4,830	\$ -
<b>Total Amortizable</b>	<b>\$ 9,293,454</b>	<b>\$ 4,830</b>	<b>\$ 4,830</b>	<b>\$ -</b>
<b>Total General Plant</b>	<b>\$ 1,022,442,561</b>	<b>\$ 53,451,933</b>	<b>\$ 47,072,433</b>	<b>\$ (6,379,500)</b>
<b>TOTAL TRANSMISSION OPERATIONS</b>	<b>\$ 15,205,078,312</b>	<b>\$ 310,821,351</b>	<b>\$ 306,478,231</b>	<b>\$ (4,343,120)</b>



**HYDRO ONE NETWORKS INC. (BU 210)**

Depreciation Reserve Summary  
Vintage Group Procedure  
December 31, 2016

Statement C

Account Description A	Plant Investment B	Recorded Reserve		Computed Reserve		Redistributed Reserve	
		Amount C	Ratio D=C/B	Amount E	Ratio F=E/B	Amount G	Ratio H=G/B
<b>INTANGIBLE PLANT</b>							
1610 Computer Software	\$ 1,654,200	\$ 1,654,200	100.00%	\$ 1,105,026	66.80%	\$ 1,105,026	66.80%
<b>Total Intangible Plant</b>	<b>\$ 1,654,200</b>	<b>\$ 1,654,200</b>	<b>100.00%</b>	<b>\$ 1,105,026</b>	<b>66.80%</b>	<b>\$ 1,105,026</b>	<b>66.80%</b>
<b>TRANSMISSION PLANT</b>							
1705D Land - Depreciable	\$ 971,630	\$ 250,722	25.80%	\$ 275,943	28.40%	\$ 306,016	31.50%
1706 Land Rights	239,932,927	58,909,391	24.55%	69,913,436	29.14%	77,532,860	32.31%
1708 Buildings and Fixtures	466,096,738	228,254,822	48.97%	192,663,053	41.34%	213,660,184	45.84%
1715 Station Equipment	8,636,051,657	2,935,974,877	34.00%	2,687,992,389	31.13%	2,980,939,714	34.52%
1720 Towers and Fixtures	2,406,248,912	813,816,505	33.82%	646,125,356	26.85%	716,542,481	29.78%
1730 Overhead Conductors and Devices	1,705,696,951	616,791,688	36.16%	594,821,904	34.87%	659,647,789	38.67%
1735 Underground Conduit	310,594,051	101,416,305	32.65%	128,156,929	41.26%	142,123,944	45.76%
1740 Underground Conductors and Devices	150,212,155	17,426,597	11.60%	18,411,164	12.26%	20,417,681	13.59%
1745 Roads and Trails	265,176,530	156,384,211	58.97%	106,452,830	40.14%	118,054,452	44.52%
<b>Total Transmission Plant</b>	<b>\$ 14,180,981,551</b>	<b>\$ 4,929,225,120</b>	<b>34.76%</b>	<b>\$ 4,444,813,004</b>	<b>31.34%</b>	<b>\$ 4,929,225,120</b>	<b>34.76%</b>
<b>GENERAL PLANT</b>							
<b>Depreciable</b>							
1905D Land - Depreciable	\$ 3,246,825	\$ 872,391	26.87%	\$ 795,386	24.50%	\$ 899,977	27.72%
1908 Buildings and Fixtures	121,382,983	53,462,311	44.04%	52,677,650	43.40%	59,604,592	49.10%
1910 Leasehold Improvements	100,228	91,131	90.92%	96,031	95.81%	108,659	108.41%
1922 Computer Hardware - Major	14,388,081	4,465,188	31.03%	5,465,724	37.99%	6,184,449	42.98%
1955 Communication Equipment	425,285,133	228,274,441	53.68%	206,486,327	48.55%	233,638,617	54.94%
1980 System Supervisory Equipment	448,745,857	331,755,908	73.93%	281,917,205	62.82%	318,988,413	71.08%
<b>Total Depreciable</b>	<b>\$ 1,013,149,107</b>	<b>\$ 618,921,370</b>	<b>61.09%</b>	<b>\$ 547,438,323</b>	<b>54.03%</b>	<b>\$ 619,424,706</b>	<b>61.14%</b>
<b>Amortizable</b>							
1925 Computer Software - Major	\$ 9,293,454	\$ 9,242,786	99.45%	\$ 9,288,624	99.95%	\$ 9,288,624	99.95%
<b>Total Amortizable</b>	<b>\$ 9,293,454</b>	<b>\$ 9,242,786</b>	<b>99.45%</b>	<b>\$ 9,288,624</b>	<b>99.95%</b>	<b>\$ 9,288,624</b>	<b>99.95%</b>
<b>Total General Plant</b>	<b>\$ 1,022,442,561</b>	<b>\$ 628,164,156</b>	<b>61.44%</b>	<b>\$ 556,726,947</b>	<b>54.45%</b>	<b>\$ 628,713,330</b>	<b>61.49%</b>
<b>TOTAL TRANSMISSION OPERATIONS</b>	<b>\$ 15,205,078,312</b>	<b>\$ 5,559,043,476</b>	<b>36.56%</b>	<b>\$ 5,002,644,977</b>	<b>32.90%</b>	<b>\$ 5,559,043,476</b>	<b>36.56%</b>

**HYDRO ONE NETWORKS INC. (BU 210)**

Current and Proposed Parameters  
Vintage Group Procedure

Statement D

Account Description A	Current Parameters						Proposed Parameters					
	P-Life/ AYFR B	Curve Shape C	VG ASL D	Rem. Life E	Avg. Sal. F	Fut. Sal. G	P-Life/ AYFR H	Curve Shape I	VG ASL J	Rem. Life K	Avg. Sal. L	Fut. Sal. M
<b>INTANGIBLE PLANT</b>												
1610 Computer Software	10.00	SQ	10.00	7.19			10.00	SQ	10.00	3.50		
<b>Total Intangible Plant</b>									10.00	3.50		
<b>TRANSMISSION PLANT</b>												
1705D Land - Depreciable	100.00	S6	100.00	75.60			100.00	S6	100.00	71.60		
1706 Land Rights	100.00	S6	99.98	74.50			100.00	S6	99.97	70.84		
1708 Buildings and Fixtures	50.00	S6	50.29	29.81			50.00	S6	51.07	29.96		
1715 Station Equipment	45.00	S2	45.56	31.16			45.00	S2	45.59	31.40		
1720 Towers and Fixtures	75.00	S2	75.17	55.36			75.00	S2	75.19	55.00		
1730 Overhead Conductors and Devices	65.00	S3	65.15	43.16			65.00	S3	65.18	42.45		
1735 Underground Conduit	55.00	S2	55.60	32.19			55.00	S2	55.79	32.77		
1740 Underground Conductors and Devices	55.00	S2	55.00	48.99			55.00	S2	54.99	48.25		
1745 Roads and Trails	50.00	S2	51.14	30.50			50.00	S2	51.34	30.73		
<b>Total Transmission Plant</b>									52.02	35.72		
<b>GENERAL PLANT</b>												
<b>Depreciable</b>												
1905D Land - Depreciable	100.00	S6	99.98	79.48			100.00	S6	99.97	75.48		
1908 Buildings and Fixtures	45.00	S4	45.27	27.36			45.00	S4	45.44	25.72		
1910 Leasehold Improvements	10.00	S6	19.88	1.00			10.00	S6	23.88	1.00		
1922 Computer Hardware - Major	10.00	S6	10.97	2.11			10.00	S6	11.53	7.15		
1955 Communication Equipment	20.00	L2	20.54	12.05			20.00	L2	21.07	10.84		
1980 System Supervisory Equipment	10.00	L2	12.97	5.09			10.00	L2	13.53	5.03		
<b>Total Depreciable</b>									17.68	8.13		
<b>Amortizable</b>												
1925 Computer Software - Major	6.00	SQ	6.00	2.11			6.00	SQ	6.00	1.00		
<b>Total Amortizable</b>									6.00	1.00		
<b>Total General Plant</b>									17.37	7.94		
<b>TOTAL TRANSMISSION OPERATIONS</b>									45.85	30.77		

**HYDRO ONE NETWORKS INC. (BU 210)**

Statement E

Asset Category Summary  
December 31, 2016  
Harmonic Weighting

Description A	Current P-Life		Proposed P-Life		Plant	
	USoA B	Category C	USoA D	Category E	USoA F	Category G
<b>INTANGIBLE PLANT</b>						
<b>1610 Computer Software</b>						
1657 GENRL -ADM & SERV-SYS SOFTWARE		10		10	\$	1,654,200
<b>Total USoA 1610</b>	10 SQ	10	10 SQ	10	\$	1,654,200
<b>TRANSMISSION PLANT</b>						
<b>1705D Land - Depreciable</b>						
1210 LAND PURCH & ACQUI (OLD CAP)		100		100	\$	971,630
<b>Total USoA 1705D</b>	100 S6	100	100 S6	100	\$	971,630
<b>1706 Land Rights</b>						
1111 RIGHTS & EASMNTS <LANDSCAPING>		100		100	\$	2,811,500
1212 EASMNTS & RIGHTS		100		100		237,121,428
<b>Total USoA 1706</b>	100 S6	100	100 S6	100	\$	239,932,927
<b>1708 Buildings and Fixtures</b>						
1120 STN BUILDINGS COMPONENTS		50		50	\$	404,367,186
1121 CRANES&HOISTS IN BLDGS		50		50		4,865,443
1260 BLDG W U/G CABLE		50		50		31,325,308
1270 SERV STRUCTURES		50		50		25,538,801
<b>Total USoA 1708</b>	50 S6	50	50 S6	50	\$	466,096,738
<b>1715 Station Equipment</b>						
1111 RIGHTS & EASMNTS <LANDSCAPING>		50		50	\$	312
1112 LANDSCAPING		50		50		25,518,088
1113 SITE IMPRV-EXCL FENCE		50		50		370,196,484
1123 COST EQUIP FOUNDATIONS		65		65		607,580,584
1127 STEEL/PIPE STRUC FOR SWITCH EQ		65		65		417,224,493
1128 FENCES		30		30		137,928,328
1150 ROT ELEC EQP(NO WIND'G)		65		65		16,006,744
1151 ROT ELEC EQP(WIND'GS)		65		65		301,966
1152 CAPACITORS		30		30		148,753,722
1155 REGULATORS INCL INSTAL COST		40		40		11,032,923
1159 MOBILE SUB-STATIONS		30		30		191,806
1160 MISC STN EQP-TRSF/VOLT TRSF		40		40		378,051,502
1161 SERV SWG-AC/DC-LIGHT TRSF		55		55		244,964,515
1162 CONTROL CABLE&CONDUIT		60		60		424,282,721
1163 GROUNDING SYSTEMS		60		60		217,098,395
1164 METERING UNITS		15		15		59,243,862
1166 SWITCHBOARDS		35		35		734,733,045
1167 SUP CNTRL- PRIM H/WARE & SYS		20		20		595,361,798
1168 SUP CNTRL - PRIM APPL S/WARE		20		20		19,427,874
1170 SERVICE SYSTEMS		50		50		204,784,932
1175 TRANSF<=50KV OR <5MVA		50		50		67,501,974
1176 TRNSF<=115KV OR >5MVA		50		50		392,469,591
1177 TRANSF <=230KV		50		50		454,306,174
1178 TRANSF >230KV		50		50		324,267,869
1179 TRANSF INSTAL COST		50		50		347,215,661
1181 SWITCHING >=34.5KV		45		45		207,808,962
1182 SWITCHING >=115KV		45		45		144,503,012
1183 SWITCHING >=230KV		45		45		158,852,466
1184 SF6 SWITCHGEAR		45		45		405,853,032
1185 RECLOSERS		40		40		1,538,864
1186 MISC SWITCHING		45		45		194,758,426
1187 BUS (RIGID & STRAIN)		45		45		317,259,318
1188 CABLE		45		45		128,526,978
1190 CCT BREAKERS >=230KV		45		45		301,218,220
1191 CCT BREAKERS >=115KV		45		45		121,321,257
1192 CCT BREAKERS <115KV		45		45		156,774,086
1193 CCT BREAKERS INSTALL		45		45		218,680,672
1194 ENCLD SWGR (ALL COMPNT)		45		45		80,511,200
<b>Total USoA 1715</b>	45 S2	42	45 S2	42	\$	8,636,051,657



**HYDRO ONE NETWORKS INC. (BU 210)**

Statement E

Asset Category Summary  
December 31, 2016  
Harmonic Weighting

Description A	Current P-Life		Proposed P-Life		Plant	
	USoA B	Category C	USoA D	Category E	USoA F	Category G
<b>1720 Towers and Fixtures</b>						
1230 STEEL TWR, SUP&FTNG		90		90		\$ 1,588,032,050
1240 POLES INCL XARM,GUY,ANCHR		50		50		709,211,731
1245 STEEL POLES		90		90		100,967,337
1249 COMPOSITE POLES		80		80		8,037,793
<b>Total USoA 1720</b>	<b>75 S2</b>	<b>73</b>	<b>75 S2</b>	<b>73</b>	<b>\$ 2,406,248,912</b>	<b>\$ 2,406,248,912</b>
<b>1730 Overhead Conductors and Devices</b>						
1220 INSULATORS		60		60		\$ 329,068,237
1232 GROUNDING SYSTEM		50		50		152,956,518
1235 OPT GRND WIRE		50		50		60,659,868
1250 OVERHD CONDUCTOR ALL		70		70		1,081,139,761
1252 SWITCHES&DEVCE		60		60		41,394,209
1254 RETENSION COSTS		60		60		40,478,358
<b>Total USoA 1730</b>	<b>65 S3</b>	<b>64</b>	<b>65 S3</b>	<b>64</b>	<b>\$ 1,705,696,951</b>	<b>\$ 1,705,696,951</b>
<b>1735 Underground Conduit</b>						
1220 INSULATORS		55		55		\$ 140,166
1261 UGRD CONDUIT		55		55		310,453,884
<b>Total USoA 1735</b>	<b>55 S2</b>	<b>55</b>	<b>55 S2</b>	<b>55</b>	<b>\$ 310,594,051</b>	<b>\$ 310,594,051</b>
<b>1740 Underground Conductors and Devices</b>						
1262 UGRD CONDUCTOR		55		55		\$ 150,212,155
<b>Total USoA 1740</b>	<b>55 S2</b>	<b>55</b>	<b>55 S2</b>	<b>55</b>	<b>\$ 150,212,155</b>	<b>\$ 150,212,155</b>
<b>1745 Roads and Trails</b>						
1122 PERM RDS & SURFC AREA		25		25		\$ 57,128,751
1174 RAILWAY TRACK		30		30		8,020,447
1215 CLRNG & OVERBLDNG		70		70		162,135,244
1271 ROADS & TRAILS		70		70		37,892,089
<b>Total USoA 1745</b>	<b>50 S2</b>	<b>49</b>	<b>50 S2</b>	<b>49</b>	<b>\$ 265,176,530</b>	<b>\$ 265,176,530</b>
<b>GENERAL PLANT</b>						
<b>Depreciable</b>						
<b>1905D Land - Depreciable</b>						
1828 GENRL -COMM -SITE IMPROVEMENT		100		100		\$ 3,246,825
<b>Total USoA 1905D</b>	<b>100 S6</b>	<b>100</b>	<b>100 S6</b>	<b>100</b>	<b>\$ 3,246,825</b>	<b>\$ 3,246,825</b>
<b>1908 Buildings and Fixtures</b>						
1612 GENRL-ADM&SERV-LANDSCAPING		50		50		\$ 23,920
1621 GENRL-ADM&SERV_BLD FRAME&MTL		50		50		33,016,917
1622 GENRL -ADM & SERV-RDS&SURFACES		25		25		4,049,783
1623 GENRL-ADM & SERV-BLD FRAME		50		50		14,947,847
1628 GENRL -ADM & SERV-FENCE		30		30		4,126,610
1650 GENRL -ADM & SERV-DISTN SYS		50		50		5,579,469
1663 GENRL -ADM & SERV_AUX EQ BLD		50		50		12,706,717
1813 GENRL -COMM-LANDSCAPING		50		50		62,867
1820 GENRL -COMM - BUILDINGS		50		50		13,855,943
1853 GENRL-COMM-STR&FOOTINGS-POLES		50		50		33,012,910
<b>Total USoA 1908</b>	<b>45 S4</b>	<b>47</b>	<b>45 S4</b>	<b>47</b>	<b>\$ 121,382,983</b>	<b>\$ 121,382,983</b>
<b>1910 Leasehold Improvements</b>						
1624 GENRL -ADM & SERV-BLDGS-LEASED		10		10		\$ 100,228
<b>Total USoA 1910</b>	<b>10 S6</b>	<b>10</b>	<b>10 S6</b>	<b>10</b>	<b>\$ 100,228</b>	<b>\$ 100,228</b>
<b>1922 Computer Hardware - Major</b>						
1653 GENRL-ADM &SERV-LAN ELECT DEV		10		10		\$ 12,728,056
1655 GENRL-ADM & SERV- LAN CABLE		10		10		672,183
1656 GENRL -ADM & SERV-LAN FIB OPT		10		10		987,842
<b>Total USoA 1922</b>	<b>10 S6</b>	<b>10</b>	<b>10 S6</b>	<b>10</b>	<b>\$ 14,388,081</b>	<b>\$ 14,388,081</b>

**HYDRO ONE NETWORKS INC. (BU 210)**

Statement E

Asset Category Summary

December 31, 2016

Harmonic Weighting

Description A	Current P-Life		Proposed P-Life		Plant	
	USoA B	Category C	USoA D	Category E	USoA F	Category G
<b>1955 Communication Equipment</b>						
1654 GENRL-ADM & SERV -TELCM WIRE		7		7	\$	2,594,458
1658 GENRL -ADM & SERV -TELCM EQUIP		7		7		2,269,843
1659 GENRL -ADM & SERV- TELCOM SW		7		7		717,041
1850 GENRL-COMM - RADIO EQUIPMENT		10		10		53,441,497
1854 GENRL -COMM -ADMIN TELCOM EQUIP		7		7		23,032,168
1863 GENRL -COMM -OPTICAL WIRE		25		25		95,420,301
1864 GENRL -COMM - OPT WIRE TERMTN		20		20		158,569,611
1865 GENRL-COMM - OPGW W FIB CABLE		25		25		69,706,247
1870 GENRL -COMM -POWER SUPPLY EQUIP		15		15		19,533,966
<b>Total USoA 1955</b>	<b>20 L2</b>	<b>17</b>	<b>20 L2</b>	<b>17</b>	<b>\$</b>	<b>425,285,133</b>
<b>Total USoA 1955</b>					<b>\$</b>	<b>425,285,133</b>
<b>1980 System Supervisory Equipment</b>						
1840 GENRL -COMM-PWR LINE EQUIP		15		15	\$	171,194,113
1844 GENRL -COMM-SYS CNTRL COMP EQ		6		6		147,529,138
1846 GENRL-COMM-DACS APPL S/WARE		6		6		2,678,368
1847 GENRL -COMM - DACS SYS S/WARE		6		6		98,558,645
1860 GENRL-COMM-POLE		25		25		28,769,384
1864 GENRL -COMM - OPT WIRE TERMTN		20		20		16,209
<b>Total USoA 1980</b>	<b>10 L2</b>	<b>8</b>	<b>10 L2</b>	<b>8</b>	<b>\$</b>	<b>448,745,857</b>
<b>Total USoA 1980</b>					<b>\$</b>	<b>448,745,857</b>
<b>Amortizable</b>						
<b>1925 Computer Software - Major</b>						
1657 GENRL-ADM & SERV-SYS SOFTWARE		6		6	\$	9,293,454
<b>Total USoA 1925</b>	<b>6 SQ</b>	<b>6</b>	<b>6 SQ</b>	<b>6</b>	<b>\$</b>	<b>9,293,454</b>
<b>Total USoA 1925</b>					<b>\$</b>	<b>9,293,454</b>
<b>TOTAL BU 210</b>					<b>\$</b>	<b>15,205,078,312</b>
<b>TOTAL BU 210</b>					<b>\$</b>	<b>15,205,078,312</b>



*Analysis*

# ANALYSIS

## INTRODUCTION

This section provides an explanation of the supporting schedules developed in the Hydro One Networks transmission depreciation review to estimate appropriate projection curves, projection lives and statistics for each rate category. The form and content of the schedules developed for an account depend upon the method of analysis adopted for the category.

This section also includes an example of the supporting schedules developed for Account 1715 – Station Equipment. Documentation for all other plant accounts is contained in the review work papers. The supporting schedules developed in the Hydro One Networks review include:

- Schedule A – Generation Arrangement;
- Schedule B – Age Distribution;
- Schedule C – Plant History;
- Schedule D – Actuarial Life Analysis; and
- Schedule E – Graphics Analysis.

The format and content of these schedules are briefly described below.

### SCHEDULE A – GENERATION ARRANGEMENT

The purpose of this schedule is to obtain appropriate weighted-average life statistics for a rate category. The weighted-average remaining-life is the sum of Column H divided by the sum of Column I. The weighted average life is the sum of Column C divided by the sum of Column I. The following table provides a description of each column in the generation arrangement.

Column	Title	Description
A	Vintage	Vintage or placement year of surviving plant.
B	Age	Age of surviving plant at beginning of study year.
C	Surviving Plant	Actual dollar amount of surviving plant.
D	Average Life	Estimated average life of each vintage. This statistic is the sum of the realized life and the unrealized life, which is the product of the remaining life (Column E) and the theoretical proportion surviving.
E	Remaining Life	Estimated remaining life of each vintage.
F	Net Plant Ratio	Theoretical net plant ratio of each vintage.
G	Allocation Factor	A pivotal ratio which determines the amortization period of the difference between the recorded and computed
H	Computed Net Plant	Plant in service less theoretical reserve for each vintage.
I	Accrual	Ratio of computed net plant (Column H) and remaining life (Column E).

Table 3. Generation Arrangement

### **SCHEDULE B – AGE DISTRIBUTION**

This schedule provides the age distribution and realized life of surviving plant shown in Column C of the Generation Arrangement (Schedule A). The format of the schedule depends upon the availability of either aged or unaged data. Derived additions for vintage years older than the earliest activity year in an account for unaged data are obtained from the age distribution of surviving plant at the beginning of the earliest activity year. The amount surviving from these vintages is shown in Column D. The realized life (Column G) is derived from the dollar years of service provided by a vintage over the period of years the vintage has been in service. Plant additions for vintages older than the earliest activity year in an account are represented by the opening balances shown in Column D.

The computed proportion surviving (Column D) for unaged is derived from a computed mortality analysis. The average service life displayed in the title block is the life statistic derived for the most recent activity year, given the derived age distribution at the start of the year and the specified retirement dispersion. The realized life (Column F) is obtained by finding the slope of an SC retirement dispersion, which connects the computed survivors of a vintage (Column E) to the recorded vintage addition (Column B). The realized life is the area bounded by the SC dispersion, the computed proportion surviving and the age of the vintage.

### **SCHEDULE C – PLANT HISTORY**

An Unadjusted Plant History schedule provides a summary of recorded plant data extracted from the continuing property records maintained by the Company. Activity year total amounts shown on this schedule for aged data are obtained from a historical arrangement of the data base in which all plant accounting transactions are identified by vintage and activity year. Activity year totals for unaged data are obtained from a transaction file without vintage identification. Information displayed in the unadjusted plant history is consistent with regulated investments reported internally by the Company.

An Adjusted Plant History schedule provides a summary of recorded plant data extracted from the continuing property records maintained by the Company with sales, transfers, and adjustments appropriately aged for depreciation study purposes. Activity year total amounts shown on this schedule for aged data are obtained from a historical arrangement of the data base in which all plant accounting transactions are identified by vintage and activity year. Ageing of adjusting transactions is achieved using transaction codes that identify an adjusting year associated with the dollar amount of a transaction. Adjusting transactions processed in the adjusted plant history are not aged in the Company's records or in the unadjusted plant history.



#### **SCHEDULE D – ACTUARIAL LIFE ANALYSIS**

These schedules provide a summary of the dispersion and life indications obtained from an actuarial life analysis for a specified placement band. The observation band (Column A) is specified to produce a rolling-band, shrinking-band, or progressive-band analysis depending upon the movement of the end points of the band. The degree of censoring (or point of truncation) of the observed life table is shown in Column B for each observation band. The estimated average service life, best fitting Iowa dispersion, and a statistical measure of the goodness of fit are shown for each degree polynomial (First, Second, and Third) fitted to the estimated hazard rates. Options available in the analysis include the width and location of both the placement and observation bands; the interval of years included in a selected rolling, shrinking, or progressive band analysis; the estimator of the hazard rate (actuarial, conditional proportion retired, or maximum likelihood); the elements to include on the diagonal of a weight matrix (exposures, inverse of age, inverse of variance, or unweighted); and the age at which an observed life table is truncated.

Estimated projection lives (Columns C, F, and I) are flagged with an asterisk if negative hazard rates are indicated by the fitted polynomial. All negative hazard rates are set equal to zero in the calculation of the graduated survivor curve. The Conformance Index (Columns E, H, and K) is the square root of the mean sum-of-squared differences between the observed proportions surviving and the best fitting Iowa curve. A Conformance Index of zero would indicate a perfect fit.

#### **SCHEDULE E – GRAPHICS ANALYSIS**

This schedule provides a graphics plot of a) the observed proportion surviving for a selected placement and observation band; b) the statistically best fitting Iowa dispersion and derived average service life; and c) the projection curve and projection life selected to describe future forces of mortality.

The graphics analysis also provides a plot of the observed hazard rates and graduated hazard function for a selected placement and observation band. The estimator of the hazard rates and weighting used in fitting orthogonal polynomials to the observed data are displayed in the title block of the displayed graph.

**HYDRO ONE NETWORKS INC. - TRANSMISSION**

**Transmission Plant  
Account: 1715 Station Equipment**

**Dispersion: 45 - S2  
Procedure: Vintage Group**

**Generation Arrangement**

Vintage	December 31, 2016		Avg. Life	Rem. Life	Net Plant Ratio	Alloc. Factor	Computed Net Plant	Accrual
	Age	Surviving Plant						
A	B	C	D	E	F	G	H=C*F*G	I=H/E
2016	0.5	499,106,480	45.00	44.50	0.9889	1.0000	493,560,838	11,091,260
2015	1.5	425,834,990	45.00	43.50	0.9667	1.0000	411,640,478	9,463,003
2014	2.5	558,023,376	45.00	42.50	0.9444	1.0000	527,024,990	12,400,520
2013	3.5	414,074,624	45.00	41.50	0.9222	1.0000	381,875,869	9,201,664
2012	4.5	376,496,169	45.00	40.50	0.9001	1.0000	338,868,916	8,366,624
2011	5.5	602,478,817	45.00	39.51	0.8779	1.0000	528,937,630	13,388,890
2010	6.5	454,959,729	44.99	38.51	0.8560	1.0000	389,441,789	10,112,240
2009	7.5	437,823,395	44.99	37.52	0.8339	1.0000	365,115,167	9,730,714
2008	8.5	196,632,784	44.99	36.54	0.8122	1.0000	159,702,418	4,370,993
2007	9.5	226,062,645	44.95	35.56	0.7912	1.0000	178,849,941	5,029,677
2006	10.5	149,023,810	44.98	34.59	0.7689	1.0000	114,591,279	3,312,940
2005	11.5	218,847,092	44.96	33.63	0.7480	1.0000	163,690,117	4,867,552
2004	12.5	182,896,670	44.99	32.68	0.7264	1.0000	132,850,465	4,065,246
2003	13.5	100,885,304	44.96	31.74	0.7060	1.0000	71,228,226	2,243,923
2002	14.5	125,397,118	45.01	30.82	0.6847	1.0000	85,855,880	2,785,697
2001	15.5	77,460,239	44.98	29.91	0.6651	1.0000	51,515,955	1,722,196
2000	16.5	144,582,246	44.99	29.02	0.6451	1.0000	93,273,678	3,213,943
1999	17.5	102,252,926	44.97	28.15	0.6260	1.0000	64,006,521	2,273,976
1998	18.5	99,735,677	45.02	27.29	0.6062	1.0000	60,458,790	2,215,295
1997	19.5	87,339,087	45.03	26.45	0.5874	1.0000	51,305,871	1,939,385
1996	20.5	95,656,155	45.01	25.64	0.5696	1.0000	54,488,447	2,125,362
1995	21.5	69,747,343	44.88	24.84	0.5535	1.0000	38,606,227	1,554,248
1994	22.5	265,648,668	45.04	24.06	0.5342	1.0000	141,916,663	5,898,172
1993	23.5	98,043,197	45.05	23.30	0.5172	1.0000	50,712,008	2,176,102
1992	24.5	368,244,015	45.25	22.57	0.4988	1.0000	183,671,405	8,138,866
1991	25.5	263,392,543	45.11	21.85	0.4843	1.0000	127,573,502	5,838,455
1990	26.5	383,680,609	45.40	21.15	0.4659	1.0000	178,754,281	8,450,246
1989	27.5	127,196,506	45.50	20.48	0.4500	1.0000	57,239,996	2,795,332
1988	28.5	103,855,712	45.54	19.82	0.4352	1.0000	45,200,449	2,280,493
1987	29.5	152,205,839	45.79	19.18	0.4189	1.0000	63,762,212	3,323,899
1986	30.5	47,083,345	45.77	18.56	0.4056	1.0000	19,095,957	1,028,644
1985	31.5	48,885,284	46.17	17.96	0.3890	1.0000	19,018,079	1,058,697
1984	32.5	46,304,694	46.37	17.38	0.3748	1.0000	17,355,813	998,501
1983	33.5	77,920,839	46.46	16.82	0.3619	1.0000	28,203,228	1,677,027
1982	34.5	48,992,701	46.58	16.27	0.3493	1.0000	17,111,292	1,051,733
1981	35.5	48,789,821	46.51	15.74	0.3384	1.0000	16,508,691	1,048,952
1980	36.5	155,536,252	47.14	15.22	0.3229	1.0000	50,225,821	3,299,342

**HYDRO ONE NETWORKS INC. - TRANSMISSION**

**Transmission Plant  
Account: 1715 Station Equipment**

**Dispersion: 45 - S2  
Procedure: Vintage Group**

**Generation Arrangement**

Vintage	December 31, 2016		Avg. Life	Rem. Life	Net Plant Ratio	Alloc. Factor	Computed Net Plant	Accrual
	Age	Surviving Plant						
A	B	C	D	E	F	G	H=C*F*G	I=H/E
1979	37.5	129,595,008	47.53	14.72	0.3098	1.0000	40,144,242	2,726,608
1978	38.5	53,602,362	47.27	14.24	0.3012	1.0000	16,145,447	1,133,967
1977	39.5	54,041,642	47.77	13.77	0.2882	1.0000	15,574,640	1,131,285
1976	40.5	43,222,781	48.11	13.31	0.2766	1.0000	11,957,040	898,352
1975	41.5	41,364,214	48.53	12.87	0.2651	1.0000	10,965,298	852,260
1974	42.5	41,621,186	48.72	12.44	0.2553	1.0000	10,624,243	854,379
1973	43.5	28,900,495	49.07	12.02	0.2449	1.0000	7,077,610	589,012
1972	44.5	32,634,851	49.88	11.61	0.2327	1.0000	7,595,222	654,270
1971	45.5	42,955,902	50.17	11.21	0.2235	1.0000	9,600,196	856,194
1970	46.5	50,932,184	50.91	10.83	0.2127	1.0000	10,831,676	1,000,409
1969	47.5	33,284,919	51.37	10.45	0.2035	1.0000	6,772,998	647,994
1968	48.5	17,439,504	51.76	10.09	0.1949	1.0000	3,398,521	336,913
1967	49.5	9,489,512	51.79	9.73	0.1879	1.0000	1,782,992	183,216
1966	50.5	12,128,522	52.77	9.38	0.1778	1.0000	2,156,832	229,819
1965	51.5	34,753,799	53.45	9.05	0.1693	1.0000	5,882,544	650,217
1963	53.5	223,846	55.89	8.40	0.1502	1.0000	33,627	4,005
1962	54.5	839,768	56.62	8.08	0.1428	1.0000	119,877	14,833
1960	56.5	45,831,025	56.96	7.48	0.1312	1.0000	6,014,364	804,569
1958	58.5	812	59.74	6.90	0.1154	1.0000	94	14
1956	60.5	52,288	61.41	6.34	0.1032	1.0000	5,399	851
1955	61.5	46,606,501	60.86	6.07	0.0998	1.0000	4,649,815	765,754
1953	63.5	33,140	64.05	5.55	0.0867	1.0000	2,872	517
1950	66.5	35,400,698	65.34	4.81	0.0735	1.0000	2,603,476	541,768
Total	15.8	\$8,636,051,657	45.59	31.40	0.6886	1.0000	\$5,947,177,915	\$189,417,010



**HYDRO ONE NETWORKS INC. - TRANSMISSION**

**Transmission Plant**

**Account: 1715 Station Equipment**

**Age Distribution**

Vintage	Age as of 12/31/2016	Derived Additions	2000 Opening Balance	Experience to 12/31/2016		
				Amount Surviving	Proportion Surviving	Realized Life
A	B	C	D	E	F=E/(C+D)	G
2016	0.5	499,106,480		499,106,480	1.0000	0.5000
2015	1.5	425,834,990		425,834,990	1.0000	1.5000
2014	2.5	558,023,376		558,023,376	1.0000	2.5000
2013	3.5	414,079,146		414,074,624	1.0000	3.5000
2012	4.5	376,530,617		376,496,169	0.9999	4.4997
2011	5.5	603,239,448		602,478,817	0.9987	5.4983
2010	6.5	455,889,852		454,959,729	0.9980	6.4906
2009	7.5	438,554,990		437,823,395	0.9983	7.4932
2008	8.5	197,289,117		196,632,784	0.9967	8.4843
2007	9.5	229,191,831		226,062,645	0.9863	9.4429
2006	10.5	150,018,999		149,023,810	0.9934	10.4775
2005	11.5	224,517,398		218,847,092	0.9747	11.4526
2004	12.5	183,878,264		182,896,670	0.9947	12.4781
2003	13.5	102,463,285		100,885,304	0.9846	13.4410
2002	14.5	125,830,732		125,397,118	0.9966	14.4880
2001	15.5	78,218,149		77,460,239	0.9903	15.4400
2000	16.5	146,422,931		144,582,246	0.9874	16.4339
1999	17.5		103,749,694	102,252,926	0.9856	17.3962
1998	18.5		100,852,187	99,735,677	0.9889	18.4280
1997	19.5		88,460,809	87,339,087	0.9873	19.4125
1996	20.5		97,744,204	95,656,155	0.9786	20.3502
1995	21.5		72,350,937	69,747,343	0.9640	21.1764
1994	22.5		273,953,593	265,648,668	0.9697	22.2901
1993	23.5		100,946,380	98,043,197	0.9712	23.2461
1992	24.5		376,393,083	368,244,015	0.9783	24.3672
1991	25.5		272,960,157	263,392,543	0.9649	25.1547
1990	26.5		391,795,023	383,680,609	0.9793	26.3530
1989	27.5		129,608,724	127,196,506	0.9814	27.3452
1988	28.5		106,805,578	103,855,712	0.9724	28.2622
1987	29.5		154,263,846	152,205,839	0.9867	29.3764
1986	30.5		49,042,874	47,083,345	0.9600	30.2044
1985	31.5		49,307,586	48,885,284	0.9914	31.4367
1984	32.5		46,520,300	46,304,694	0.9954	32.4468
1983	33.5		81,400,172	77,920,839	0.9573	33.3274
1982	34.5		51,205,055	48,992,701	0.9568	34.2172
1981	35.5		54,595,330	48,789,821	0.8937	34.8963
1980	36.5		161,477,840	155,536,252	0.9632	36.2517
1979	37.5		133,753,032	129,595,008	0.9689	37.3435

**HYDRO ONE NETWORKS INC. - TRANSMISSION**

Transmission Plant

Account: 1715 Station Equipment

**Age Distribution**

Vintage	Age as of 12/31/2016	Derived Additions	2000 Opening Balance	Experience to 12/31/2016		
				Amount Surviving	Proportion Surviving	Realized Life
A	B	C	D	E	F=E/(C+D)	G
1978	38.5		58,653,499	53,602,362	0.9139	37.7633
1977	39.5		60,153,445	54,041,642	0.8984	38.9190
1976	40.5		47,027,483	43,222,781	0.9191	39.8925
1975	41.5		45,401,199	41,364,214	0.9111	40.9187
1974	42.5		48,683,278	41,621,186	0.8549	41.6780
1973	43.5		33,251,887	28,900,495	0.8691	42.5817
1972	44.5		35,350,563	32,634,851	0.9232	43.9218
1971	45.5		48,337,891	42,955,902	0.8887	44.7128
1970	46.5		55,558,598	50,932,184	0.9167	45.9269
1969	47.5		36,512,835	33,284,919	0.9116	46.8289
1968	48.5		19,900,875	17,439,504	0.8763	47.6465
1967	49.5		11,147,246	9,489,512	0.8513	48.0734
1966	50.5		14,068,248	12,128,522	0.8621	49.4231
1965	51.5		40,451,405	34,753,799	0.8591	50.4431
1963	53.5		223,846	223,846	1.0000	53.5000
1962	54.5		839,768	839,768	1.0000	54.5000
1960	56.5		53,511,316	45,831,025	0.8565	55.3272
1958	58.5		812	812	1.0000	58.5000
1956	60.5		52,288	52,288	1.0000	60.5000
1955	61.5		55,756,212	46,606,501	0.8359	60.0848
1953	63.5		33,140	33,140	1.0000	63.5000
1950	66.5		42,762,492	35,400,698	0.8278	65.0345
Total	15.8	\$5,209,089,604	\$3,604,864,732	\$8,636,051,657	0.9798	



**HYDRO ONE NETWORKS INC. - TRANSMISSION**

Transmission Plant

Account: 1715 Station Equipment

Schedule C

Page 1 of 1

**Unadjusted Plant History**

Year	Beginning Balance	Additions	Retirements	Sales, Transfers & Adjustments	Ending Balance
A	B	C	D	E	F=B+C-D+E
2000	3,614,235,886	118,191,442	2,555,440	22,361,942	3,752,233,829
2001	3,752,233,829	73,238,191	3,982,516	22,536,997	3,844,026,500
2002	3,844,026,500	65,399,789	7,443,045	5,958,147	3,907,941,391
2003	3,907,941,391	106,559,019	2,517,339	(1,040,636)	4,010,942,435
2004	4,010,942,435	118,022,342	14,404,097	51,979,207	4,166,539,886
2005	4,166,539,886	82,292,407	8,645,819	143,492,615	4,383,679,090
2006	4,383,679,090	119,427,072	5,174,411	8,491,077	4,506,422,828
2007	4,506,422,828	230,356,875	17,682,749	42,446,113	4,761,543,066
2008	4,761,543,066	31,412,693	7,078,185	127,829,983	4,913,707,557
2009	4,913,707,557	357,324,800	7,864,743	40,182,801	5,303,350,416
2010	5,303,350,416	557,449,189	8,126,169	(103,974)	5,852,569,462
2011	5,852,569,462	595,247,424	12,298,745	(183,684)	6,435,334,457
2012	6,435,334,457	359,985,856	26,800,834	(97,959)	6,768,421,520
2013	6,768,421,520	434,126,756	18,757,215	(5,189)	7,183,785,872
2014	7,183,785,872	583,466,298	16,408,611	(10,174)	7,750,833,384

PAGE 28

**HYDRO ONE NETWORKS INC. - TRANSMISSION**

Transmission Plant

Account: 1715 Station Equipment

**Adjusted Plant History**

Year	Beginning Balance	Additions	Retirements	Sales, Transfers & Adjustments	Ending Balance
A	B	C	D	E	F=B+C-D+E
2000	3,634,283,488	145,278,841	2,555,440		3,777,006,889
2001	3,777,006,889	76,479,157	3,982,516	(156,246)	3,849,347,284
2002	3,849,347,284	123,475,163	7,443,045	(9,139,843)	3,956,239,558
2003	3,956,239,558	107,667,522	2,503,831	298,348	4,061,701,597
2004	4,061,701,597	183,526,382	14,023,935	(484,553)	4,230,719,491
2005	4,230,719,491	220,882,770	8,645,819	52,925	4,443,009,368
2006	4,443,009,368	149,396,161	5,174,411	(14,173,201)	4,573,057,917
2007	4,573,057,917	229,792,815	17,682,749	6,578,822	4,791,746,804
2008	4,791,746,804	204,188,305	7,078,185	(418,411)	4,988,438,513
2009	4,988,438,513	443,860,324	7,864,743	1,411,494	5,425,845,588
2010	5,425,845,588	491,288,650	8,126,169	(103,974)	5,908,904,095
2011	5,908,904,095	594,966,146	12,298,745	(41,594)	6,491,529,903
2012	6,491,529,903	371,726,573	26,800,834	(20,792)	6,836,434,849
2013	6,836,434,849	415,308,768	18,757,215	(5,189)	7,232,981,213
2014	7,232,981,213	534,260,782	16,408,611		7,750,833,384

**HYDRO ONE NETWORKS INC. - TRANSMISSION**

Transmission Plant

Account: 1715 Station Equipment

Schedule D

Page 1 of 1

T-Cut: None

Placement Band: 1950-2016

Hazard Function: Proportion Retired

Weighting: Exposures

**Rolling Band Life Analysis**

Observation Band	Censoring	First Degree			Second Degree			Third Degree		
		Average Life	Disper-sion	Conf. Index	Average Life	Disper-sion	Conf. Index	Average Life	Disper-sion	Conf. Index
A	B	C	D	E	F	G	H	I	J	K
2000-2004	78.4	99.2	L1.5*	1.16	75.7	S1.5	0.46	71.7	S2	0.48
2001-2005	74.2	92.9	L1.5*	1.43	72.4	S1.5	0.50	69.2	S2	0.55
2002-2006	74.6	95.5	L1.5*	1.52	74.3	S1.5	0.61	70.6	S2	0.58
2003-2007	73.9	94.9	L1.5*	1.10	77.2	S1.5	0.51	72.7	R2.5	0.51
2004-2008	74.6	98.1	L1*	0.98	82.5	S1	0.54	74.8	R2.5	0.55
2005-2009	78.5	106.8	L1*	0.73	92.7	S1	0.48	81.7	R2.5*	0.44
2006-2010	80.0	112.4	L1*	0.79	104.5	S0.5	0.68	105.2	L1.5	0.68
2007-2011	77.0	107.5	L1*	0.98	93.7	S0.5	0.70	133.7	SC*	0.63
2008-2012	72.3	97.2	L1.5*	1.56	83.0	S1	1.21	150.2	SC*	0.73
2009-2013	65.8	90.7	L1.5*	1.86	75.2	S1.5	1.37	123.6	SC*	1.01
2010-2014	62.6	88.0	L1.5*	1.93	73.1	S1.5	1.23	110.6	O3*	0.93
2011-2015	61.7	89.3	L1.5*	2.16	74.2	S1.5	1.25	98.6	L0*	1.09
2012-2016	66.1	96.0	L1.5*	1.87	79.6	S1	1.14	116.7	L0*	1.00

**HYDRO ONE NETWORKS INC. - TRANSMISSION**

Transmission Plant

Account: 1715 Station Equipment

Schedule D

Page 1 of 1

T-Cut: None

Placement Band: 1950-2016

Hazard Function: Proportion Retired

Weighting: Exposures

**Shrinking Band Life Analysis**

Observation Band	Censoring	First Degree			Second Degree			Third Degree		
		Average Life	Disper-sion	Conf. Index	Average Life	Disper-sion	Conf. Index	Average Life	Disper-sion	Conf. Index
A	B	C	D	E	F	G	H	I	J	K
2000-2016	68.2	100.4	L1.5*	1.84	81.9	S1.5	0.76	102.3	L0.5*	0.69
2002-2016	67.8	99.2	L1.5*	1.81	81.4	S1	0.79	103.7	L0*	0.70
2004-2016	67.7	99.4	L1.5*	1.82	82.1	S1	0.88	100.5	L0.5*	0.82
2006-2016	68.9	101.4	L1.5*	1.62	84.0	S1	0.82	109.1	L0*	0.76
2008-2016	68.5	101.6	L1.5*	1.96	83.3	S1	1.04	119.8	SC*	0.95
2010-2016	66.2	98.4	L1.5*	2.25	80.7	S1.5	1.25	126.6	SC*	1.13
2012-2016	66.1	96.0	L1.5*	1.87	79.6	S1	1.14	116.7	L0*	1.00
2014-2016	79.9	115.8	S0*	0.64	92.9	S1.5	1.00	95.6	S1	0.99
2016-2016	94.5	160.6	R2*	0.62	143.8	R2*	0.73	187.9	R4*	0.60

**HYDRO ONE NETWORKS INC. - TRANSMISSION**

Transmission Plant

Account: 1715 Station Equipment

T-Cut: None

Placement Band: 1950-2016

Hazard Function: Proportion Retired

Weighting: Exposures

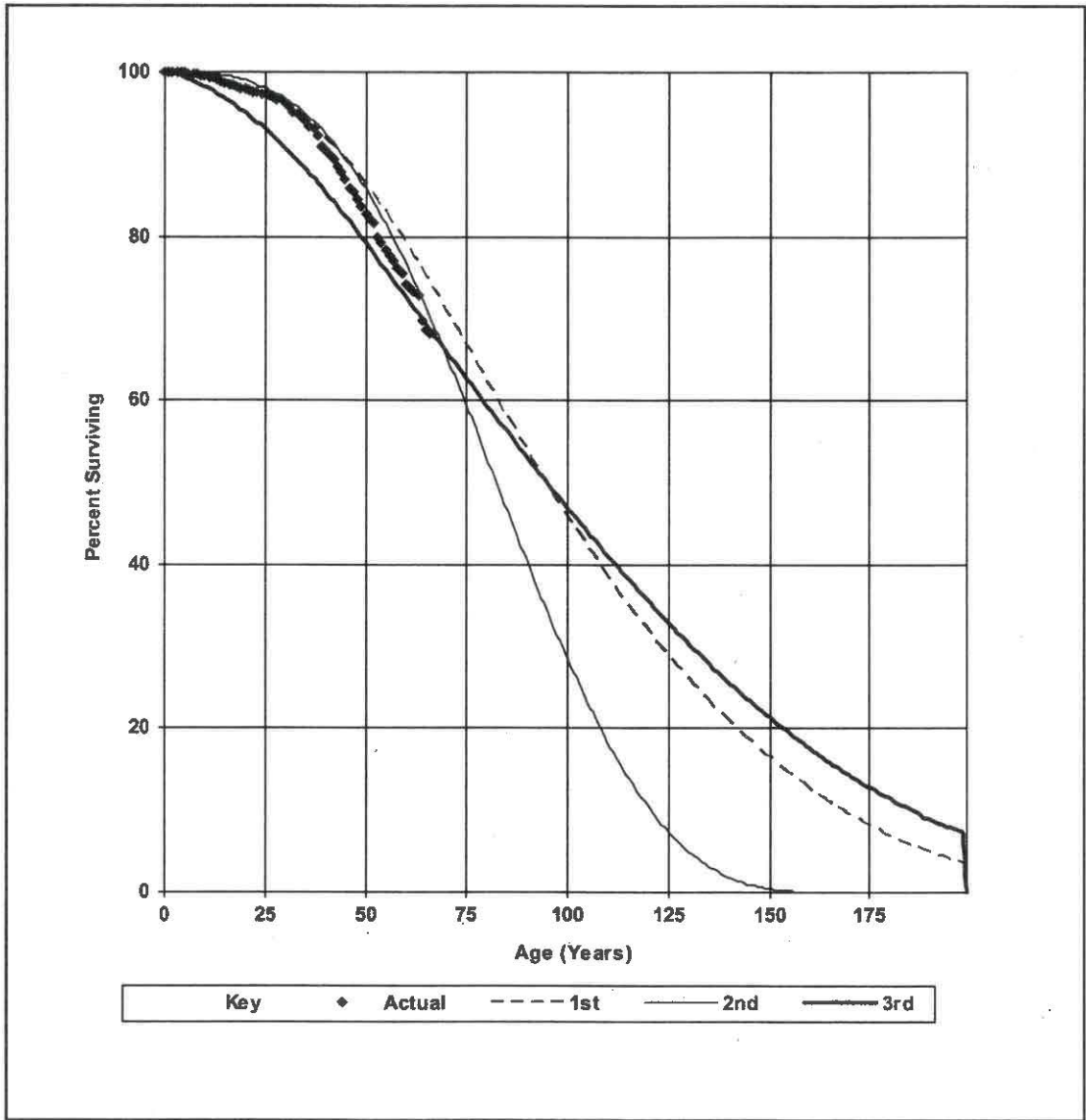
**Progressing Band Life Analysis**

Observation Band	Censoring	First Degree			Second Degree			Third Degree		
		Average Life	Disper- sion	Conf. Index	Average Life	Disper- sion	Conf. Index	Average Life	Disper- sion	Conf. Index
A	B	C	D	E	F	G	H	I	J	K
2000-2001	92.9	131.0	S0*	0.70	101.4	S1.5	0.85	171.1	R1.5*	0.96
2000-2003	84.9	108.5	L1.5*	0.67	80.1	S2	0.65	78.5	S2	0.62
2000-2005	75.7	96.5	L1.5*	1.35	74.0	S1.5	0.45	70.1	S2	0.48
2000-2007	74.4	97.4	L1.5*	1.29	77.8	S1.5	0.51	74.0	S2	0.55
2000-2009	76.6	103.5	L1.5*	1.15	84.3	S1	0.51	79.6	S1.5	0.51
2000-2011	75.6	104.5	L1.5*	1.30	84.7	S1	0.63	92.9	L1.5*	0.59
2000-2013	68.4	95.4	L1.5*	1.49	77.7	S1.5	0.88	90.7	L1.5*	0.74
2000-2015	66.5	96.6	L1.5*	1.79	78.7	S1.5	0.72	84.4	L2*	0.64
2000-2016	68.2	100.4	L1.5*	1.84	81.9	S1.5	0.76	102.3	L0.5*	0.69

**HYDRO ONE NETWORKS INC. - TRANSMISSION**  
Transmission Plant  
Account: 1715 Station Equipment

T-Cut: None  
Placement Band: 1950-2016 Observation Band: 2000-2016  
Hazard Function: Proportion Retired  
Weighting: Exposures  
1st: 100.4-L1.5 2nd: 81.9-S1.5 3rd: 102.3-L0.5

Survivorship Functions



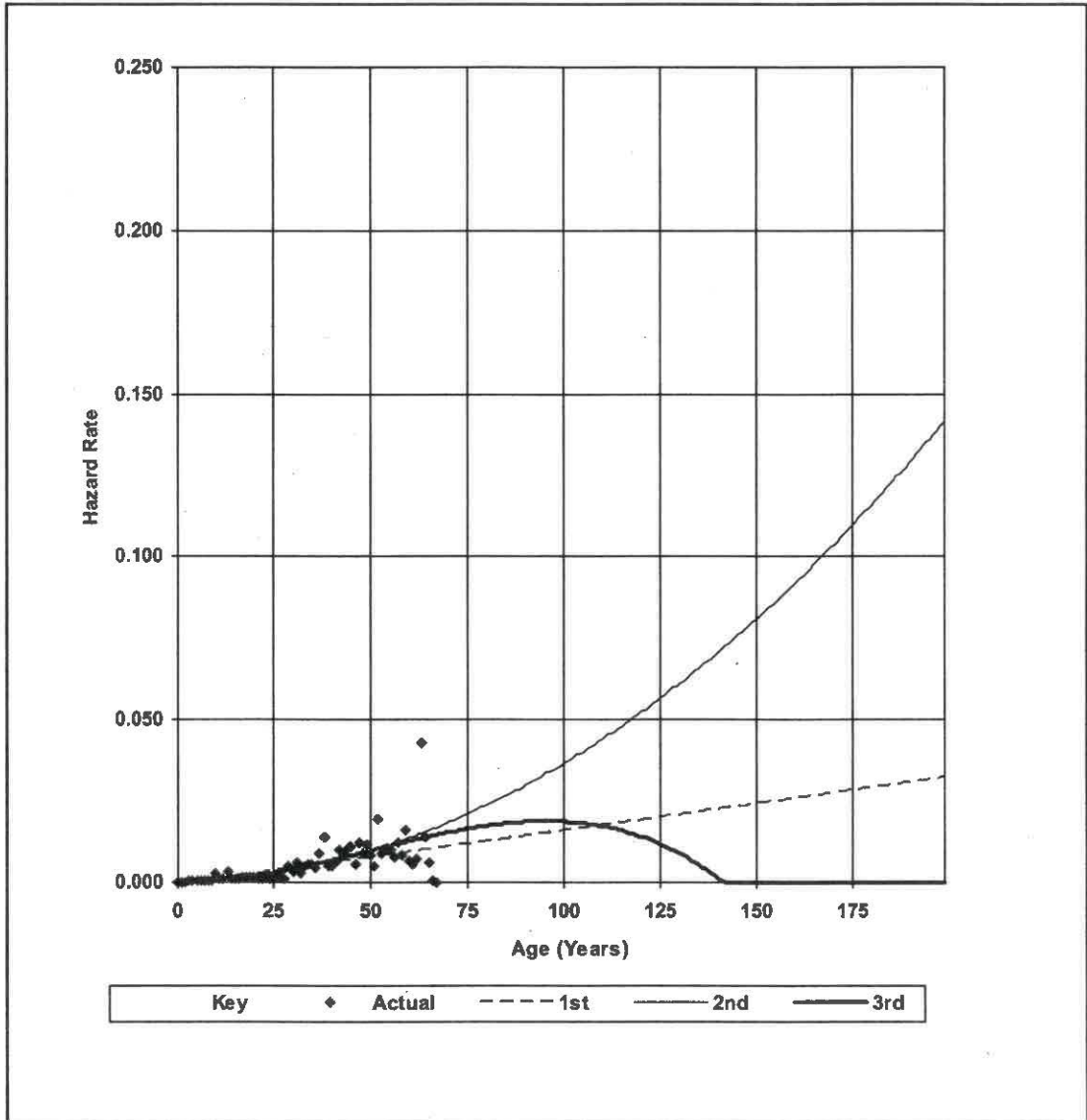


**HYDRO ONE NETWORKS INC. - TRANSMISSION**  
Transmission Plant  
Account: 1715 Station Equipment

T-Cut: None  
Placement Band: 1950-2016 Observation Band: 2000-2016  
Hazard Function: Proportion Retired  
Weighting: Exposures

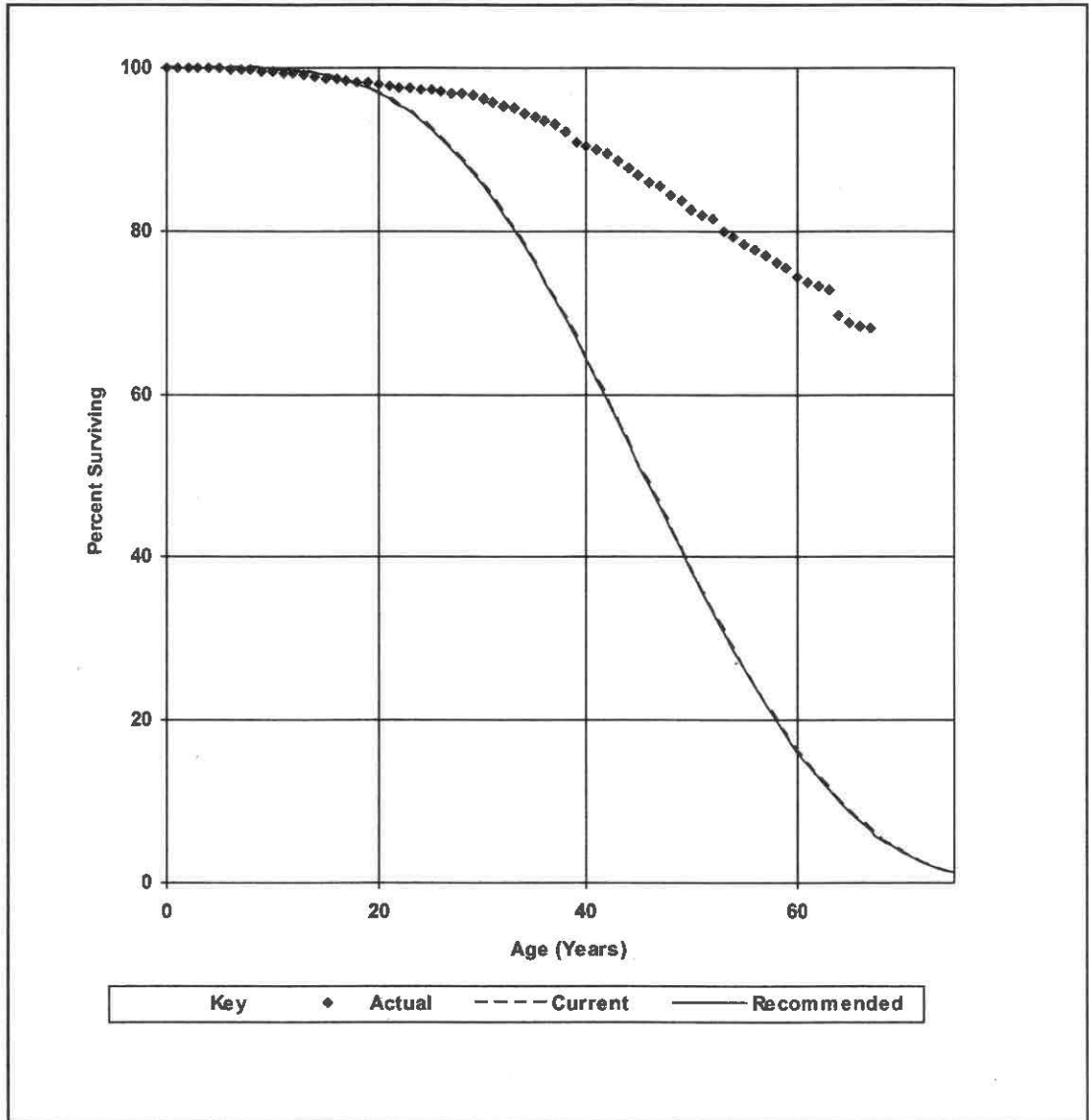
**Polynomial Hazard Functions**

1st: 100.4-L1.5 2nd: 81.9-S1.5 3rd: 102.3-L0.5



T-Cut: None  
Placement Band: 1950-2016  
Observation Band: 2000-2016

Current and Recommended Projection Life Curves Current: 45.0-S2 Recommended: 45.0-S2





*Expert Rule 13A*

# EXPERT RULE 13A

## TITLE OF REPORT

2017 Depreciation Rate Review  
—Transmission Operations

## CONSULTANT

Ronald E. White, Ph.D.  
Foster Associates Consultants, LLC  
17595 S. Tamiami Trail, Suite 260  
Fort Myers, FL 33908

## QUALIFICATIONS

See attached Professional Qualifications.

## INSTRUCTIONS PROVIDED

Foster Associates was instructed to conduct a 2017 Depreciation Rate Review and provide recommended depreciation rates for USoA categories derived from service life statistics estimated for category classifications adopted by Hydro One Networks for engineering operations and planning purposes.

## BASIS OF EVIDENCE

Specific information and factual assumptions upon which the 2017 Depreciation Rate Review is based are contained within the titled report.

## CONFIRMATION

Dr. White has been made aware of and agrees to accept the responsibilities that are or may be imposed as set forth in Rule 13A.



Ronald E. White, Ph.D.

August 8, 2017

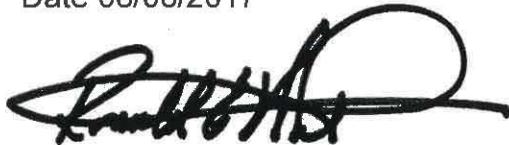
**FORM A**

Proceeding: \_\_\_\_\_

**ACKNOWLEDGMENT OF EXPERT'S DUTY**

1. My name is Ronald E. White, Ph.D. (*name*). I live at Fort Myers (*city*), in the state of Florida (*province/state*) in the United States.
2. I have been engaged by or on behalf of Hydro One Networks (*name of party/parties*) to provide evidence in relation to the above-noted proceeding before the Ontario Energy Board.
3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:
  - (a) to provide opinion evidence that is fair, objective and non-partisan;
  - (b) to provide opinion evidence that is related only to matters that are within my area of expertise; and
  - (c) to provide such additional assistance as the Board may reasonably require, to determine a matter in issue.
4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

Date 08/08/2017



\_\_\_\_\_  
Signature

## **PROFESSIONAL QUALIFICATIONS**

### **NAME AND ADDRESS**

Ronald E. White, Ph.D.  
Foster Associates Consultants, LLC  
17595 S. Tamiami Trail, Suite 260  
Fort Myers, FL 33908

### **EDUCATION**

1961 - 1964 Valparaiso University

Major: Electrical Engineering

1965 Iowa State University

B.S., Engineering Operations

1968 Iowa State University

M.S., Engineering Valuation

Thesis: The Multivariate Normal Distribution and the Simulated Plant Record  
Method of Life Analysis

1977 Iowa State University

Ph.D., Engineering Valuation

Minor: Economics

Dissertation: A Comparative Analysis of Various Estimates of the Hazard Rate  
Associated With the Service Life of Industrial Property

### **EMPLOYMENT**

2015 - Foster Associates Consultants, LLC  
President

2007 - 2015 Foster Associates, Inc.  
Chairman

1996 - 2007 Foster Associates, Inc.  
Executive Vice President

1988 - 1996 Foster Associates, Inc.  
Senior Vice President

1979 - 1988 Foster Associates, Inc.  
Vice President

1978 - 1979 Northern States Power Company  
Assistant Treasurer

- 1974 - 1978 Northern States Power Company  
Manager, Corporate Economics
- 1972 - 1974 Northern States Power Company  
Corporate Economist
- 1970 - 1972 Iowa State University  
Graduate Student and Instructor
- 1968 - 1970 Northern States Power Company  
Valuation Engineer
- 1965 - 1968 Iowa State University  
Graduate Student and Teaching Assistant

**PUBLICATIONS**

*A New Set of Generalized Survivor Tables*, Journal of the Society of Depreciation Professionals, October, 1992.

The Theory and Practice of Depreciation Accounting Under Public Utility Regulation, Journal of the Society of Depreciation Professionals, December, 1989.

*Standards for Depreciation Accounting Under Regulated Competition*, paper presented at The Institute for Study of Regulation, Rate Symposium, February, 1985.

*The Economics of Price-Level Depreciation*, paper presented at the Iowa State University Regulatory Conference, May, 1981.

*Depreciation and the Discount Rate for Capital Investment Decisions*, paper presented at the National Communications Forum - National Electronics Conference, October 1979.

*A Computerized Method for Generating a Life Table From the 'h-System' of Survival Functions*, paper presented at the American Gas Association - Edison Electric Institute Depreciation Accounting Committee Meeting, December, 1975.

*The Problem With AFDC is ...*, paper presented at the Iowa State University Conference on Public Utility Valuation and the Rate Making Process, May, 1973.

*The Simulated Plant-Record Method of Life Analysis*, paper presented at the Missouri Public Service Commission Regulatory Information Systems Conference, May, 1971.

*Simulated Plant-Record Survivor Analysis Program (User's Manual)*, special report published by Engineering Research Institute, Iowa State University, February, 1971.

A Test Procedure for the Simulated Plant-Record Method of Life Analysis, Journal of the American Statistical Association, September, 1970.



*Modeling the Behavior of Property Records*, paper presented at the Iowa State University Conference on Public Utility Valuation and the Rate Making Process, May, 1970.

*A Technique for Simulating the Retirement Experience of Limited-Life Industrial Property*, paper presented at the National Conference of Electric and Gas Utility Accountants, May, 1969.

*How Dependable are Simulated Plant-Record Estimates?*, paper presented at the Iowa State University Conference on Public Utility Valuation and the Rate Making Process, April, 1968.

### **TESTIFYING WITNESS**

Alabama Public Service Commission, Docket No. 18488, General Telephone Company of the Southeast; testimony concerning engineering economy study techniques.

Alabama Public Service Commission, Docket No. 20208, General Telephone Company of the South; testimony concerning the equal-life group procedure and remaining-life technique.

Alberta Energy and Utilities Board, Application No. 1250392, Aquila Networks Canada; rebuttal testimony supporting proposed depreciation rates.

Alberta Energy and Utilities Board, Case No. RE95081, Edmonton Power Inc.; rebuttal evidence concerning appropriate depreciation rates.

Alberta Energy and Utilities Board, 1999/2000 General Tariff Application, Edmonton Power Inc.; direct and rebuttal evidence concerning appropriate depreciation rates.

Arizona Corporation Commission, Docket No. T-01051B-97-0689, U S West Communications, Inc.; testimony concerning appropriate depreciation rates.

Arizona Corporation Commission, Docket No. G-1032A-02-0598, Citizens Communications Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E-01345A-08-0172, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E-0135A-03-0437, Arizona Public Service Company; rebuttal testimony supporting net salvage rates.

Arizona Corporation Commission, Docket No. E-01345A-05-0816, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E-01345A-11-0224, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E-01345A-16-0036, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E-01933A-12-0126, Tucson Electric Power Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E-01933A-15-0322, Tucson Electric Power Company; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. G-04204A-06-0463, UNS Gas, Inc.; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E-04204A-06-0783, UNS Electric, Inc.; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E-04204A-09-0206, UNS Electric, Inc.; testimony supporting proposed depreciation rates.

Arizona Corporation Commission, Docket No. E-04204A-15-0142, UNS Electric, Inc.; testimony supporting proposed depreciation rates.

Arizona State Board of Equalization, Docket No. 6302-07-2, Arizona Public Service Company; testimony concerning valuation and assessment of contributions in aid of construction.

California Public Utilities Commission, Case Nos. A.92-06-040, 92-06-042, GTE California Incorporated; rebuttal testimony supporting depreciation study techniques.

California Public Utilities Commission. Docket No. GRC A.05-12-002, Pacific Gas and Electric Company; testimony regarding estimation of net salvage rates.

California Public Utilities Commission. Docket No. GRC A.06-12-009/A.06-12-010, San Diego Gas & Electric Company and Southern California Gas Company; testimony regarding estimation of net salvage rates.

California Public Utilities Commission. Application No. A.16-09-001, Southern California Edison; testimony regarding estimation of service lives and net salvage rates.

Public Utilities Commission of the State of Colorado, Application No. 36883-Reopened. U S WEST Communications; testimony concerning equal-life group procedure.

State of Connecticut Department of Public Utility Control, Docket No. 10-12-02, Yankee Gas Services Company; testimony supporting recommended depreciation rates.



State of Connecticut Department of Public Utility Control, Docket No. 09-12-05, The Connecticut Light and Power Company; testimony supporting recommended depreciation rates.

State of Connecticut Department of Public Utility Control, Docket No. 06-12PH01, Yankee Gas Services Company; testimony supporting recommended depreciation rates.

State of Connecticut Department of Public Utility Control, Docket No. 05-03-17, The Southern Connecticut Gas Company; testimony supporting recommended depreciation rates.

Delaware Public Service Commission, Docket No. 81-8, Diamond State Telephone Company; testimony concerning the amortization of inside wiring.

Delaware Public Service Commission, Docket No. 82-32, Diamond State Telephone Company; testimony concerning the equal-life group procedure and remaining-life technique.

Public Service Commission of the District of Columbia, Formal Case No. 842, District of Columbia Natural Gas; testimony concerning depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1016, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1054, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1093, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1115, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Public Service Commission of the District of Columbia, Formal Case No. 1137, Washington Gas Light Company - District of Columbia; testimony supporting proposed depreciation rates.

Federal Communications Commission, Prescription of Revised Depreciation Rates for AT&T Communications; statement concerning depreciation, regulation and competition.

Federal Communications Commission, Petition for Modification of FCC Depreciation Prescription Practices for AT&T; statement concerning alignment of depreciation expense used for financial reporting and regulatory purposes.



Federal Communications Commission, Docket No. 99-117, Bell Atlantic; affidavit concerning revenue requirement and capital recovery implications of omitted plant retirements.

Federal Energy Regulatory Commission, Docket No. RP14-118-000, WBI Energy Transmission, Inc.; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER10-2110-000, ITC Midwest; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER10-185-000, Michigan Electric Transmission Company; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER09-1530-000, ITC *Transmission*; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER95-267-000, New England Power Company; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER11-3638-000, Arizona Public Service Company; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. RP89-248, Mississippi River Transmission Corporation; rebuttal testimony concerning appropriateness of net salvage component in depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER91-565, New England Power Company; testimony supporting proposed depreciation rates.

Federal Energy Regulatory Commission, Docket No. ER78-291, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Federal Energy Regulatory Commission, Docket Nos. RP80-97 and RP81-54, Tennessee Gas Pipeline Company; testimony concerning offshore plant depreciation rates.

Federal Power Commission, Docket No. E-8252, Northern States Power Company; testimony concerning general financial requirements and measurements of financial performance.

Federal Power Commission, Docket No. E-9148, Northern States Power Company; testimony concerning general financial requirements and measurements of financial performance.

Federal Power Commission, Docket No. ER76-818, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Federal Power Commission, Docket No. RP74-80, *Northern Natural Gas Company*; testimony concerning depreciation expense.

Public Utilities Commission of the State of Hawaii, Docket No. 00-0309, The Gas Company; testimony supporting proposed depreciation rates.

Public Utilities Commission of the State of Hawaii, Docket No. 94-0298, GTE Hawaiian Telephone Company Incorporated; testimony concerning the need for shortened service lives and disclosure of asset impairment losses.

Idaho Public Utilities Commission, Case No. U-1002-59, General Telephone Company of the Northwest, Inc.; testimony concerning the remaining-life technique and the equal-life group procedure.

Illinois Commerce Commission, Case No. 04-0476, Illinois Power Company; testimony supporting proposed depreciation rates.

Illinois Commerce Commission, Docket No. 94-0481, Citizens Utilities Company of Illinois; rebuttal testimony concerning applications of the Simulated Plant-Record method of life analysis.

Iowa State Commerce Commission, Docket No. RPU 82-47, North Central Public Service Company; testimony on depreciation rates.

Iowa State Commerce Commission, Docket No. RPU 84-34, General Telephone Company of the Midwest; testimony concerning the remaining-life technique and the equal-life group procedure.

Iowa State Utilities Board, Docket No. DPU-86-2, Northwestern Bell Telephone Company; testimony concerning capital recovery in competition.

Iowa State Utilities Board, Docket No. RPU-84-7, Northwestern Bell Telephone Company; testimony concerning the deduction of a reserve deficiency from the rate base.

Iowa State Utilities Board, Docket No. DPU-88-6, U S WEST Communications; testimony concerning depreciation subject to refund.

Iowa State Utilities Board, Docket No. RPU-90-9, Central Telephone Company of Iowa; testimony concerning depreciation rates.

Iowa State Utilities Board, Docket No. RPU-93-9, U S WEST Communications; testimony concerning principles of depreciation accounting and abandonment of FASB 71.

Iowa State Utilities Board, Docket No. DPU-96-1, U S WEST Communications; testimony concerning principles of depreciation accounting and abandonment of FASB 71.

Iowa State Utilities Board, Docket No. RPU-05-2, Aquila Networks; testimony supporting recommended depreciation rates.



Kansas Corporation Commission, Docket No. 16-KGSG-491-RTS, Kansas Gas Service, a Division of ONEOK, Inc.; testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 12-KGSG-835-RTS, Kansas Gas Service, a Division of ONEOK, Inc.; testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 12-WSEE-112-RTS, Westar Energy, Inc.; testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 10-KCPE-415-RTS; Kansas City Power and Light; cross-answering testimony addressing the recording and treatment of third-party reimbursements in estimating net salvage rates.

Kansas Corporation Commission, Docket No. 04-AQLE-1065-RTS, Aquila Networks – WPE (Kansas); testimony supporting proposed depreciation rates.

Kansas Corporation Commission, Docket No. 03-KGSG-602-RTS, Kansas Gas Service, a Division of ONEOK, Inc.; rebuttal testimony supporting net salvage rates.

Kansas Corporation Commission, Docket No. 06-KGSG-1209-RTS, Kansas Gas Service, a Division of ONEOK, Inc.; testimony supporting proposed depreciation rates.

Kentucky Public Service Commission, Case No. 97-224, Jackson Purchase Electric Cooperative Corporation; rebuttal testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 9096, Baltimore Gas and Electric Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 8485, Baltimore Gas and Electric Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 9424, Delmarva Power and Light Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 9385, Potomac Electric Power Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 9103, Washington Gas Light Company; rebuttal testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 8960, Washington Gas Light Company; testimony supporting proposed depreciation rates.

Maryland Public Service Commission, Case No. 7689, Washington Gas Light Company; testimony concerning life analysis and net salvage.

Commonwealth of Massachusetts Department of Public Utilities, D.P.U. 15-155, Massachusetts Electric Company/Nantucket Electric Company; testimony supporting proposed depreciation rates.

Commonwealth of Massachusetts Department of Public Utilities, D.P.U. 10-70, Western Massachusetts Electric Company; testimony supporting proposed depreciation rates.

Commonwealth of Massachusetts Department of Telecommunications and Energy, D.T.E. 06-55, Western Massachusetts Electric Company; testimony supporting proposed depreciation rates.

Massachusetts Department of Public Utilities, Case No. DPU 91-52, Massachusetts Electric Company; testimony supporting proposed depreciation rates which include a net salvage component.

Michigan Public Service Commission, Case No. U-18150, DTE Electric Company; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U-16991, The Detroit Edison Company; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U-16117, The Detroit Edison Company; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U-15699, Michigan Consolidated Gas Company; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U-13899, Michigan Consolidated Gas Company; testimony concerning service life estimates.

Michigan Public Service Commission, Case No. U-13393, Aquila Networks - MGU; testimony supporting proposed depreciation rates.

Michigan Public Service Commission, Case No. U-12395, Michigan Gas Utilities; testimony supporting proposed depreciation rates including amortization accounting and redistribution of recorded reserves.

Michigan Public Service Commission, Case No. U-6587, General Telephone Company of Michigan; testimony concerning use of a theoretical depreciation reserve with the remaining-life technique.

Michigan Public Service Commission, Case No. U-7134, General Telephone Company of Michigan; testimony concerning the equal-life group depreciation procedure.

Minnesota Public Service Commission, Docket No. E-611, Northern States Power Company; testimony concerning rate of return and general financial requirements.



Minnesota Public Service Commission, Docket No. E-1086, Northern States Power Company; testimony concerning depreciation rates.

Minnesota Public Service Commission, Docket No. G-1015, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Public Service Commission of the State of Missouri, Case No. ER-2009-0090, KCP&L Greater Missouri Operations, rebuttal testimony concerning depreciation rates.

Public Service Commission of the State of Missouri, Case No. ER-2001-672, Missouri Public Service, a division of Utilicorp United Inc.; surrebuttal testimony regarding computation of income tax expense.

Public Service Commission of the State of Missouri, Case No. TO-82-3, Southwestern Bell Telephone Company; rebuttal testimony concerning the remaining-life technique and the equal-life group procedure.

Public Service Commission of the State of Missouri, Case No. GO-97-79, Laclede Gas Company; rebuttal testimony concerning adequacy of database for conducting depreciation studies.

Public Service Commission of the State of Missouri, Case No. GR-99-315, Laclede Gas Company; rebuttal testimony concerning treatment of net salvage in development of depreciation rates.

Public Service Commission of the State of Missouri, Case No. HR-2004-0024, Aquila Inc. d/b/a/ Aquila Networks-L & P; testimony supporting depreciation rates.

Public Service Commission of the State of Missouri, Case No. ER-2004-0034, Aquila Inc. d/b/a/ Aquila Networks-L & P and Aquila Networks-MPS; testimony supporting depreciation rates.

Public Service Commission of the State of Missouri, Case No. GR-2004-0072, Aquila Inc. d/b/a/ Aquila Networks-L & P and Aquila Networks-MPS; testimony supporting depreciation rates.

Public Service Commission of the State of Montana, Docket No. 88.2.5, Mountain State Telephone and Telegraph Company; rebuttal testimony concerning the equal-life group procedure and amortization of reserve imbalances.

Montana Public Service Commission, Docket No. D95.9.128, The Montana Power Company; testimony supporting proposed depreciation rates.

Nebraska Public Service Commission, Docket No. NG-0041, Aquila Networks (PNG Nebraska); testimony supporting proposed depreciation rates.

Public Service Commission of Nevada, Docket No. 92-7002, Central Telephone Company-Nevada; testimony supporting proposed depreciation rates.

Public Service Commission of Nevada, Docket No. 91-5054, Central Telephone Company-Nevada; testimony supporting proposed depreciation rates.

New Hampshire Public Utilities Commission, Docket No. DR95-169, Granite State Electric Company; testimony supporting proposed net salvage rates.

New Jersey Board of Public Utilities, Docket No. GR07110889, New Jersey Natural Gas Company; testimony supporting proposed depreciation rates.

New Jersey Board of Public Utilities, Docket No. GR 87060552, New Jersey Natural Gas Company; testimony supporting depreciation rates.

New Jersey Board of Regulatory Commissioners, Docket No. GR93040114J, New Jersey Natural Gas Company; testimony supporting depreciation rates.

New Jersey Board of Regulatory Commissioners, Docket No. GR15111304, New Jersey Natural Gas Company; testimony supporting depreciation rates.

New York Public Service Commission, Case No. 12-G-0202. Niagara Mohawk Power Corporation d/b/a National Grid; testimony supporting recommended depreciation rates.

New York Public Service Commission, Case No. 10-E-0050. Niagara Mohawk Power Corporation d/b/a National Grid; testimony supporting recommended depreciation rates.

North Carolina Utilities Commission, Docket No. E-7, SUB 487, Duke Power Company; rebuttal testimony concerning proposed depreciation rates.

North Carolina Utilities Commission, Docket No. P-19, SUB 207, General Telephone Company of the South; rebuttal testimony concerning the equal-life group depreciation procedure.

North Dakota Public Service Commission, Case No. 8860, Northern States Power Company; testimony concerning general financial requirements.

North Dakota Public Service Commission, Case No. 9634, Northern States Power Company; testimony concerning rate of return and general financial requirements.

North Dakota Public Service Commission, Case No. 9666, Northern States Power Company; testimony concerning rate of return and general financial requirements.

North Dakota Public Service Commission, Case No. 9741, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Oklahoma Corporation Commission, Cause No. PUD 201500213, Oklahoma Natural Gas Company; testimony supporting revised depreciation rates.

Oklahoma Corporation Commission, Cause No. PUD 200900110, Oklahoma Natural Gas Company; testimony supporting revised depreciation rates.



Ontario Energy Board, E.B.R.O. 385, Tecumseh Gas Storage Limited; testimony concerning depreciation rates.

Ontario Energy Board, E.B.R.O. 388, Union Gas Limited; testimony concerning depreciation rates.

Ontario Energy Board, E.B.R.O. 456, Union Gas Limited; testimony concerning depreciation rates.

Ontario Energy Board, E.B.R.O. 476-03, Union Gas Limited; testimony concerning depreciation rates.

Public Utilities Commission of Ohio, Case No. 81-383-TP-AIR, General Telephone Company of Ohio; testimony in support of the remaining-life technique.

Public Utilities Commission of Ohio, Case No. 82-886-TP-AIR, General Telephone Company of Ohio; testimony concerning the remaining-life technique and the equal-life group procedure.

Public Utilities Commission of Ohio, Case No. 84-1026-TP-AIR, General Telephone Company of Ohio; testimony in support of the equal-life group procedure and the remaining-life technique.

Public Utilities Commission of Ohio, Case No. 81-1433, The Ohio Bell Telephone Company; testimony concerning the remaining-life technique and the equal-life group procedure.

Public Utilities Commission of Ohio, Case No. 83-300-TP-AIR, The Ohio Bell Telephone Company; testimony concerning straight-line age-life depreciation.

Public Utilities Commission of Ohio, Case No. 84-1435-TP-AIR, The Ohio Bell Telephone Company; testimony in support of test period depreciation expense.

Public Utilities Commission of Oregon, Docket No. UM 204, GTE of the Northwest; testimony concerning the theory and practice of depreciation accounting under public utility regulation.

Public Utilities Commission of Oregon, Docket No. UM 840, GTE Northwest Incorporated; rebuttal testimony concerning principles of capital recovery.

Pennsylvania Public Utility Commission, Docket No. R-80061235, The Bell Telephone Company of Pennsylvania; testimony concerning the proper depreciation reserve to be used with an original cost rate base.

Pennsylvania Public Utility Commission, Docket No. R-811512, General Telephone Company of Pennsylvania; testimony concerning the proper depreciation reserve to be used with an original cost rate base.

Pennsylvania Public Utility Commission, Docket No. R-811819, The Bell Telephone Company of Pennsylvania; testimony concerning the proper depreciation reserve to be used with an original cost rate base.

Pennsylvania Public Utility Commission, Docket No. R-822109, General Telephone Company of Pennsylvania; testimony in support of the remaining-life technique.

Pennsylvania Public Utility Commission, Docket No. R-850229, General Telephone Company of Pennsylvania; testimony in support of the remaining-life technique and the proper depreciation reserve to be used with an original cost rate base.

Pennsylvania Public Utility Commission, Docket No. C-860923, The Bell Telephone Company of Pennsylvania; testimony concerning capital recovery under competition.

Rhode Island Public Utilities Commission, Docket No. 2290, The Narragansett Electric Company; testimony supporting proposed net salvage rates and depreciation rates.

South Carolina Public Service Commission, Docket No. 91-216-E, Duke Power Company; testimony supporting proposed depreciation rates.

South Dakota Public Utilities Commission, Docket No. EL14-106, NorthWestern Energy; testimony supporting revised depreciation rates.

Public Utilities Commission of the State of South Dakota, Case No. F-3062, Northern States Power Company; testimony concerning general financial requirements and measurements of financial performance.

Public Utilities Commission of the State of South Dakota, Case No. F-3188, Northern States Power Company; testimony concerning rate of return and general financial requirements.

Securities and Exchange Commission, File No. 3-5749, Northern States Power Company; testimony concerning the financial and ratemaking implications of an affiliation with Lake Superior District Power Company.

Tennessee Public Service Commission, Docket No. 89-11041, United Inter-Mountain Telephone Company; testimony concerning depreciation principles and capital recovery under competition.

The Railroad Commission of Texas, GUD Docket No. 9988, Texas Gas Service, testimony supporting recommended depreciation rates.

The Railroad Commission of Texas, GUD Docket No. 10488, Texas Gas Service, testimony supporting recommended depreciation rates.

The Railroad Commission of Texas, GUD Docket No. 10506, Texas Gas Service, testimony supporting recommended depreciation rates.



The Railroad Commission of Texas, GUD Docket No. 10526, Texas Gas Service, testimony supporting recommended depreciation rates.

State of Vermont Public Service Board, Docket No. 6596, Citizens Communications Company – Vermont Electric Division; testimony supporting recommended depreciation rates.

State of Vermont Public Service Board, Docket No. 6946 and 6988, Central Vermont Public Service Corporation; testimony supporting net salvage rates.

Commonwealth of Virginia State Corporation Commission, Case No. PUE-2002-00364, Washington Gas Light Company; testimony supporting proposed depreciation rates.

Public Service Commission of Wisconsin, Docket No. 2180-DT-3, General Telephone Company of Wisconsin; testimony concerning the equal-life group depreciation procedure.

**SPEAKER**

Depreciation Workshop, Oklahoma Corporation Commission, Public Utility Division, March 2015.

Depreciation Workshop, ONE Gas, Inc. January 2015.

Depreciation Training Seminar, Florida Public Service Commission, March 2013.

Depreciation and Obsolescence (Isness and Oughtness), Ninety-Fifth Annual Arizona Tax Conference, August 2012.

Group Depreciation Practices of Regulated Utilities (IAS 16 Property, Plant and Equipment), Hydro One Networks, Inc., November 2008.

Economics, Finance and Engineering Valuation. Florida Gulf Coast University, April 2007.

Depreciation Studies for Regulated Utilities, Hydro One Networks, Inc., April 2006.

Depreciation Studies for Cooperatives and Small Utilities. TELERGEE CFO and Controllers Conference, November, 2004.

Finding the “D” in RCNLD (Valuation Applications of Depreciation), Society of Depreciation Professionals Annual Meeting, September 2001.

Capital Asset and Depreciation Accounting, City of Edmonton Value Engineering Workshop, April 2001.

A Valuation View of Economic Depreciation, Society of Depreciation Professionals Annual Meeting, October 1999.

Capital Recovery in a Changing Regulatory Environment, Pennsylvania Electric Association Financial-Accounting Conference, May 1999.

Depreciation Theory and Practice, Southern Natural Gas Company Accounting and Regulatory Seminar, March 1999.

Depreciation Theory Applied to Special Franchise Property, New York Office of Real Property Services, March 1999.

Capital Recovery in a Changing Regulatory Environment, PowerPlan Consultants Annual Client Forum, November 1998.

Economic Depreciation, AGA Accounting Services Committee and EEI Property Accounting and Valuation Committee, May 1998. Discontinuation of Application of FASB Statement No. 71, Southern Natural Gas Company Accounting Seminar, April 1998.

Forecasting in Depreciation, Society of Depreciation Professionals Annual Meeting, September 1997.

Economic Depreciation In Response to Competitive Market Pricing, 1997 TELUS Depreciation Conference, June 1997.

Valuation of Special Franchise Property, City of New York, Department of Finance Valuation Seminar, March 1997.

Depreciation Implications of FAS Exposure Draft 158-B, 1996 TLG Decommissioning Conference, October 1996.

Why Economic Depreciation?, American Gas Association Depreciation Accounting Committee Meeting, August 1995.

The Theory of Economic Depreciation, Society of Depreciation Professionals Annual Meeting, November 1994.

Vintage Depreciation Issues, G & T Accounting and Finance Association Conference, June 1994.

Pricing and Depreciation Strategies for Segmented Markets (Regulated and Competitive), Iowa State Regulatory Conference, May 1990.

Principles and Practices of Depreciation Accounting, Canadian Electrical Association and Nova Scotia Power Electric Utility Regulatory Seminar, December 1989.

Principles and Practices of Depreciation Accounting, Duke Power Accounting Seminar, September 1989.

The Theory and Practice of Depreciation Accounting Under Public Utility Regulation, GTE Capital Recovery Managers Conference, February 1989.



Valuation Methods for Regulated Utilities, GTE Capital Recovery Managers Conference, January 1988.

Depreciation Principles and Practices for REA Borrowers, NRECA 1985 National Accounting and Finance Conference, September 1985.

Depreciation Principles and Practices for REA Borrowers, Kentucky Association of Electric Cooperatives, Inc., Summer Accountants Association Meeting, June 1985.

Considerations in Conducting a Depreciation Study, NRECA 1984 National Accounting and Finance Conference, October 1984.

Software for Conducting Depreciation Studies on a Personal Computer, United States Independent Telephone Association, September 1984.

Depreciation—An Assessment of Current Practices, NRECA 1983 National Accounting and Finance Conference, September 1983

Depreciation—An Assessment of Current Practices, REA National Field Conference, September 1983.

An Overview of Depreciation Systems, Iowa State Commerce Commission, October 1982.

Depreciation Practices for Gas Utilities, Regulatory Committee of the Canadian Gas Association, September 1981.

Practice, Theory, and Needed Research on Capital Investment Decisions in the Energy Supply Industry, workshop, sponsored by Michigan State University and the Electric Power Research Institute, November 1977.

Depreciation Concepts Under Regulation, Public Utilities Conference, sponsored by The University of Texas at Dallas, July 1976.

Electric Utility Economics, Mid-Continent Area Power Pool, May 1974.

#### **MODERATOR**

Depreciation Open Forum, Iowa State University Regulatory Conference, May 1991.

The Quantification of Risk and Uncertainty in Engineering Economic Studies, Iowa State University Regulatory Conference, May 1989.

Plant Replacement Decisions with Added Revenue from New Service Offerings, Iowa State University Regulatory Conference, May 1988.

Economic Depreciation, Iowa State University Regulatory Conference, May 1987.

Opposing Views on the Use of Customer Discount Rates in Revenue Requirement Comparisons, Iowa State University Regulatory Conference, May 1986.

Cost of Capital Consequences of Depreciation Policy, Iowa State University Regulatory Conference, May 1985.

Concepts of Economic Depreciation, Iowa State University Regulatory Conference, May 1984.

Ratemaking Treatment of Large Capacity Additions, Iowa State University Regulatory Conference, May 1983.

The Economics of Excess Capacity, Iowa State University Regulatory Conference, May 1982.

New Developments in Engineering Economics, Iowa State University Regulatory Conference, May 1980.

Training in Engineering Economy, Iowa State University Regulatory Conference, May 1979.

The Real Time Problem of Capital Recovery, Missouri Public Service Commission, Regulatory Information Systems Conference, September 1974.

#### **HONORS AND AWARDS**

The Society of Sigma Xi.

Professional Achievement Citation in Engineering, Iowa State University, 1993.

**HYDRO ONE NETWORKS INC.**  
**TRANSMISSION**  
**Depreciation & Amortization Expenses**  
Historical Years (2015, 2016, 2017 and 2018)  
Year Ending December 31  
(\$ Millions)

Line No.	Particulars	2014		2015		2016		2017		2018	
		Deprn Rate (a)	Provision (b)	Deprn Rate (c)	Provision (d)	Deprn Rate (e)	Provision (f)	Deprn Rate (g)	Provision (h)	Deprn Rate (a)	Provision (\$M) (b)
<b><u>Depreciation Expenses</u></b>											
1	Major Fixed Assets	2.07%	293.0	2.13%	312.0	2.05%	322.5	2.08%	343.2	2.06%	362.3
2	Minor Fixed Assets	12.43%	26.0	12.19%	27.0	11.75%	28.3	12.22%	27.4	11.32%	25.0
3	Depreciation on Fixed Assets		<u>319.0</u>		<u>339.0</u>		<u>350.8</u>		<u>370.6</u>		<u>387.3</u>
4	Less Capitalized Depreciation		(10.0)		(9.0)		(12.0)		(12.6)		(13.0)
5	Asset Removal Costs		27.0		29.0		34.6		38.3		37.7
6	Losses/(Gains) on Asset Disposition		0.0		0.0		(0.1)		(2.0)		(0.5)
7	Total Depreciation Expenses		<u>336.0</u>		<u>359.0</u>		<u>373.3</u>		<u>394.3</u>		<u>411.5</u>
<b><u>Amortization Expenses</u></b>											
8	Environmental Costs		5.9		7.1		6.8		8.1		6.7
9	Other Regulatory Amortization		5.0		0.0		0.0		0.0		0.0
10	Other Amortization		0.0		0.0		0.0		0.0		0.0
11	Total Amortization Expenses		<u>10.9</u>		<u>7.1</u>		<u>6.8</u>		<u>8.1</u>		<u>6.7</u>
12	Total Depreciation & Amortization Expenses		<u>346.9</u>		<u>366.1</u>		<u>380.1</u>		<u>402.4</u>		<u>418.2</u>
13	Exclude Other Reg Amort		5.0		0.0		0.0		0.0		0.0
14	Depreciation & Amortization for recovery		<u>341.9</u>		<u>366.1</u>		<u>380.1</u>		<u>402.4</u>		<u>418.2</u>

**HYDRO ONE NETWORKS INC.**  
**TRANSMISSION**  
**Depreciation & Amortization Expenses**  
Bridge Year (2019) and Test Years (2020 to 2022)  
Year Ending December 31  
(\$ Millions)

Line No.	Particulars	2018		2019		2020		2021		2022	
		Deprn Rate	Provision (\$M)	Deprn Rate	Provision (\$M)	Deprn Rate	Provision (\$M)	Deprn Rate	Provision (\$M)	Deprn Rate	Provision (\$M)
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
	<b><u>Depreciation Expenses</u></b>										
1	Major Fixed Assets	2.11%	334.9	2.09%	384.8	2.03%	390.8	2.02%	413.0	2.02%	437.3
2	Minor Fixed Assets	8.67%	31.4	8.66%	31.9	8.01%	30.2	7.34%	28.4	6.55%	26.4
3	Depreciation on Fixed Assets		<u>366.3</u>		<u>416.7</u>		<u>421.0</u>		<u>441.4</u>		<u>463.6</u>
4	Less Capitalized Depreciation		(13.0)		(13.1)		(13.3)		(13.5)		(13.6)
5	Asset Removal Costs		<u>60.2</u>		<u>57.3</u>		<u>54.1</u>		<u>59.7</u>		<u>61.5</u>
6	Total Depreciation Expenses		<u>413.5</u>		<u>460.8</u>		<u>461.8</u>		<u>487.6</u>		<u>511.5</u>
	<b><u>Amortization Expenses</u></b>										
7	Environmental Costs		6.7		6.8		12.6		17.4		19.3
8	Other Regulatory Amortization		0.0		0.0		0.0		0.0		0.0
9	Other Amortization		0.2		0.2		0.2		0.2		0.2
10	Total Amortization Expenses		<u>0.0</u>		<u>0.0</u>		<u>0.0</u>		<u>0.0</u>		<u>0.0</u>
			<u>6.9</u>		<u>6.9</u>		<u>12.8</u>		<u>17.6</u>		<u>19.4</u>
11	Total Depreciation & Amortization Expenses		<u>420.4</u>		<u>467.7</u>		<u>474.6</u>		<u>505.2</u>		<u>530.9</u>
12	Exclude Other Reg Amort		<u>0.0</u>		<u>0.0</u>		<u>0.0</u>		<u>0.0</u>		<u>0.0</u>
13	Depreciation & Amortization for recovery		<u>420.4</u>		<u>467.7</u>		<u>474.6</u>		<u>505.2</u>		<u>530.9</u>

1 **TAXES OR PAYMENT IN LIEU OF CORPORATE INCOME TAXES**

2  
3 **1. INTRODUCTION**

4  
5 This Exhibit explains how Hydro One calculates its income tax expenses for the purposes  
6 of rate recovery. Exhibit F, Tab 7, Schedules 2 and 3 contain detailed calculations of  
7 income tax for the historical, bridge and test years; including supporting schedules and  
8 reconciliations, as needed; as well as copies of the most recent tax return, and the  
9 calculation of tax credits and other supporting schedules, as required. The information  
10 provided in this Application is consistent with Section 2.8.11 of the Filing Requirements.

11  
12 The tax amounts included in rates relate solely to the estimated current tax liability  
13 associated with the regulatory net income before tax (“NIBT”), based on the applicable  
14 statutory tax rates for the year. Future taxes reflect the future tax liabilities/assets  
15 associated with timing differences between the tax basis of assets and liabilities and their  
16 carrying amounts for accounting purposes. These are not taken into consideration. When  
17 future income taxes become payable or receivable, it is expected that they will be  
18 included in the rates approved by the Board and recovered from customers at that time.

19  
20 **2. DEPARTURE FROM PILS REGIME**

21  
22 Under the *Electricity Act, 1998* (Ontario), as a Crown-owned company exempted from  
23 paying corporate income taxes under Section 149(1) of the *Income Tax Act* (Canada) and  
24 the *Taxation Act, 2007* (Ontario), Hydro One was obligated to make payments in lieu of  
25 corporate income taxes (“PILs”) to the Ontario Electricity Financial Corporation.

26  
27 Effective as of October 31, 2015, in connection with a public offering of its shares, Hydro  
28 One was no longer subject to this exemption and exited the PILs regime. Under the

Witness: Nancy Tran

1 *Income Tax Act*, Hydro One was deemed to have disposed of its assets at fair market  
2 value at that time and immediately re-acquired them at the same value. Hydro One was  
3 obligated to pay a one-time PILs departure tax of approximately \$2.3 billion based on an  
4 estimated gain and recognized a deferred tax benefit associated with exiting the PILs  
5 regime.

6  
7 In the Decision and Order for proceeding EB-2016-0160 (the “Original Decision”), the  
8 Board concluded that the net deferred tax benefit resulting from the departure of the PILs  
9 regime should not accrue entirely to Hydro One’s shareholder and that a portion of the  
10 deferred tax benefit should be given back to ratepayers. Hydro One filed a Motion to  
11 Review and Vary the decision on October 18, 2017 (the “Review”) and a Notice of  
12 Appeal with the Divisional Court of Ontario on October 27, 2017. The OEB issued a  
13 Decision and Order on the Motion to Review and Vary (EB-2018-0269), dated March 7,  
14 2019 (the “Rehearing Decision”), stating that “*The OEB considers the outcome of the*  
15 *Original Decision to be reasonable. The motion is dismissed and the original decision*  
16 *upheld.*” Hydro One subsequently appealed the Rehearing Decision on April 5, 2019 and  
17 the matter is currently before the Divisional Court (File No. 200/19).

18  
19 In this proceeding, the taxes included in Hydro One’s rates reflect the principles set out in  
20 the Original Decision and use the tax ratio noted in Table 1 below (the “Prescribed Tax  
21 Ratio”) to calculate the amount of tax benefit allocable to ratepayers. Hydro One has  
22 implemented the Original Decision by applying the Prescribed Tax Ratio to the capital  
23 cost allowance (“CCA”) deductions related to the Initial Public Offering (“IPO”),  
24 consistent with the approach in proceeding EB-2017-0049, which was accepted by the  
25 OEB in its Rate Order dated June 11, 2019 in that proceeding.



1 **Table 1: Tax Ratio applied in the Calculation of Hydro One’s Rates Revenue**

<b><u>Actual Fair Market Value (FMV) Sales and Payments Ratio (\$ millions)</u></b>			
			<b>52.6% Sold</b>
<b><u>Transmission</u></b>			
Actual Payment Proportions toward FMV bump			
- By new shareholders	52.6%	x	\$5,567 = \$ 2,928
- Departure tax on remainder	47.4%	x	\$1,280 = \$ 607
			\$ 3,535
Ratio: Actual FMV Sales & Payments/FMV Bump $\$3,535/\$5,567 =$ <u>63.5%</u> Shareholder			
% to Ratepayers <u>36.5%</u> Ratepayers			

*\* As the government divests its shares, the tax benefit allocated to shareholders will increase.*

2

3 **3. INCOME TAX RATE (FEDERAL AND ONTARIO)**

4

5 A combined income tax rate of 26.5% has been used for the test years 2020 to 2022, as  
 6 set out in Table 2 below, comprising of a federal rate of 15% and a provincial rate of  
 7 11.5%. Any variance between actual taxes payable and forecast taxes, as a result of tax  
 8 policy and legislation changes or rate changes for income tax or capital cost allowance  
 9 will be captured in a deferral account for tax rate changes as per Section 7.1 of the  
 10 Electricity Distribution Rate (“EDR”) Handbook, described further in Exhibit H, Tab 1,  
 11 Schedule 1.

12

13 **Table 2: Combined Income Tax Rates**

	<b>Historical</b>			<b>Bridge</b>	<b>Test</b>		
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Federal Tax Rate (%)	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Provincial Rate (%)	11.50	11.50	11.50	11.50	11.50	11.50	11.50
Total Statutory Tax Rate (%)	<b>26.50</b>	<b>26.50</b>	<b>26.50</b>	<b>26.50</b>	<b>26.50</b>	<b>26.50</b>	<b>26.50</b>

Witness: Nancy Tran

1     **4.     RECONCILIATION BETWEEN REGULATORY NET INCOME BEFORE**  
2           **TAX AND TAXABLE INCOME**

3  
4     Reconciliation between the regulatory NIBT and taxable income for the test years 2020  
5     to 2022 is provided in Exhibit F, Tab 7, Schedule 2, Attachment 1. This Schedule  
6     contains the income tax computation. It also shows how the taxable income is computed  
7     by making adjustments to the regulatory NIBT for items such as depreciation and capital  
8     cost allowance (“CCA”). The calculation of CCA is provided in Exhibit F, Tab 7,  
9     Schedule 2, Attachment 2. Reconciliation between accounting fixed asset additions and  
10    net tax additions is provided in Exhibit F, Tab 7, Schedule 2, Attachment 2A.

11  
12    Reconciliation between the accounting NIBT and taxable income for the historical years  
13    2016, 2017 and 2018 is provided in Exhibit F, Tab 7, Schedule 2, Attachment 3. The  
14    calculation of CCA for the historical years is provided in Exhibit F, Tab 7, Schedule 2,  
15    Attachment 4. In order to make it easier to follow these reconciliations, Hydro One has  
16    placed these adjustments into the following five categories:

- 17       1. Recurring items that must be added (deducted) because they have been included  
18       in the OM&A expenses in arriving at the revenue requirement, or for which  
19       appropriate tax adjustments are made (for example, depreciation versus CCA);
- 20       2. Deferral accounts not included in the revenue requirement;
- 21       3. Reversal of accounting adjustments not included in the revenue requirement;
- 22       4. Recurring items not in the revenue requirement; and
- 23       5. Items whose impact is immaterial in total, and as such, have not been included in  
24       Hydro One’s investment plan.

1     **5.     OVERVIEW OF PROCESS TO ARRIVE AT TAXABLE INCOME**

2  
3     The starting point for the computation of Hydro One Transmission's taxable income for  
4     regulatory purposes is the NIBT as shown on the utility's income statement for the year.  
5     The NIBT is prepared using U.S. Generally Accepted Accounting Principles, but taxable  
6     income is computed using the relevant tax legislation, interpretations and assessment  
7     practices. Therefore, many adjustments are typically made to the NIBT to arrive at  
8     taxable income. Essentially, the NIBT is increased by amounts that are not deductible for  
9     tax purposes. This includes items such as accounting depreciation, contingent liabilities,  
10    accounting losses, accounting provisions such as other post-employment benefits  
11    ("OPEB") and revenue that has been received but not recognized for accounting purposes  
12    (for example, income received with respect to a deferral account that has been set-up on  
13    the balance sheet rather than shown as additional income on the income statement). On  
14    the other hand, the NIBT is reduced by amounts that are deductible for tax purposes but  
15    have not been deducted in computing NIBT. This includes items such as CCA, the  
16    deductible portion of capitalized overhead, accounting gains and OPEB payments. Such  
17    reductions also include expenses incurred for which a deferral account has been set up on  
18    the balance sheet, rather than shown as a deduction through the income statement.

19  
20    Consequently, it is imperative that the NIBT be adjusted for amounts that have been  
21    included (or deducted) for accounting purposes that are not income (or deductible) for tax  
22    return purposes.

23  
24    **6.     TAXABLE TREATMENT OF DEFERRAL ACCOUNTS (REGULATORY**  
25    **ASSETS AND LIABILITIES)**

26  
27    Deferral accounts are typically recognized by the utilities' balance sheets for foregone  
28    revenue or for expenses that have been incurred, for which recovery will be sought from

Witness: Nancy Tran

1 ratepayers through future rates. Disposition of the deferral accounts is determined by the  
2 Board.

3  
4 For example, as shown in Table 3, assuming that a 26.5% tax rate and a \$100 expense is  
5 incurred, the utility will be allowed to deduct the \$100 in computing taxable income for  
6 the year in which the expense has been incurred. If the Board subsequently approves  
7 recovery of this expense over a two-year period through a rate rider, the utility will  
8 include the approved recoverable amounts in computing taxable income for the year in  
9 which it is billed to ratepayers. The net result is that the utility has recovered the \$100  
10 cost although the income or expense has been taxed or deducted in different years.

11  
12 **Table 3: Example of the Income Tax Treatment of Deferral Account Disposition**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>CUM</b>
<b>Income (deduction)</b>	(100)	50	50	Nil
<b>Tax Refund (payable)</b>	26.5	(13.25)	(13.25)	Nil
<b>Cash Inflow (outflow)</b>	(73.5)	36.75	36.75	Nil

13 Therefore, deferral accounts have not been included in computing tax payable for  
14 purposes of the revenue requirement since the tax benefit has or will be obtained through  
15 the tax system. It should be noted that this conclusion is consistent with the Section  
16 2.8.11 of the Filing Requirements issued February 11, 2016 which states:

17 *“Regulatory assets (and regulatory liabilities) must generally be excluded*  
18 *from PILs calculations both when they were created, and when they were*  
19 *collected, regardless of the actual tax treatment accorded those amounts.”*

20  
21 **7. CONTINGENT LIABILITIES/ACCOUNTING RESERVES**

22  
23 Where an accounting provision is recognized for certain contingent costs that the utility  
24 may have to incur in the future (such as obsolescence provisions, lawsuits, staff

Witness: Nancy Tran

1 reductions), the provision will reduce the NIBT of the utility. In each subsequent year,  
2 the balance for the contingent liability/accounting reserve is reviewed and may be  
3 adjusted by the utility to reflect new information available at that time. The balance may  
4 be adjusted upward or downward, with NIBT either decreasing or increasing,  
5 respectively.

6  
7 However, for tax purposes, a contingent liability or accounting reserve is not deductible  
8 at the time when the liability is being recognized by accounting. Rather, the amount will  
9 only be deducted (or capitalized as a capital asset) in computing taxable income for the  
10 taxation year in which the obligation has actually been settled. Therefore, to the extent  
11 that the current year NIBT has been increased (or decreased) by the contingent liability or  
12 accounting reserve provision, the NIBT must be adjusted to reverse the increase (or  
13 decrease) in computing taxable income.

14  
15 It is not necessary to adjust the 2020, 2021, and 2022 NIBT for contingent liabilities in  
16 computing taxable income since no changes were forecasted in the contingent liability  
17 balances for 2020, 2021, and 2022. Therefore, such amounts are not included in the  
18 accounting income and the tax computation for purposes of the revenue requirement.

19  
20 **8. INTEGRITY CHECKS**

21  
22 Hydro One has performed the integrity checks set described in Section 2.8.11.2 of the  
23 Filing Requirements. Material exceptions are described below.

- 24 • The capital additions in the undepreciated capital cost (“UCC”) schedule do not  
25 agree with the rate base section in the historical, bridge and test years in Exhibit  
26 F, Tab 7, Schedule 2, Attachment 2. This is primarily due to capitalized costs that  
27 are deductible (and not capitalized) for tax. Please see reconciliation provided in  
28 Exhibit F, Tab 7, Schedule 2, Attachment 2A.

Witness: Nancy Tran

- 1           • Loss carry forwards on the Schedule 4 of the 2017 Income Tax Return arose as a  
2           result of the additional tax deductions from the fair market value revaluation as a  
3           consequence of the IPO and the departure from the PILs regime. These non-  
4           capital losses arise from the shareholders portion of the CCA bump and are not  
5           considered in the calculation of the regulatory taxes for the test period.

1                   **CALCULATION OF UTILITY INCOME TAXES**

2

- 3   **Attachment 1:**           Calculation of Utility Income Taxes – Bridge and Test Years
- 4   **Attachment 1A:**        Calculation of Actual Fair Market Value Sales and Payments Ratio
- 5   **Attachment 2:**           Calculation of Capital Cost Allowance – Bridge and Test Years
- 6   **Attachment 2A:**        Reconciliation of Accounting to Tax Additions - Test Years
- 7   **Attachment 3:**           Calculation of Utility Income Taxes - Historical Years
- 8   **Attachment 4:**           Calculation of Capital Cost Allowance - Historical Years
- 9   **Attachment 5:**           Calculation of Tax Credits – Bridge and Test Years
- 10 **Attachment 6:**           Calculation of Tax Credits – Historical Years

**CALCULATION OF UTILITY INCOME TAXES  
BRIDGE AND TEST YEARS**

HYDRO ONE NETWORKS INC.  
TRANSMISSION  
Calculation of Utility Income Taxes  
Bridge Year (2019) and Test Years (2020 to 2022)  
Year Ending December 31  
(\$ Millions)

Line No.	Particulars	2019 (a)	2020 (b)	2021 (c)	2022 (d)
<u>Determination of Taxable Income</u>					
1	Regulatory Net Income (before tax)	\$ 498.1	\$ 525.6	\$ 560.2	\$ 593.1
2	Book to Tax Adjustments:				
3	Other Post Employment Benefits expense	20.6	21.1	21.5	21.1
4	Other Post Employment Benefits payments	(27.0)	(28.7)	(30.7)	(31.3)
5	Depreciation and amortization	467.7	474.6	505.2	530.9
7	Capital Cost Allowance	(620.9)	(616.9)	(639.7)	(682.1)
8	Removal costs	(3.3)	(3.3)	(3.3)	(3.3)
9	Environmental costs	(6.8)	(12.6)	(17.4)	(19.3)
10	Hedge loss - amortization	0.0	0.0	0.0	0.0
11	Non-deductible meals & entertainment	3.4	3.4	3.4	3.4
12	Capital amounts expensed under \$2K	4.3	4.3	4.3	4.3
13	Research & Development ITC	0.0	0.0	0.0	0.0
14	Federal apprenticeship & education credits	0.3	0.3	0.4	0.3
15	Capitalized overhead costs	(33.2)	(34.7)	(35.7)	(36.0)
16	Capitalized pension costs	(25.9)	(27.9)	(30.1)	(30.2)
17	Debt Issuance costs - amortization	2.0	2.2	2.2	2.3
18	Debt Issuance costs - 21e deduction	(3.5)	(3.8)	(3.2)	(4.0)
19	Premium/Discount - amortization	(0.3)	(0.4)	(0.4)	(0.2)
20	Bond discount deduction	(0.1)	(0.0)	(0.1)	0.0
21	Non-deductible LTIP	2.7	2.7	2.8	2.8
22	Capital Contribution True-Up Adjustment	0.0	0.0	0.0	0.0
23	Non deductible share based compensation	1.5	1.4	1.3	1.2
		\$ (218.6)	\$ (218.3)	\$ (219.6)	\$ (240.1)
24	Regulatory Taxable Income	\$ <u>279.5</u>	\$ <u>307.3</u>	\$ <u>340.6</u>	\$ <u>353.0</u>
25	Corporate Income Tax Rate	26.50 %	26.50 %	26.50 %	26.50 %
26	Subtotal	\$ 74.1	\$ 81.4	\$ 90.3	\$ 93.5
27	Less: R&D ITC / Ontario education credits	(0.3)	(0.3)	(0.4)	(0.3)
28	Regulatory Income Tax	\$ <u>73.7</u>	\$ <u>81.1</u>	\$ <u>89.9</u>	\$ <u>93.2</u>
29	Less: Total Deferred Tax Asset Sharing	(35.6)	(32.8)	(30.5)	(28.4)
30	Revenue Requirement Income Tax	\$ <u><u>38.1</u></u>	\$ <u><u>48.3</u></u>	\$ <u><u>59.4</u></u>	\$ <u><u>64.8</u></u>
<u>Tax Rates</u>					
31	Federal Tax	15.00 %	15.00 %	15.00 %	15.00 %
32	Provincial Tax	11.50 %	11.50 %	11.50 %	11.50 %
33	Total Tax Rate	<u>26.50 %</u>	<u>26.50 %</u>	<u>26.50 %</u>	<u>26.50 %</u>

**Note 1:** In accordance with the Board's Decision and Order in EB-2016-0160 issued Septemebr 28, 2017; a portion of the deferred tax benefits has been allocated to the ratepayers in accordance with the methodology in Table 15-3 of that Decision. This treatment was confirmed in the Decision and Rate Order in EB-2018-0269 issued March 7, 2019. The portion allocated to rate-payers is 36.5%, please refer to the calculation in Exhibit F, Tab 7, Schedule 2, Attachment 1A. This allocation factor has been applied to the tax benefits (i.e. the capital cost allowance) arising from the FMV bump to determine the deferred taxes to be shared with rate payer.

<u>Deferred Tax Sharing Calculations</u>		2019	2020	2021	2022
34	Max CCA (Transmission)	\$ (270.6)	\$ (249.1)	\$ (231.7)	\$ (215.5)
35	Tax Rate	26.50 %	26.50 %	26.50 %	26.50 %
36	Tax Effected	\$ <u>(71.7)</u>	\$ <u>(66.0)</u>	\$ <u>(61.4)</u>	\$ <u>(57.1)</u>
37	Less: Deferred Tax Asset Sharing (Prescribed Tax Ratio 36.5%)	(26.2)	(24.1)	(22.4)	(20.8)
38	Less: Deferred Tax Asset Sharing (Gross up)	(9.4)	(8.7)	(8.1)	(7.5)
39	Total Deferred Tax Asset Sharing	\$ <u><u>(35.6)</u></u>	\$ <u><u>(32.8)</u></u>	\$ <u><u>(30.5)</u></u>	\$ <u><u>(28.4)</u></u>



## CALCULATION OF ACTUAL FAIR MARKET VALUE SALES AND PAYMENTS RATIO

HYDRO ONE NETWORKS INC.  
TRANSMISSION  
Actual Fair Market Value (FMV) Sales and Payments Ratio  
(\$ Millions)

**52.6%\* Sold**

### Transmission

Actual Payment Proportions toward FMV bump

- By new shareholders	52.6%	x	\$5,567	=	\$	2,928
- Departure tax on remainder	47.4%	x	\$1,280	=	\$	607
					\$	<u>3,535</u>

Ratio: Actual FMV Sales & Payments/FMV Bump       $\$3,535/\$5,567 =$  63.5% Shareholder  
36.5% Ratepayers

#### Note:

\* Per the allocation methodology in the Ontario Energy Board's Decision and Order issued on November 1, 2017 for Hydro One's 2017/2018 Transmission Rate Application (EB-2016-0160) Table 15-3.

**CALCULATION OF CAPITAL COST ALLOWANCE  
 BRIDGE (2019) AND TEST (2020 - 2022) YEARS**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION  
 Calculation of Capital Cost Allowance (CCA)  
 2019 Networks Allocation to Transmission  
 Year Ending December 31  
 (\$ Millions)

CCA Class	Opening UCC *	Net Additions	UCC pre- 1/2 yr	50% net additions	UCC for CCA	CCA Rate	CCA	Closing UCC
1	1906.0	21.1	1927.1	10.5	1916.5	4%	76.7	1850.4
2	444.9	0.0	444.9	0.0	444.9	6%	26.7	418.2
3	216.9	0.0	216.9	0.0	216.9	5%	10.8	206.1
6	61.1	0.0	61.1	0.0	61.1	10%	6.1	55.0
7	0.0	0.0	0.0	0.0	0.0	15%	0.0	0.0
8	132.2	60.6	192.8	30.3	162.5	20%	32.5	160.3
9	0.4	0.0	0.4	0.0	0.4	25%	0.1	0.3
10	34.4	11.0	45.4	5.5	39.9	30%	12.0	33.4
12	13.5	47.7	61.2	23.8	37.4	100%	37.4	23.8
13	9.9	(1.4)	8.5	0.0	9.9	0%	1.3	7.3
14.1 (ECE)**	39.0	0.0	39.0	0.0	39.0	7%	2.7	36.3
14.1 (Post-2017)	9.5	6.0	15.5	3.0	12.5	5%	0.6	14.9
17	112.4	1.1	113.5	0.6	113.0	8%	9.0	104.5
35	0.1	0.0	0.1	0.0	0.1	7%	0.0	0.1
42	64.9	0.0	64.9	0.0	64.9	12%	7.8	57.1
45	0.0	0.0	0.0	0.0	0.0	45%	0.0	0.0
46	10.0	0.0	10.0	0.0	10.0	30%	3.0	7.0
47	3909.3	708.4	4617.7	354.2	4263.5	8%	341.1	4276.6
50	110.6	3.4	114.0	1.7	112.3	55%	61.8	52.2
52	0.0	0.0	0.0	0.0	0.0	100%	0.0	0.0
<b>Sub Total</b>	<b>7,075.2</b>	<b>857.9</b>	<b>7,933.2</b>	<b>429.7</b>	<b>7,504.9</b>		<b>629.5</b>	<b>7,303.6</b>
					Not included in RR		(8.6) ***	
					Total CCA for RR		<u><u>620.9</u></u>	

**Notes:**

\* The Opening Undepreciated Capital Cost ("UCC") numbers are rolled forward based on the 2018 Tax Provision.

\*\* The Eligible Capital Expenditures ("ECE") transferred to Class 14.1 for taxation years beginning January 1, 2017. The CCA rate will remain at 7% for tax years that end prior to 2027.

\*\*\* This is the CCA for items such as CCRA True ups and Project Cancellation Costs. As these items are not included in rates, the tax benefits associated should also be excluded from rates.

**CALCULATION OF CAPITAL COST ALLOWANCE  
 BRIDGE (2019) AND TEST (2020 - 2022) YEARS**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION  
 Calculation of Capital Cost Allowance (CCA)  
 2020 Networks Allocation to Transmission  
 Year Ending December 31  
 (\$ Millions)

<u>CCA Class</u>	<u>Opening UCC</u>	<u>Net Additions</u>	<u>UCC pre- 1/2 yr</u>	<u>50% net additions</u>	<u>UCC for CCA</u>	<u>CCA Rate</u>	<u>CCA</u>	<u>Closing UCC</u>
1	1850.4	28.9	1879.4	14.5	1864.9	4%	74.6	1804.8
2	418.2	0.0	418.2	0.0	418.2	6%	25.1	393.1
3	206.1	0.0	206.1	0.0	206.1	5%	10.3	195.8
6	55.0	0.0	55.0	0.0	55.0	10%	5.5	49.5
7	0.0	0.0	0.0	0.0	0.0	15%	0.0	0.0
8	160.3	48.4	208.7	24.2	184.5	20%	36.9	171.8
9	0.3	0.0	0.3	0.0	0.3	25%	0.1	0.2
10	33.4	10.8	44.3	5.4	38.9	30%	11.7	32.6
12	23.8	21.8	45.6	10.9	34.7	100%	34.7	10.9
13	7.3	(0.7)	6.6	(0.3)	6.9	0%	0.9	5.7
14.1 (ECE)**	36.3	0.0	36.3	0.0	36.3	7%	2.5	33.7
14.1 (Post-2017)	14.9	8.5	23.4	4.2	19.1	5%	1.0	22.4
17	104.5	2.5	107.0	1.2	105.7	8%	8.5	98.5
35	0.1	0.0	0.1	0.0	0.1	7%	0.0	0.1
42	57.1	0.0	57.1	0.0	57.1	12%	6.9	50.3
45	0.0	0.0	0.0	0.0	0.0	45%	0.0	0.0
46	7.0	0.0	7.0	0.0	7.0	30%	2.1	4.9
47	4276.6	803.5	5080.1	401.7	4678.4	8%	374.3	4705.9
50	52.2	3.5	55.8	1.8	54.0	55%	29.7	26.1
52	0.0	0.0	0.0	0.0	0.0	100%	0.0	0.0
<b>Sub Total</b>	<b>7,303.6</b>	<b>927.3</b>	<b>8,230.9</b>	<b>463.6</b>	<b>7,767.3</b>	<b>4.9</b>	<b>624.7</b>	<b>7,606.2</b>
					Not included in RR		(7.8) ***	
					Total CCA for RR		<u><u>616.9</u></u>	

**Notes:**

\*\* The Eligible Capital Expenditures ("ECE") transferred to Class 14.1 for taxation years beginning January 1, 2017. The CCA rate will remain at 7% for tax years that end prior to 2027.

\*\*\* This is the CCA for items such as CCRA True ups and Project Cancellation Costs. As these items are not included in rates, the tax benefits associated should also be excluded from rates.

**CALCULATION OF CAPITAL COST ALLOWANCE  
 BRIDGE (2019) AND TEST (2020 - 2022) YEARS**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION  
 Calculation of Capital Cost Allowance (CCA)  
 2021 Networks Allocation to Transmission  
 Year Ending December 31  
 (\$ Millions)

<u>CCA Class</u>	<u>Opening UCC</u>	<u>Net Additions</u>	<u>UCC pre- 1/2 yr</u>	<u>50% net additions</u>	<u>UCC for CCA</u>	<u>CCA Rate</u>	<u>CCA</u>	<u>Closing UCC</u>
1	1804.8	29.3	1834.1	14.7	1819.4	4%	72.8	1761.3
2	393.1	0.0	393.1	0.0	393.1	6%	23.6	369.5
3	195.8	0.0	195.8	0.0	195.8	5%	9.8	186.0
6	49.5	0.0	49.5	0.0	49.5	10%	4.9	44.5
7	0.0	0.0	0.0	0.0	0.0	15%	0.0	0.0
8	171.8	123.7	295.5	61.8	233.6	20%	46.7	248.8
9	0.2	0.0	0.2	0.0	0.2	25%	0.1	0.2
10	32.6	10.9	43.5	5.4	38.1	30%	11.4	32.1
12	10.9	30.3	41.2	15.2	26.0	100%	26.0	15.2
13	5.7	(0.7)	5.0	(0.3)	5.3	0%	0.5	4.5
14.1 (ECE)**	33.7	0.0	33.7	0.0	33.7	7%	2.4	31.4
14.1 (Post-2017)	22.4	11.2	33.6	5.6	28.0	5%	1.4	32.2
17	98.5	2.0	100.5	1.0	99.5	8%	8.0	92.5
35	0.1	0.0	0.1	0.0	0.1	7%	0.0	0.1
42	50.3	0.0	50.3	0.0	50.3	12%	6.0	44.3
45	0.0	0.0	0.0	0.0	0.0	45%	0.0	0.0
46	4.9	0.0	4.9	0.0	4.9	30%	1.5	3.4
47	4705.9	968.3	5674.1	484.1	5190.0	8%	415.2	5258.9
50	26.1	7.8	33.9	3.9	30.0	55%	16.5	17.4
52	0.0	0.0	0.0	0.0	0.0	100%	0.0	0.0
<b>Sub Total</b>	<b>7,606.2</b>	<b>1,182.8</b>	<b>8,789.0</b>	<b>591.4</b>	<b>8,197.6</b>		<b>646.8</b>	<b>8,142.2</b>
						Not included in RR	<u>(7.1)</u> ***	
						Total CCA for RR	<u><u>639.7</u></u>	

**Notes:**

\*\* The Eligible Capital Expenditures ("ECE") transferred to Class 14.1 for taxation years beginning January 1, 2017. The CCA rate will remain at 7% for tax years that end prior to 2027.

\*\*\* This is the CCA for items such as CCRA True ups and Project Cancellation Costs. As these items are not included in rates, the tax benefits associated should also be excluded from rates.

**CALCULATION OF CAPITAL COST ALLOWANCE  
 BRIDGE (2019) AND TEST (2020 - 2022) YEARS**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION  
 Calculation of Capital Cost Allowance (CCA)  
 2022 Networks Allocation to Transmission  
 Year Ending December 31  
 (\$ Millions)

<u>CCA Class</u>	<u>Opening UCC</u>	<u>Net Additions</u>	<u>UCC pre- 1/2 yr</u>	<u>50% net additions</u>	<u>UCC for CCA</u>	<u>CCA Rate</u>	<u>CCA</u>	<u>Closing UCC</u>
1	1761.3	22.8	1784.1	11.4	1772.7	4%	70.9	1713.2
2	369.5	0.0	369.5	0.0	369.5	6%	22.2	347.4
3	186.0	0.0	186.0	0.0	186.0	5%	9.3	176.7
6	44.5	0.0	44.5	0.0	44.5	10%	4.5	40.1
7	0.0	0.0	0.0	0.0	0.0	15%	0.0	0.0
8	248.8	78.5	327.2	39.2	288.0	20%	57.6	269.6
9	0.2	0.0	0.2	0.0	0.2	25%	0.0	0.1
10	32.1	10.7	42.8	5.4	37.4	30%	11.2	31.6
12	15.2	15.3	30.5	7.7	22.8	100%	22.8	7.7
13	4.5	(0.4)	4.1	(0.2)	4.3	0%	(0.1)	4.2
14.1 (ECE)**	31.4	0.0	31.4	0.0	31.4	0.1	2.2	29.2
14.1 (Post-2017)	32.2	10.8	43.1	5.4	37.7	5%	1.9	41.2
17	92.5	1.9	94.4	0.9	93.5	8%	7.5	86.9
35	0.1	0.0	0.1	0.0	0.1	7%	0.0	0.1
42	44.3	0.0	44.3	0.0	44.3	12%	5.3	38.9
45	0.0	0.0	0.0	0.0	0.0	45%	0.0	0.0
46	3.4	0.0	3.4	0.0	3.4	30%	1.0	2.4
47	5258.9	1033.9	6292.9	517.0	5775.9	8%	462.1	5830.8
50	17.4	2.4	19.8	1.2	18.6	55%	10.2	9.6
52	0.0	0.0	0.0	0.0	0.0	100%	0.0	0.0
<b>Sub Total</b>	<b>8,142.2</b>	<b>1,175.9</b>	<b>9,318.2</b>	<b>588.0</b>	<b>8,730.2</b>		<b>688.6</b>	<b>8,629.6</b>
					Not included in RR		(6.5) ***	
					Total CCA for RR		<u><u>682.1</u></u>	

**Notes:**

\*\* The Eligible Capital Expenditures ("ECE") transferred to Class 14.1 for taxation years beginning January 1, 2017. The CCA rate will remain at 7% for tax years that end prior to 2027.

\*\*\* This is the CCA for items such as CCRA True ups and Project Cancellation Costs. As these items are not included in rates, the tax benefits associated should also be excluded from rates.

**RECONCILIATION OF ACCOUNTING TO TAX ADDITIONS  
 TEST YEARS (2020 - 2022)**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION

Reconciliation of Accounting to Tax Additions  
 Test Years (2020 - 2022)  
 (\$ Millions)

	<u>2020</u>	<u>2021</u>	<u>2022</u>
Fixed asset additions	1,037.1	1,297.7	1,293.0
<u>Adjustments:</u>			
Asset Removal	50.8	56.4	58.2
Capital Amounts Expensed	4.3	4.3	4.3
Land	(4.4)	(3.8)	(3.2)
Share Compensation	(7.3)	(7.5)	(7.3)
Interest Capitalized	(43.6)	(48.5)	(51.3)
Overhead capitalized	(34.7)	(35.7)	(36.0)
Depreciation capitalized	(13.3)	(13.5)	(13.6)
OPEB capitalized	(33.6)	(36.5)	(37.7)
Pension capitalized	(27.9)	(30.1)	(30.2)
SRED capitalized	-	-	-
Net Tax Additions to UCC	<u>927.3</u>	<u>1,182.8</u>	<u>1,175.9</u>

CALCULATION OF UTILITY INCOME TAXES  
HISTORIC YEARS

HYDRO ONE NETWORKS INC.  
TRANSMISSION  
Calculation of Utility Income Taxes  
Historic Years (2016 - 2018)  
Year Ending December 31  
(\$ Millions)

Line No.	Particulars	2016	2017	2018*
<u>Calculation of Federal and ON Taxable Income</u>				
1	Net Income Before Tax (NIBT)	\$ 541.2	\$ 499.2	\$ 546.0
<b>Required Adjustments to accounting NIBT</b>				
<b>Recurring items included in Revenue Requirement (RR):</b>				
2	Other Post Employment Benefit expense greater than payments	3.0	1.3	(5.7)
3	Depreciation and amortization	381.0	403.2	418.2
4	Capital Cost Allowance	(517.2)	(543.1)	(581.5)
5	Cumulative Eligible Capital	(3.4)	0.0	0.0 **
6	Removal costs	(2.3)	(2.8)	(1.2)
7	Environmental costs paid	(6.8)	(8.1)	(6.7)
8	Non-deductible items (50% Meals & entertainment / interest)	3.1	2.5	3.0
9	R&D Fed ITC/ Apprenticeship (prior yr addback)	0.0	0.7	0.4
10	Capitalized overhead costs deducted	(35.2)	(38.4)	(45.0)
11	Capital items expensed for accounting	1.9	2.8	(2.9)
12	Capitalized pension cost deductions	(31.6)	(26.2)	(24.5)
13	Capitalized SRED Expenditures deductible for tax	(3.1)	(0.9)	0.0
14	Net Underwriting/Finance costs	(2.2)	(0.8)	(0.2)
15	Non-deductible share based compensation	0.0	2.4	4.6
		\$ (212.8)	(207.4)	(241.5)
<b>Deferral accounts not part of RR:</b>				
16	Deferral accounts	(5.3)	(66.2)	(21.2)
		\$ (5.3)	\$ (66.2)	\$ (21.2)
<b>Reversal of accounting adjustments not part of RR:</b>				
17	Contingent liability movement	5.4	(4.2)	(0.1)
18	Capitalized interest deductible for tax	(40.8)	(44.2)	(45.5)
		\$ (35.4)	(48.4)	(45.6)
<b>Recurring items not part of RR:</b>				
19	Project Cancellation Costs***	5.3	4.0	11.6
20	CCRA true ups	20.4	8.6	5.9
21	CCA not included in rates (CCRA True up, OPA directed Costs)	(9.3)	(9.1)	(11.3)
		\$ 16.4	\$ 3.5	\$ 6.2
<b>Items not in business plan detail:</b>				
22	Reverse Insurance proceeds included in NIBT	0.0	(4.8)	(3.5)
23	Tenant Inducement	2.0	(1.1)	(1.2)
24	Other	(0.1)	0.4	(0.4)
		\$ 1.9	\$ (5.5)	\$ (5.1)
37	NET Adjustments to Accounting NIBT	\$ (235.2)	\$ (324.0)	\$ (307.2)
38	Taxable Income	\$ 306.0	\$ 175.2	\$ 238.8
39	Corporate Income Tax Rate	26.5%	26.5%	26.5%
40	Subtotal	81.1	46.4	63.3
41	Less: Tax Credits	(3.5)	(2.6)	1.8
42	Less: Deferred Tax Asset Sharing			(35.1)
43	Income Tax	\$ 77.6	\$ 43.8	\$ 30.0
<b>Tax Rates</b>				
44	Federal Tax	15.0%	15.0%	15.0%
45	Provincial Tax	11.5%	11.5%	11.5%
46	Total Tax Rate	26.5%	26.5%	26.5%

**Notes:**

\* Based on 2018 year end Tax Provision, as the 2018 Income Tax Returns will not be filed until June 30, 2019.

\*\* Deductions for cumulative eligible capital are included in the capital cost allowance for 2017 and later taxation years.

\*\*\* Project cancellations costs are not factored into the rate filing, therefore, the associated tax consequences have been excluded from rates

**CALCULATION OF CAPITAL COST ALLOWANCE  
 HISTORIC YEARS (2016 - 2018)**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION

Calculation of Capital Cost Allowance (CCA) and Cumulative Eligible Capital (CEC)  
 2016 Networks Allocation to Transmission  
 Year Ending December 31  
 (\$ Millions)

<u>CCA Class</u>	<u>Opening UCC</u>	<u>Net Additions</u>	<u>UCC pre-1/2 yr</u>	<u>50% net additions</u>	<u>UCC for CCA</u>	<u>CCA Rate (%)</u>	<u>CCA</u>	<u>Closing UCC</u>
1	2,015.4	33.2	2,048.6	16.6	2,032.0	4%	81.3	1,967.3
2	535.7	-	535.7	-	535.7	6%	32.1	503.5
3	239.7	10.1	249.8	5.1	244.7	5%	12.2	237.6
6	70.4	3.3	73.7	1.7	72.0	10%	7.2	66.5
8	121.5	38.1	159.6	19.1	140.5	20%	28.2	131.4
9	2.2	-	2.2	-	2.2	25%	0.5	1.6
10	46.4	17.7	64.1	8.9	55.2	30%	16.6	47.5
10.1	-	0.6	0.6	0.3	0.3	30%	0.1	0.5
12	3.3	9.8	13.1	4.9	8.2	100%	8.2	4.9
13	15.5	(1.4)	14.1	(0.7)	14.8	N/A	1.6	12.4
17	71.3	25.0	96.3	12.5	83.8	8%	6.7	89.6
35	0.1	-	0.1	-	0.1	7%	-	0.1
42	73.6	12.4	86.0	6.2	79.8	12%	9.6	76.4
45	0.1	-	0.1	-	0.1	45%	-	0.1
46	9.5	1.4	10.9	0.7	10.2	30%	3.1	7.9
47	2,946.3	475.5	3,421.8	237.8	3,184.0	8%	254.8	3,167.0
50	76.3	81.1	157.4	40.6	116.8	55%	64.3	93.1
<b>Total CCA</b>	<b>6,227.3</b>	<b>706.8</b>	<b>6,934.1</b>	<b>353.7</b>	<b>6,580.4</b>		<b>526.5</b>	<b>6,407.4</b>
					Less CCA not in rates		(9.3)	
					<b>Total CCA for RR</b>		<b>517.2</b>	
<b>CEC</b>	<b>46.6</b>	<b>1.9</b>	<b>48.5</b>	<b>-</b>	<b>48.5</b>	<b>7%</b>	<b>3.4</b>	<b>45.1</b>



**CALCULATION OF CAPITAL COST ALLOWANCE  
 HISTORIC YEARS (2016 - 2018)**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION  
 Calculation of Capital Cost Allowance (CCA)  
 2017 Networks Allocation to Transmission  
 Year Ending December 31  
 (\$ Millions)

<u>CCA Class</u>	<u>Opening UCC</u>	<u>Net Additions</u>	<u>UCC pre- 1/2 yr</u>	<u>50% net additions</u>	<u>UCC for CCA</u>	<u>CCA Rate (%)</u>	<u>CCA</u>	<u>Closing UCC</u>
1	1,967.3	37.3	2,004.6	18.7	1,985.9	4%	79.4	1,925.2
2	503.5	-	503.5	-	503.5	6%	30.2	473.3
3	237.6	2.5	240.1	1.3	238.8	5%	11.9	228.1
6	66.5	2.7	69.2	1.4	67.8	10%	6.8	62.4
8	131.4	13.1	144.5	6.6	137.9	20%	27.6	116.9
9	1.6	(0.9)	0.7	(0.5)	1.2	25%	0.2	0.5
10	47.5	10.2	57.7	5.1	52.6	30%	15.8	41.9
10.1	0.5	0.6	1.1	0.3	0.8	30%	0.2	0.8
12	4.9	34.8	39.7	17.4	22.3	100%	22.3	17.4
13	12.4	0.6	13.0	0.3	12.7	N/A	1.6	11.4
14.1 (ECE)*	45.1	-	45.1	-	45.1	7%	3.2	41.9
14.1 (Post-2017)	-	6.5	6.5	3.3	3.2	5%	0.2	6.4
17	89.6	10.2	99.8	5.1	94.7	8%	7.6	92.2
35	0.1	-	0.1	-	0.1	7%	-	0.1
42	76.4	5.3	81.7	2.7	79.0	12%	9.5	72.2
45	0.1	-	0.1	-	0.1	45%	-	-
46	7.9	2.5	10.4	1.3	9.1	30%	2.7	7.7
47	3,167.0	568.5	3,735.5	284.3	3,451.2	8%	276.1	3,459.5
50	93.1	20.7	113.8	10.4	103.4	55%	56.9	57.0
<b>Total CCA</b>	<b>6,452.5</b>	<b>714.6</b>	<b>7,167.1</b>	<b>357.7</b>	<b>6,809.4</b>		<b>552.2</b>	<b>6,614.9</b>
					Less CCA not in rates		(9.1)	
					<b>Total CCA for RR</b>		<b>543.1</b>	

**Note:**

\* The Eligible Capital Expenditures (ECE) transferred to Class 14.1 for taxation years beginning January 1, 2017. The CCA rate will remain at 7% for tax years that end prior to 2027.

**CALCULATION OF CAPITAL COST ALLOWANCE  
 HISTORIC YEARS (2016 - 2018)**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION

Calculation of Capital Cost Allowance (CCA)  
 2018 Networks Allocation to Transmission  
 Year Ending December 31  
 (\$ Millions)

<u>CCA Class</u>	<u>Opening UCC</u>	<u>Net Additions</u>	<u>UCC pre- 1/2 yr</u>	<u>50% net additions</u>	<u>UCC for CCA</u>	<u>CCA Rate (%)</u>	<u>CCA</u>	<u>Closing UCC</u>
1	1,925.2	59.0	1,984.2	29.5	1,954.7	4%	78.2	1,906.0
2	473.3	-	473.3	-	473.3	6%	28.4	444.9
3	228.1	0.3	228.4	0.1	228.2	5%	11.4	216.9
6	62.4	5.2	67.6	2.6	65.0	10%	6.5	61.1
8	116.9	43.0	159.9	21.5	138.4	20%	27.7	132.2
9	0.5	-	0.5	-	0.5	25%	0.1	0.4
10	41.9	5.3	47.2	2.6	44.5	30%	13.4	33.8
10.1	0.8	-	0.8	-	0.8	30%	0.2	0.6
12	17.4	27.0	44.4	13.5	30.9	100%	30.9	13.5
13	11.4	0.2	11.6	-	11.5	0%	1.5	9.9
14.1 (ECE)*	41.9	-	41.9	-	41.9	7%	2.9	39.0
14.1 (Post-2017)	6.4	3.5	9.9	1.8	8.2	5%	0.4	9.5
17	92.2	28.7	120.9	14.4	106.6	8%	8.5	112.4
35	0.1	-	0.1	-	0.1	7%	0.0	0.1
42	72.2	1.5	73.7	0.7	72.9	12%	8.8	64.9
45	-	-	-	-	-	45%	-	-
46	7.7	5.4	13.1	2.7	10.4	30%	3.1	10.0
47	3,459.5	756.9	4,216.3	378.4	3,837.9	8%	307.0	3,909.3
50	57.0	117.3	174.3	58.6	115.6	55%	63.6	110.7
<b>Total CCA</b>	<b>6,614.9</b>	<b>1,053.3</b>	<b>7,668.1</b>	<b>526.6</b>	<b>7,141.5</b>		<b>592.8</b>	<b>7,075.2</b>
							Less CCA not in rates	(11.3)
							Total CCA for RR	<b>581.5</b>

**Note:**

\* The Eligible Capital Expenditures (ECE) transferred to Class 14.1 for taxation years beginning January 1, 2017. The CCA rate will remain at 7% for tax years that end prior to 2027.

**CALCULATION OF TAX CREDITS  
 BRIDGE AND TEST YEARS**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION

Calculation of Apprenticeship, Co-op Education, and SR&ED Tax Credit  
 Bridge (2019) and Test (2020 to 2022) Years  
 Year Ending December 31  
 (\$ Thousands)

<b>Line No</b>	<b>Particulars</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	
1	Ontario Coop Education Credit	\$ 674	\$ 689	\$ 710	\$ 697	
2	Eligible Positions	226	231	237	233	
3	Ontario Apprenticeship Credit	\$ 365	\$ 365	\$ 365	\$ 365	Note 1
4	Eligible Positions	168	168	168	168	Note 1
5	Ontario Business Research Credit	\$ 54	\$ 55	\$ 57	\$ 56	
6	Federal Apprenticeship Credit	\$ 335	\$ 342	\$ 352	\$ 346	
7	Eligible Positions	177	181	186	183	
8	SR&ED	\$ -	\$ -	\$ -	\$ -	Note 2
9	<b>TOTAL TAX CREDITS</b>	<b>\$ 1,428</b>	<b>\$ 1,451</b>	<b>\$ 1,484</b>	<b>\$ 1,464</b>	
10	Tax Credit included in tax expense	\$ 1,093	\$ 1,109	\$ 1,132	\$ 1,118	Note 3
11	Tax Credit included in OM&A	\$ 335	\$ 342	\$ 352	\$ 346	Note 3
12		<b>\$ 1,428</b>	<b>\$ 1,451</b>	<b>\$ 1,484</b>	<b>\$ 1,464</b>	

**Notes:**

**Note 1:** The Ontario government replaced the Ontario Apprenticeship Credit with the new Graduated Apprenticeship Grant for Employers ("GAGE") for eligible apprentices hired after November 14, 2017. The GAGE is no longer administered through the tax return. Apprentices hired prior to November 15, 2017 continue to be eligible for the Ontario Apprenticeship Credit for the first 36 months of their apprenticeship programs.

The tax credits are based on historical amounts updated for the budget change which reduced Ontario Apprenticeship Tax Credits from \$10K to \$5K. This does not incorporate the new GAGE program effective November 15, 2017 as no information is available.

**Note 2:** Beginning in the 2018 taxation year, no estimate for the SR&ED tax credit has been made due to uncertainty on which Hydro One's projects (if any) will meet the Canada Revenue Agency's SR&ED eligibility requirements. Hydro One will continue to review its annual claim eligibility, and to file a SR&ED claim where possible.

**Note 3:** In accordance with US GAAP, refundable tax credits included are recorded in OM&A and non-refundable tax credits are recorded as a reduction to tax expense. Consequently, the tax credits relating Ontario Co-op, Ontario Apprenticeship, and Ontario Business Research are recorded in OM&A.

**CALCULATION OF TAX CREDITS  
 HISTORIC YEARS**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION  
 Calculation of Apprenticeship, Co-op Education, and SR&ED Tax Credit  
 Historic Years (2016 -2018)  
 Year Ending December 31  
 (\$ Thousands)

<b>Line No</b>	<b>Particulars</b>	<b>2016</b>	<b>2017</b>	<b>2018*</b>	
1	ON Coop Education Credit	\$ 604	\$ 443	\$ 468	<b>Note 1</b>
2	Eligible Positions	201	148	156	
3	ON Apprenticeship Credit	\$ 2,067	\$ 1,592	\$ 852	<b>Note 1</b>
4	Eligible Positions	306	293	216	
5	ON Business Research Credit	\$ 49	\$ 12	\$ 55	<b>Note 1</b>
6	Federal Apprenticeship Credit	\$ 232	\$ 322	\$ 407	
7	Eligible Positions	123	170	216	
8	SR&ED	\$ 531	\$ 105	\$ -	<b>Note 2</b>
9	<b>TOTAL TAX CREDITS</b>	<b>\$ 3,483</b>	<b>\$ 2,473</b>	<b>\$ 1,782</b>	

**Notes:**

\* Based on the 2018 Tax Provision, as the 2018 Income Tax Returns will not be filed until June 2019.

**Note 1** - In accordance with US GAAP, refundable tax credits included are recorded in OM&A and non-refundable tax credits are recorded as a reduction to tax expense. Consequently, the tax credits relating to Ontario Co-op, Ontario Apprenticeship, and Ontario Business Research are recorded in OM&A.

**Note 2:** Beginning in the 2018 taxation year, no estimate for the SR&ED tax credit has been made due to uncertainty on which Hydro One's projects (if any) will meet the Canada Revenue Agency's SR&ED eligibility requirements. Hydro One will continue to review its annual claim eligibility, and to file a SR&ED claim where possible.

1           **HYDRO ONE NETWORKS INC. INCOME TAX RETURN**

2

3   **Attachment 1:**       Hydro One Networks Inc. 2017 Income Tax Return

4   **Attachment 1A:**   2017 Income Tax Return Allocations by Segment and Tax Credit

5                           Allocation

## Scientific Research and Experimental Development (SR&ED) Expenditures Claim

Filed: 2019-03-21  
EB-2019-0082  
Exhibit F-7-3  
Attachment 1  
Page 1 of 240

**Use this form:**

- to provide technical information on your SR&ED projects;
- to calculate your SR&ED expenditures; and
- to calculate your qualified SR&ED expenditures for investment tax credits (ITC).

**To claim an ITC, use either:**

- Schedule T2SCH31, *Investment Tax Credit – Corporations*, or
- Form T2038(IND), *Investment Tax Credit (Individuals)*.

The information requested in this form and documents supporting your expenditures and project information (Part 2) are prescribed information.

Your SR&ED claim must be filed within 12 months of the filing due date of your income tax return.

To help you fill out this form, use the T4088, *Guide to Form T661*, which is available on our Web site: [www.cra.gc.ca/sred](http://www.cra.gc.ca/sred).

**Part 1 – General information**

<p><b>010</b> Name of claimant</p> <p style="text-align: center;">HYDRO ONE NETWORKS INC.</p> <hr/> <p>Tax year</p> <p>From: <input type="text" value="2017-01-01"/>  <small>Year Month Day</small></p> <p>To: <input type="text" value="2017-12-31"/>  <small>Year Month Day</small></p>	<p>Enter one of the following:</p> <div style="border: 1px solid black; padding: 5px; margin: 5px auto; width: 80%;"> <p style="text-align: center;">87086 5821 RC0001</p> <p style="text-align: center;"><small>Business number (BN)</small></p> </div> <div style="border: 1px solid black; padding: 5px; margin: 5px auto; width: 80%;"> <p style="text-align: center;"> </p> <p style="text-align: center;"><small>Social insurance number (SIN)</small></p> </div>												
<p><b>050</b> Total number of projects you are claiming this tax year:</p> <p style="text-align: center;">5</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>100</b> Contact person for the financial information</td> <td style="width: 25%;"><b>105</b> Telephone number/extension</td> <td style="width: 25%;"><b>110</b> Fax number</td> </tr> <tr> <td style="text-align: center;">Nancy Tran</td> <td style="text-align: center;">(416) 345-6778</td> <td style="text-align: center;">(416) 345-6978</td> </tr> <tr> <td><b>115</b> Contact person for the technical information</td> <td><b>120</b> Telephone number/extension</td> <td><b>125</b> Fax number</td> </tr> <tr> <td style="text-align: center;">Nancy Tran</td> <td style="text-align: center;">(416) 345-6778</td> <td style="text-align: center;">(416) 345-6978</td> </tr> </table>	<b>100</b> Contact person for the financial information	<b>105</b> Telephone number/extension	<b>110</b> Fax number	Nancy Tran	(416) 345-6778	(416) 345-6978	<b>115</b> Contact person for the technical information	<b>120</b> Telephone number/extension	<b>125</b> Fax number	Nancy Tran	(416) 345-6778	(416) 345-6978
<b>100</b> Contact person for the financial information	<b>105</b> Telephone number/extension	<b>110</b> Fax number											
Nancy Tran	(416) 345-6778	(416) 345-6978											
<b>115</b> Contact person for the technical information	<b>120</b> Telephone number/extension	<b>125</b> Fax number											
Nancy Tran	(416) 345-6778	(416) 345-6978											

**151** If this claim is filed for a partnership, was Form T5013 filed? ..... 1  Yes    2  No

If you answered **no** to line 151, complete lines 153, 156 and 157.

<b>153</b> Names of the partners	<b>156</b> %	<b>157</b> BN or SIN
1		
2		
3		
4		
5		

**Part 2 - Project information**

CRA internal form identifier 060  
Code 1501

**Complete a separate Part 2 for each project claimed this year.**

<b>Section A - Project identification</b>
<b>200</b> Project title (and identification code if applicable)
See schedule

### Part 3 – Calculation of SR&ED expenditures

#### What did you spend on your SR&ED projects?

##### Section A – Select the method to calculate the SR&ED expenditures

I elect (choose) to use the following method to calculate my SR&ED expenditures and related investment tax credits (ITC) for this tax year.  
I understand that my election is irrevocable (cannot be changed) for this tax year.

**160** 1  I elect to use the proxy method  
(Enter "0" on line 360 and complete Part 5.)

**162** 1  I choose to use the traditional method  
(Enter "0" on lines 355 and 502. Complete line 360.)

##### Section B – Calculation of allowable SR&ED expenditures (to the nearest dollar)

• SR&ED portion of salary or wages of employees directly engaged in the SR&ED:

a) Employees other than specified employees for work performed in Canada	<b>300</b> +	971,939
b) Specified employees for work performed in Canada	<b>305</b> +	
<b>Subtotal</b> (add lines 300 and 305)	<b>306</b> =	971,939
c) Employees other than specified employees for work performed outside Canada (subject to limitations – see guide)	<b>307</b> +	
d) Specified employees for work performed outside Canada (subject to limitations – see guide)	<b>309</b> +	

• Salary or wages identified on line 315 in prior years that were paid in this tax year	<b>310</b> +	
• Salary or wages incurred in the year but not paid within 180 days of the tax year end	<b>315</b>	
• Cost of materials consumed in performing SR&ED	<b>320</b> +	
• Cost of materials transformed in performing SR&ED	<b>325</b> +	
• Contract expenditures for SR&ED performed on your behalf:		
a) Arm's length contracts (see note 1)	<b>340</b> +	
b) Non-arm's length contracts (see note 1)	<b>345</b> +	
• Lease costs of equipment used <b>before 2014</b> :		
a) All or substantially all (90% of the time or more) for SR&ED	<b>350</b> +	
b) Primarily (more than 50% of the time but less than 90%) for SR&ED. (Enter 50% of lease costs if you use the proxy method or enter "0" if you use the traditional method)	<b>355</b> +	
• Overhead and other expenditures (enter "0" if you use the proxy method)	<b>360</b> +	
• Third-party payments (see note 2) (complete Form T1263*)	<b>370</b> +	193,942

**Total current SR&ED expenditures** (add lines 306 to 370; do not add line 315) **380** = **1,165,881**

(Corporations may need to adjust line 118 of schedule T2SCH1)

• Capital expenditures for depreciable property available for use <b>before 2014</b>	<b>390</b> +	
(Do not include these capital expenditures on schedule T2SCH8)		

**Total allowable SR&ED expenditures** (add lines 380 and 390) **400** = **1,165,881**

##### Section C – Calculation of pool of deductible SR&ED expenditures (to the nearest dollar)

Amount from line 400 **420** **1,165,881**

##### Deduct

• provincial government assistance for expenditures included on line 400	<b>429</b> -	68,383
• other government assistance for expenditures included on line 400	<b>431</b> -	
• non-government assistance for expenditures included on line 400	<b>432</b> -	
• SR&ED ITCs applied and/or refunded in the prior year (see guide)	<b>435</b> -	
• sale of SR&ED capital assets and other deductions	<b>440</b> -	

**Subtotal** (line 420 minus lines 429 to 440) **442** = **1,097,498**

##### Add

• repayments of government and non-government assistance that previously reduced the SR&ED expenditure pool	<b>445</b> +	
• prior year's pool balance of deductible SR&ED expenditures (from line 470 of prior year T661)	<b>450</b> +	9,522,173
• SR&ED expenditure pool transfer from amalgamation or wind-up	<b>452</b> +	
• amount of SR&ED ITC recaptured in the prior year	<b>453</b> +	

**Amount available for deduction** (add lines 442 to 453) **455** = **10,619,671**

(enter positive amount only, include negative amount in income)

• Deduction claimed in the year	<b>460</b> -	
(Corporations should enter this amount on line 411 of schedule T2SCH1)		

**Pool balance of deductible SR&ED expenditures to be carried forward to future years** (line 455 minus 460) **470** = **10,619,671**

\* Form T1263, *Third-Party Payments for Scientific Research and Experimental Development (SR&ED)*

Note 1 – For contract expenditures made after 2013, no amounts for purchasing or leasing capital property can be included.

Note 2 – For third-party payments made after 2013, no amounts for purchasing or leasing capital property can be included.

**Part 4 – Calculation of qualified SR&ED expenditures for investment tax credit (ITC) purposes**

The resulting amount is used to calculate your refundable and/or non refundable ITC.

Enter the breakdown between current and capital expenditures (to the nearest dollar)			
		Current Expenditures	Capital Expenditures
<b>Total expenditures for SR&amp;ED</b> (from lines 380 and 390)	<b>492</b>	<u>1,165,881</u>	<b>496</b>
<b>Add</b>			
• payment of prior years' unpaid amounts (other than salary or wages) (see note 5)	<b>500</b> +		
• prescribed proxy amount (complete Part 5) (Enter "0" if you use the traditional method)	<b>502</b> +	<u>530,545</u>	
• expenditures on shared-use equipment for property acquired <b>before 2014</b>			<b>504</b> +
• qualified expenditures transferred to you (see note 3) (complete Form T1146**)	<b>508</b> +		<b>510</b> +
<b>Subtotal</b> (add lines 492 to 508, and add lines 496 to 510)	<b>511</b> =	<u>1,696,426</u>	<b>512</b> =
<b>Deduct (see note 4)</b>			
• provincial government assistance	<b>513</b> -	<u>86,952</u>	<b>514</b> -
• other government assistance	<b>515</b> -		<b>516</b> -
• non-government assistance and contract payments	<b>517</b> -		<b>518</b> -
• current expenditures (other than salary or wages) not paid within 180 days of the tax year end (see note 5)	<b>520</b> -		
• amounts paid in respect of an SR&ED contract to a person or partnership that is not a taxable supplier	<b>528</b> -		
• 20% of expenditures included on lines 340 and 370	<b>529</b> -	<u>38,788</u>	
• prescribed expenditures not allowed by regulations (see guide)	<b>530</b> -		<b>532</b> -
• other deductions (see guide)	<b>533</b> -		<b>535</b> -
• non-arm's length transactions			
– assistance allocated to you (complete Form T1145*)	<b>538</b> -		<b>540</b> -
– expenditures for non-arm's length SR&ED contracts (from line 345)	<b>541</b> -		
– adjustments to purchases (limited to costs) of goods and services from non-arm's length suppliers (see guide)	<b>542</b> -		<b>543</b> -
– qualified expenditures you transferred (complete Form T1146**)	<b>544</b> -		<b>546</b> -
<b>Subtotal</b> (line 511 minus lines 513 to 544 and line 512 minus lines 514 to 546)	<b>557</b> =	<u>1,570,686</u>	<b>558</b> =
<b>Qualified SR&amp;ED expenditures</b> (add lines 557 and 558)			<b>559</b> = <u>1,570,686</u>
<b>Add</b>			
• repayments of assistance and contract payments made in the year			<b>560</b> +
<b>Total qualified SR&amp;ED expenditures for ITC purposes</b> (add lines 559 and 560)			<b>570</b> = <u>1,570,686</u>

\* Form T1145, *Agreement to Allocate Assistance for SR&ED Between Persons Not Dealing at Arm's Length*

\*\* Form T1146, *Agreement to Transfer Qualified Expenditures Incurred in Respect of SR&ED Contracts Between Persons Not Dealing at Arm's Length*

Note 3 – On line 510 (capital) – Only include expenditures made before 2014 by the transferor (performer). Complete the latest version of Form T1146.

Note 4 – On lines 514, 516, 518, 532, 535, 540, 543 and 546 – Only include amounts related to expenditures of a capital nature made before 2014.

Note 5 – For arm's length contracts, only include 80% of the contract amount.



### Part 5 – Calculation of prescribed proxy amount (PPA)

#### A notional amount representing your overhead and other expenditures.

This part calculates the PPA to enter on line 502 in Part 4. Do not complete this part if you have chosen to use the traditional method in Part 3 (line 162). You can only claim a PPA if you elected to use the proxy method for the year in Part 3 (line 160).

Special rules apply for specified employees. Calculate your salary base in Section A and the PPA in Section B.

Section A – Salary base						
Salary or wages of employees other than specified employees (from lines 300 and 307)					810 +	971,939
<b>Deduct</b>						
Bonuses, remuneration based on profits, and taxable benefits that were included on line 810					812 -	7,311
<b>Subtotal</b> (line 810 minus 812)					814 =	964,628
Salary or wages of specified employees						
850 Column 1	852 Column 2	854 Column 3	856 Column 4	858 Column 5	860 Column 6	
Name of specified employee	Total salary or wages for the year (SR&ED and non-SR&ED) excluding bonuses, remuneration based on profits, and taxable benefits (to the nearest dollar)	% of time spent on SR&ED (maximum 75%)	Amount in column 2 multiplied by percentage in column 3	2,5 x A x B/365 A = Year's maximum pensionable earnings B = Number of days employed in tax year	Amount in column 4 or 5, whichever amount is less	
(Enter total of column 6 on line 816)					816 +	_____
<b>Salary base</b> (total of lines 814 and 816)					818 =	964,628

Section B – Prescribed proxy amount (PPA)	
Enter 65% of the salary base (line 818) less 5% of the salary base for the number of 2013 calendar days in the tax year, and less 10% of the salary base for number of days after 2013 in the tax year (use the formula in the guide-line 820)	820 = 530,545
<b>Enter the amount from line 820 on line 502 in Part 4 unless the overall cap on PPA applies to you.</b>	
<b>(See the guide for explanation and example of the overall cap on PPA)</b>	

### Part 6 – Project costs

Information requested in this part must be provided for all SR&ED projects claimed in the year. Expenditures should be recorded and allocated on a project basis.

750	752	754	756
Project title or identification code	Salary or wages in the tax year	Cost of materials in the tax year	Contract expenditures for SR&ED performed on your behalf in the tax year
	(Total of lines 306 to 309)	(Total of lines 320 and 325)	(Total of lines 340 and 345)
1. 11-03 Extreme Space Weather Preparedness	91,937		
2. 15-01 Controlling Power Quality Through FESS	66,977		
3. 15-03 Mission Critical Protection Scheme Upgrade Methods	617,075		
4. 17-01 Mitigation of Transients and Zero-missing	162,717		
5. 17-02 DG Tripping Interference Conditions	33,233		
<b>Total</b>	971,939		

**Part 7 – Additional information**

**Expenditures for SR&ED performed by you in Canada** (line 400 minus lines 307, 309, 340, 345, and 370) . . . . . **605** 971,939

From the total you entered on line 605, estimate the percentage of distribution of the sources of funds for SR&ED performed within your organization.

		Canadian (%)	Foreign (%)
Internal . . . . .	<b>600</b>	100.000	
Parent companies, subsidiaries, and affiliated companies . . . . .	<b>602</b>		<b>604</b>
Federal grants (do not include funds or tax credits from SR&ED tax incentives) . . . . .	<b>606</b>		
Federal contracts . . . . .	<b>608</b>		
Provincial funding . . . . .	<b>610</b>		
SR&ED contract work performed for other companies on their behalf . . . . .	<b>612</b>		<b>614</b>
Other funding (e.g., universities, foreign governments) . . . . .	<b>616</b>		<b>618</b>

For statistical purposes indicate whether the work you performed falls within the realm of Basic or Applied research (to advance scientific knowledge) or Experimental development (to achieve a technological advancement):

**620** 1  Basic or Applied research                      **622** 1  Experimental development

Enter the number of SR&ED personnel in full-time equivalents (FTE):

Scientists and engineers . . . . .	<b>632</b>	6
Technologists and technicians . . . . .	<b>634</b>	3
Managers and administrators . . . . .	<b>636</b>	
Other technical supporting staff . . . . .	<b>638</b>	

**Part 8 – Claim checklist**

To ensure your claim is complete, make sure you have:

- used the current version of this form . . . . .
- entered the method you have chosen for reporting your SR&ED expenditures in Section A of Part 3 . . . . .
- completed Part 2 for each project . . . . .
- filed a completed Schedule T2SCH31 or Form T2038(IND) to claim ITCs on your qualified SR&ED expenditures . . . . .
- filed a completed Form T1145\*, T1146\*\*, T1174\*\*\* and/or T1263\*\*\*\* including any required attachments, if applicable . . . . .

To expedite the processing of your claim, make sure you have:

- completed Form T2, *Corporation Income Tax Return* or Form T1, *Income Tax and Benefit Return* . . . . .
- filed the appropriate provincial and/or territorial tax credit forms, if applicable . . . . .
- retained documents to support the SR&ED work performed and SR&ED expenditures you claimed . . . . .
- checked boxes 231 and 232 on page 2 of your T2 return to indicate attachment of Form T661 and Schedule T2SCH31 . . . . .

\* Form T1145, *Agreement to Allocate Assistance for SR&ED Between Persons Not Dealing at Arm's Length*  
 \*\* Form T1146, *Agreement to Transfer Qualified Expenditures Incurred in Respect of SR&ED Contracts Between Persons Not Dealing at Arm's Length*  
 \*\*\* Form T1174, *Agreement Between Associated Corporations to Allocate Salary or Wages of Specified Employees for Scientific Research and Experimental Development (SR&ED)*  
 \*\*\*\* Form T1263, *Third-Party Payments for Scientific Research and Experimental Development (SR&ED)*

### Part 9 – Claim preparer information

Information requested in this part must be provided for each claim preparer that has accepted consideration to prepare or assist in the preparation of this SR&ED claim. Certification is required on lines 935, 970, and 975.

**A \$1000 penalty may be assessed if the information requested below about the claim preparer(s) and billing arrangement(s), is missing, incomplete, or inaccurate. Where a claim preparer has prepared or assisted in the preparation of this SR&ED form, the claimant and the claim preparer will be jointly and severally, or solidarily, liable for the penalty.**

**935 Was a claim preparer engaged in any aspect of the preparation of this SR&ED claim?**

- 1  Yes (complete the claim preparer information table and lines 970 and 975 below)
- 2  No (complete lines 970 and 975)

**Claim preparer information table**

940	945	950	955	960	965
Name of claim preparer (company or individual)	Business number	Billing arrangement code (see codes*)	Billing rate (percentage, hourly/daily rate or flat fee)	Other billing arrangement(s) (Maximum 10 words)	Total fee paid, payable, or expected to pay
1. [REDACTED]	[REDACTED]				
<b>Total</b>					

**\* Billing arrangement codes**

Code	Type of billing arrangement
1	Contingency fee arrangement – where the fee is based on a percentage of the investment tax credit earned
2	Hourly rate
3	Daily rate
4	Flat fee arrangement (lump sum)
5	Other arrangements – describe the arrangement in box 960 in 10 words or less

**970** I, Nancy Tran, certify that the information provided in this part is complete

Name of authorized signing officer of the corporation, or individual (print)  
and accurate.

Signature

**975** 2018-07-19  
Year Month Day

### Part 10 – Certification

I certify that I have examined the information provided on this form and on the attachments and it is true, correct, and complete.

**165** Nancy Tran **170** 2018-12-12  
Name of authorized signing officer of the corporation, or individual Signature Date

**175** [REDACTED]  
Name of person/firm who completed this form

**Privacy Notice**

Personal information is collected pursuant to subsections 37(1), 37(11), and 162(5.1) of the *Income Tax Act* (the Act) and is used for verification of compliance, administration and enforcement of the Scientific Research and Experimental Development (SR&ED) program requirements.

Information may also be used for the administration and enforcement of other provisions of the Act, including assessment, audit, enforcement, collections, and appeals, and may be disclosed under information-sharing agreements in accordance with the Act. Incomplete or inaccurate information may result in assessment of monetary penalties and delays in processing SR&ED claims.

The social insurance number is collected pursuant to section 237 of the Act and is used for identification purposes.

Information is described in personal information bank CRA PPU 441 “Scientific Research and Experimental Development” in the Canada Revenue Agency (CRA) chapter of *Info Source*. Personal information is protected under the *Privacy Act*, and individuals have a right of access to, correction, and protection of their personal information. Further details regarding requests for personal information at the CRA and our *Info Source* chapter can be found at [www.cra.gc.ca/atip](http://www.cra.gc.ca/atip).

# T2 Corporation Income Tax Return

This form serves as a federal, provincial, and territorial corporation income tax return, unless the corporation is located in Quebec or Alberta. If the corporation is located in one of these provinces, you have to file a separate provincial corporation return.

All legislative references on this return are to the federal *Income Tax Act* and *Income Tax Regulations*. This return may contain changes that had not yet become law at the time of publication.

Send one completed copy of this return, including schedules and the *General Index of Financial Information* (GIFI), to your tax centre or tax services office. You have to file the return within six months after the end of the corporation's tax year.

For more information see [canada.ca/taxes](http://canada.ca/taxes) or Guide T4012, *T2 Corporation – Income Tax Guide*.

**055** Do not use this area

**Identification**  
**Business number (BN)** 001 87086 5821 RC0001

**Corporation's name**  
002 HYDRO ONE NETWORKS INC.

**Address of head office**  
Has this address changed since the last time we were notified? 010 1 Yes  2 No   
If yes, complete lines 011 to 018.

011 483 BAY STREET, 8TH FLOOR  
012 SOUTH TOWER

City Province, territory, or state  
015 TORONTO 016 ON

Country (other than Canada) Postal or ZIP code  
017 CA 018 M5G 2P5

**Mailing address** (if different from head office address)  
Has this address changed since the last time we were notified? 020 1 Yes  2 No   
If yes, complete lines 021 to 028.

021 c/o TAX DEPARTMENT  
022 483 BAY STREET, 7TH FLOOR  
023 SOUTH TOWER

City Province, territory, or state  
025 TORONTO 026 ON

Country (other than Canada) Postal or ZIP code  
027 028 M5G 2P5

**Location of books and records** (if different from head office address)  
Has this address changed since the last time we were notified? 030 1 Yes  2 No   
If yes, complete lines 031 to 038.

031 483 BAY STREET, 7TH FLOOR  
032 SOUTH TOWER

City Province, territory, or state  
035 TORONTO 036 ON

Country (other than Canada) Postal or ZIP code  
037 038 M5G 2P5

**040 Type of corporation at the end of the tax year** (tick one)  
 1 Canadian-controlled private corporation (CCPC)  
 2 Other private corporation  
 3 Public corporation  
 4 Corporation controlled by a public corporation  
 5 Other corporation (specify)

If the type of corporation changed during the tax year, provide the effective date of the change 043 Year Month Day

**To which tax year does this return apply?**  
Tax year start Year Month Day 060 2017-01-01  
Tax year-end Year Month Day 061 2017-12-31

**Has there been an acquisition of control resulting in the application of subsection 249(4) since the tax year start on line 060?** 063 1 Yes  2 No   
If yes, provide the date control was acquired 065 Year Month Day

**Is the date on line 061 a deemed tax year-end according to subsection 249(3.1)?** 066 1 Yes  2 No

**Is the corporation a professional corporation that is a member of a partnership?** 067 1 Yes  2 No

**Is this the first year of filing after:**  
Incorporation? 070 1 Yes  2 No   
Amalgamation? 071 1 Yes  2 No   
If yes, complete lines 030 to 038 and attach Schedule 24.

**Has there been a wind-up of a subsidiary under section 88 during the current tax year?** 072 1 Yes  2 No   
If yes, complete and attach Schedule 24.

**Is this the final tax year before amalgamation?** 076 1 Yes  2 No

**Is this the final return up to dissolution?** 078 1 Yes  2 No

**If an election was made under section 261, state the functional currency used** 079

**Is the corporation a resident of Canada?** 080 1 Yes  2 No   
If no, give the country of residence on line 081 and complete and attach Schedule 97.

**081**  
**Is the non-resident corporation claiming an exemption under an income tax treaty?** 082 1 Yes  2 No   
If yes, complete and attach Schedule 91.

**If the corporation is exempt from tax under section 149, tick one of the following boxes:**  
085  1 Exempt under paragraph 149(1)(e) or (l)  
 2 Exempt under paragraph 149(1)(j)  
 3 Exempt under paragraph 149(1)(t)  
 4 Exempt under other paragraphs of section 149

Do not use this area  
095 096 098

**Attachments**

**Financial statement information:** Use GIFL schedules 100, 125, and 141.

**Schedules** – Answer the following questions. For each **yes** response, **attach** the schedule to the T2 return, unless otherwise instructed.

	Yes	Schedule
Is the corporation related to any other corporations?	<input checked="" type="checkbox"/>	9
Is the corporation an associated CCPC?	<input type="checkbox"/>	23
Is the corporation an associated CCPC that is claiming the expenditure limit?	<input type="checkbox"/>	49
Does the corporation have any non-resident shareholders who own voting shares?	<input type="checkbox"/>	19
Has the corporation had any transactions, including section 85 transfers, with its shareholders, officers, or employees, other than transactions in the ordinary course of business? Exclude non-arm's length transactions with non-residents	<input type="checkbox"/>	11
If you answered <b>yes</b> to the above question, and the transaction was between corporations not dealing at arm's length, were all or substantially all of the assets of the transferor disposed of to the transferee?	<input type="checkbox"/>	44
Has the corporation paid any royalties, management fees, or other similar payments to residents of Canada?	<input checked="" type="checkbox"/>	14
Is the corporation claiming a deduction for payments to a type of employee benefit plan?	<input checked="" type="checkbox"/>	15
Is the corporation claiming a loss or deduction from a tax shelter?	<input type="checkbox"/>	T5004
Is the corporation a member of a partnership for which a partnership account number has been assigned?	<input type="checkbox"/>	T5013
Did the corporation, a foreign affiliate controlled by the corporation, or any other corporation or trust that did not deal at arm's length with the corporation have a beneficial interest in a non-resident discretionary trust (without reference to section 94)?	<input type="checkbox"/>	22
Did the corporation own any shares in one or more foreign affiliates in the tax year?	<input type="checkbox"/>	25
Has the corporation made any payments to non-residents of Canada under subsections 202(1) and/or 105(1) of the <i>Income Tax Regulations</i> ?	<input checked="" type="checkbox"/>	29
Did the corporation have a total amount over CAN\$1 million of reportable transactions with non-arm's length non-residents?	<input type="checkbox"/>	T106
For private corporations: Does the corporation have any shareholders who own 10% or more of the corporation's common and/or preferred shares?	<input type="checkbox"/>	50
Has the corporation made payments to, or received amounts from, a retirement compensation plan arrangement during the year?	<input type="checkbox"/>	
Does the corporation earn income from one or more Internet webpages or websites?	<input type="checkbox"/>	88
Is the net income/loss shown on the financial statements different from the net income/loss for income tax purposes?	<input checked="" type="checkbox"/>	1
Has the corporation made any charitable donations; gifts of cultural or ecological property; or gifts of medicine?	<input checked="" type="checkbox"/>	2
Has the corporation received any dividends or paid any taxable dividends for purposes of the dividend refund?	<input checked="" type="checkbox"/>	3
Is the corporation claiming any type of losses?	<input checked="" type="checkbox"/>	4
Is the corporation claiming a provincial or territorial tax credit or does it have a permanent establishment in more than one jurisdiction?	<input checked="" type="checkbox"/>	5
Has the corporation realized any capital gains or incurred any capital losses during the tax year?	<input checked="" type="checkbox"/>	6
i) Is the corporation a CCPC and reporting a) income or loss from property (other than dividends deductible on line 320 of the T2 return), b) income from a partnership, c) income from a foreign business, d) income from a personal services business, e) income referred to in clause 125(1)(a)(i)(C) or 125(1)(a)(i)(B), f) aggregate investment income as defined in subsection 129(4), or g) an amount assigned to it under subsection 125(3.2) or 125(8); or		
ii) Is the corporation a member of a partnership and assigning its specified partnership business limit to a designated member under subsection 125(8)?	<input type="checkbox"/>	7
Does the corporation have any property that is eligible for capital cost allowance?	<input checked="" type="checkbox"/>	8
Does the corporation have any property that is eligible capital property?	<input type="checkbox"/>	10
Does the corporation have any resource-related deductions?	<input type="checkbox"/>	12
Is the corporation claiming deductible reserves (other than transitional reserves under section 34.2)?	<input checked="" type="checkbox"/>	13
Is the corporation claiming a patronage dividend deduction?	<input type="checkbox"/>	16
Is the corporation a credit union claiming a deduction for allocations in proportion to borrowing or an additional deduction?	<input type="checkbox"/>	17
Is the corporation an investment corporation or a mutual fund corporation?	<input type="checkbox"/>	18
Is the corporation carrying on business in Canada as a non-resident corporation?	<input type="checkbox"/>	20
Is the corporation claiming any federal, provincial, or territorial foreign tax credits, or any federal logging tax credits?	<input type="checkbox"/>	21
Does the corporation have any Canadian manufacturing and processing profits?	<input type="checkbox"/>	27
Is the corporation claiming an investment tax credit?	<input checked="" type="checkbox"/>	31
Is the corporation claiming any scientific research and experimental development (SR&ED) expenditures?	<input checked="" type="checkbox"/>	T661
Is the total taxable capital employed in Canada of the corporation and its related corporations over \$10,000,000?	<input checked="" type="checkbox"/>	33/34/35
Is the total taxable capital employed in Canada of the corporation and its associated corporations over \$10,000,000?	<input checked="" type="checkbox"/>	
Is the corporation subject to gross Part VI tax on capital of financial institutions?	<input type="checkbox"/>	38
Is the corporation claiming a Part I tax credit?	<input type="checkbox"/>	42
Is the corporation subject to Part IV.1 tax on dividends received on taxable preferred shares or Part VI.1 tax on dividends paid?	<input type="checkbox"/>	43
Is the corporation agreeing to a transfer of the liability for Part VI.1 tax?	<input type="checkbox"/>	45
Is the corporation subject to Part II – Tobacco Manufacturers' surtax?	<input type="checkbox"/>	46
For financial institutions: Is the corporation a member of a related group of financial institutions with one or more members subject to gross Part VI tax?	<input type="checkbox"/>	39
Is the corporation claiming a Canadian film or video production tax credit refund?	<input type="checkbox"/>	T1131
Is the corporation claiming a film or video production services tax credit refund?	<input type="checkbox"/>	T1177
Is the corporation subject to Part XIII.1 tax? (Show your calculations on a sheet that you identify as Schedule 92.)	<input type="checkbox"/>	92

**Attachments (continued)**

	Yes	Schedule
Did the corporation have any foreign affiliates in the tax year? . . . . .	<input type="checkbox"/>	T1134
Did the corporation own or hold specified foreign property where the total cost amount of all such property, at any time in the year, was more than CAN\$100,000? . . . . .	<input type="checkbox"/>	T1135
Did the corporation transfer or loan property to a non-resident trust? . . . . .	<input type="checkbox"/>	T1141
Did the corporation receive a distribution from or was it indebted to a non-resident trust in the year? . . . . .	<input type="checkbox"/>	T1142
Has the corporation entered into an agreement to allocate assistance for SR&ED carried out in Canada? . . . . .	<input type="checkbox"/>	T1145
Has the corporation entered into an agreement to transfer qualified expenditures incurred in respect of SR&ED contracts? . . . . .	<input type="checkbox"/>	T1146
Has the corporation entered into an agreement with other associated corporations for salary or wages of specified employees for SR&ED? . . . . .	<input type="checkbox"/>	T1174
Did the corporation pay taxable dividends (other than capital gains dividends) in the tax year? . . . . .	<input checked="" type="checkbox"/>	55
Has the corporation made an election under subsection 89(11) not to be a CCPC? . . . . .	<input type="checkbox"/>	T2002
Has the corporation revoked any previous election made under subsection 89(11)? . . . . .	<input type="checkbox"/>	T2002
Did the corporation (CCPC or deposit insurance corporation (DIC)) pay eligible dividends, or did its general rate income pool (GRIP) change in the tax year? . . . . .	<input type="checkbox"/>	53
Did the corporation (other than a CCPC or DIC) pay eligible dividends, or did its low rate income pool (LRIP) change in the tax year? . . . . .	<input checked="" type="checkbox"/>	54

**Additional information**

Did the corporation use the International Financial Reporting Standards (IFRS) when it prepared its financial statements? . . . . .	270	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
Is the corporation inactive? . . . . .	280	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
What is the corporation's main revenue-generating business activity? . . . . .	221122	Electric Power Distribution	
Specify the principal products mined, manufactured, sold, constructed, or services provided, giving the approximate percentage of the total revenue that each product or service represents.	284	Electricity	285 100.000 %
	286		287 %
	288		289 %
Did the corporation immigrate to Canada during the tax year? . . . . .	291	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
Did the corporation emigrate from Canada during the tax year? . . . . .	292	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
Do you want to be considered as a quarterly instalment remitter if you are eligible? . . . . .	293	1 Yes <input type="checkbox"/>	2 No <input type="checkbox"/>
If the corporation was eligible to remit instalments on a quarterly basis for part of the tax year, provide the date the corporation ceased to be eligible . . . . .	294	Year Month Day	
If the corporation's major business activity is construction, did you have any subcontractors during the tax year? . . . . .	295	1 Yes <input type="checkbox"/>	2 No <input type="checkbox"/>

**Taxable income**

Net income or (loss) for income tax purposes from Schedule 1, financial statements, or GIF . . . . .	300	-120,276,804	A
<b>Deduct:</b>			
Charitable donations from Schedule 2 . . . . .	311		
Cultural gifts from Schedule 2 . . . . .	313		
Ecological gifts from Schedule 2 . . . . .	314		
Gifts of medicine made before March 22, 2017, from Schedule 2 . . . . .	315		
Taxable dividends deductible under section 112 or 113, or subsection 138(6) from Schedule 3 . . . . .	320		
Part VI.1 tax deduction* . . . . .	325		
Non-capital losses of previous tax years from Schedule 4 . . . . .	331		
Net capital losses of previous tax years from Schedule 4 . . . . .	332		
Restricted farm losses of previous tax years from Schedule 4 . . . . .	333		
Farm losses of previous tax years from Schedule 4 . . . . .	334		
Limited partnership losses of previous tax years from Schedule 4 . . . . .	335		
Taxable capital gains or taxable dividends allocated from a central credit union . . . . .	340		
Prospector's and grubstaker's shares . . . . .	350		
Subtotal			B
Subtotal (amount A minus amount B) (if negative, enter "0")			C
Section 110.5 additions or subparagraph 115(1)(a)(vii) additions . . . . .	355		D
<b>Taxable income</b> (amount C plus amount D)	360		
Income exempt under paragraph 149(1)(t)	370		
<b>Taxable income</b> for a corporation with exempt income under paragraph 149(1)(t) (line 360 minus line 370)			Z
<b>Taxable income</b> for the year from a personal services business			Z.1

\* This amount is equal to 3.5 times the Part VI.1 tax payable at line 724 on page 8.



**Small business deduction**

**Canadian-controlled private corporations (CCPCs) throughout the tax year**

Income from active business carried on in Canada from Schedule 7	400	A
Taxable income from line 360 on page 3, <b>minus</b> 100/28 ( 3.57143 ) of the amount on line 632* on page 7, <b>minus</b> 4 times the amount on line 636** on page 7, and <b>minus</b> any amount that, because of federal law, is exempt from Part I tax	405	B
Business limit (see notes 1 and 2 below)	410	C

- Notes:**
- For CCPCs that are not associated, enter \$ 500,000 on line 410. However, if the corporation's tax year is less than 51 weeks, prorate this amount by the number of days in the tax year **divided** by 365, and enter the result on line 410.
  - For associated CCPCs, use Schedule 23 to calculate the amount to be entered on line 410.

**Business limit reduction:**

Amount C	x	415 ***	D	=	11,250	E
Reduced business limit (amount C <b>minus</b> amount E) (if negative, enter "0")					425	F
Business limit the CCPC assigns under subsection 125(3.2) (from line 515 below)						G
Amount F <b>minus</b> amount G					427	H

**Small business deduction**

Amount A, B, C, or H, whichever is the least	x	Number of days in the tax year before January 1, 2018	365	x	17.5 % =	1
		Number of days in the tax year	365			
Amount A, B, C, or H, whichever is the least	x	Number of days in the tax year after December 31, 2017, and before January 1, 2019		x	18 % =	2
		Number of days in the tax year	365			
Total of amounts 1 and 2 (enter amount I at amount J on page 7)						430

- \* Calculate the amount of foreign non-business income tax credit deductible on line 632 without reference to the refundable tax on the CCPC's investment income (line 604) and without reference to the corporate tax reductions under section 123.4.
- \*\* Calculate the amount of foreign business income tax credit deductible on line 636 without reference to the corporation tax reductions under section 123.4.

**\*\*\* Large corporations**

- If the corporation is not associated with any corporations in both the current and previous tax years, the amount to be entered on line 415 is: (total taxable capital employed in Canada for the **prior** year **minus** \$10,000,000) x 0.225%.
- If the corporation is not associated with any corporations in the current tax year, but was associated in the previous tax year, the amount to be entered on line 415 is: (total taxable capital employed in Canada for the **current** year **minus** \$10,000,000) x 0.225%.
- For corporations associated in the current tax year, see Schedule 23 for the special rules that apply.

**Specified corporate income and assignment under subsection 125(3.2)**

**Applicable to tax years that begin after March 21, 2016**

Except that, if the tax year of your corporation started before **and** ends on or after March 22, 2016 and in the tax year of a CCPC, you can make an assignment of business limit to that other CCPC if its tax year started after March 21, 2016.

J1 Name of corporation receiving the income and assigned amount	J Business number of the corporation receiving the assigned amount	K Income paid under clause 125(1)(a)(i)(B) to the corporation identified in column J <sup>3</sup>	L Business limit assigned to corporation identified in column J <sup>4</sup>
1.	490	500	505

Total **510** Total **515**

- Notes:**
- This amount is [as defined in subsection 125(7) **specified corporate income** (a)(i)] the total of all amounts each of which is income from an active business of the corporation for the year from the provision of services or property to a private corporation (directly or indirectly, in any manner whatever) if (A) at any time in the year, the corporation (or one of its shareholders) or a person who does not deal at arm's length with the corporation (or one of its shareholders) holds a direct or indirect interest in the private corporation, and (B) it is not the case that all or substantially all of the corporation's income for the year from an active business is from the provision of services or property to (I) persons (other than the private corporation) with which the corporation deals at arm's length, or (II) partnerships with which the corporation deals at arm's length, other than a partnership in which a person that does not deal at arm's length with the corporation holds a direct or indirect interest.
  - The amount of the business limit you assign to a CCPC cannot be greater than the amount determined by the formula A – B, where A is the amount of income referred to in column K in respect of that CCPC and B is the portion of the amount described in A that is deductible by you in respect of the amount of income referred to in clauses 125(1)(a)(i)(A) or (B) for the year. The amount on line 515 cannot be greater than the amount on line 425.

**General tax reduction for Canadian-controlled private corporations**

**Canadian-controlled private corporations throughout the tax year**

Taxable income from page 3 (line 360 or amount Z, whichever applies)	.....	_____	A
Lesser of amounts 9B and 9H from Part 9 of Schedule 27	.....	_____	B
Amount 13K from Part 13 of Schedule 27	.....	_____	C
Personal services business income	.....	<b>432</b> _____	D
Amount used to calculate the credit union deduction (amount F from Schedule 17)	.....	_____	E
Amount from line 400, 405, 410, or 427 on page 4, whichever is the least	.....	_____	F
Aggregate investment income from line 440 on page 6*	.....	_____	G
		Subtotal (add amounts B to G) <b>▶</b> _____	H
Amount A minus amount H (if negative, enter "0")	.....	_____	I
<b>General tax reduction for Canadian-controlled private corporations</b> – Amount I multiplied by 13 %	.....	_____	J

Enter amount J on line 638 on page 7.

\* Except for a corporation that is, throughout the year, a cooperative corporation (within the meaning assigned by subsection 136(2)) or a credit union.

**General tax reduction**

**Do not complete this area if you are a Canadian-controlled private corporation, an investment corporation, a mortgage investment corporation, a mutual fund corporation, or any corporation with taxable income that is not subject to the corporation tax rate of 38%.**

Taxable income from page 3 (line 360 or amount Z, whichever applies)	.....	_____	K
Lesser of amounts 9B and 9H from Part 9 of Schedule 27	.....	_____	L
Amount 13K from Part 13 of Schedule 27	.....	_____	M
Personal services business income	.....	<b>434</b> _____	N
Amount used to calculate the credit union deduction (amount F from Schedule 17)	.....	_____	O
		Subtotal (add amounts L to O) <b>▶</b> _____	P
Amount K minus amount P (if negative, enter "0")	.....	_____	Q
<b>General tax reduction</b> – Amount Q multiplied by 13 %	.....	_____	R

Enter amount R on line 639 on page 7.



**Refundable portion of Part I tax**

**Canadian-controlled private corporations throughout the tax year**

Aggregate investment income from Schedule 7 ..... **440** ..... x  $30 \frac{2}{3} \% =$  ..... A  
 Foreign non-business income tax credit from line 632 on page 7 ..... B

**Deduct:**  
 Foreign investment income from Schedule 7 ..... **445** ..... x  $8 \% =$  ..... C  
 Subtotal (amount B minus amount C) (if negative, enter "0") ..... **▶** ..... D

Amount A minus amount D (if negative, enter "0") ..... **=====** E  
 Taxable income from line 360 on page 3 ..... F

**Deduct:**  
 Amount from line 400, 405, 410, or 427 on page 4, whichever is the least ..... G

Foreign non-business income tax credit from line 632 on page 7 ..... x  $75 / 29 =$  ..... H

Foreign business income tax credit from line 636 on page 7 ..... x  $4 =$  ..... I  
 Subtotal (total of amounts G, H and I) ..... **▶** ..... J

Subtotal (amount F minus amount J) (if negative, enter "0") ..... **=====** K x  $30 \frac{2}{3} \% =$  ..... L  
 Part I tax payable minus investment tax credit refund (line 700 minus line 780 from page 8) ..... **=====** M

**Refundable portion of Part I tax** – Amount E, L, or M, whichever is the least ..... **450** ..... **=====** N

**Refundable dividend tax on hand**

Refundable dividend tax on hand at the end of the previous tax year ..... **460** .....  
**Deduct:** Dividend refund for the previous tax year ..... **465** .....  
 Subtotal ..... **▶** ..... O

**Add** the total of:  
 Refundable portion of Part I tax from line 450 above ..... P  
 Total Part IV tax payable from Schedule 3 ..... Q  
 Net refundable dividend tax on hand transferred from a predecessor corporation on amalgamation, or from a wound-up subsidiary corporation ..... **480** .....  
 Subtotal ..... **▶** ..... R

**Refundable dividend tax on hand at the end of the tax year** – Amount O plus amount R ..... **485** ..... **=====**

**Dividend refund**

**Private and subject corporations at the time taxable dividends were paid in the tax year**

Taxable dividends paid in the tax year from line 460 on page 3 of Schedule 3 .....  $1,500,000 \times 38 \frac{1}{3} \% =$  ..... **575,000** S  
 Refundable dividend tax on hand at the end of the tax year from line 485 above ..... **=====** T

**Dividend refund** – Amount S or T, whichever is less ..... **=====** U  
 Enter amount U on line 784 on page 8.

**Part I tax**

Base amount Part I tax – Taxable income from page 3 (line 360 or amount Z, whichever applies) multiplied by 38 % ..... **550** \_\_\_\_\_ A

**Additional tax on personal services business income** (section 123.5)

Taxable income from a personal services business ..... **555** \_\_\_\_\_ x 5 % = **560** \_\_\_\_\_ B

Recapture of investment tax credit from Schedule 31 ..... **602** \_\_\_\_\_ C

**Calculation for the refundable tax on the Canadian-controlled private corporation's (CCPC) investment income**  
(if it was a CCPC throughout the tax year)

Aggregate investment income from line 440 on page 6 ..... \_\_\_\_\_ D

Taxable income from line 360 on page 3 ..... \_\_\_\_\_ E

**Deduct:**  
Amount from line 400, 405, 410, or 427 on page 4,  
whichever is the least ..... \_\_\_\_\_ F

Net amount (amount E minus amount F) ..... **▶** \_\_\_\_\_ G

Refundable tax on CCPC's investment income – 10 2 / 3 % of whichever is less: amount D or amount G ..... **604** \_\_\_\_\_ H

Subtotal (add amounts A, B, C, and H) ..... \_\_\_\_\_ I

**Deduct:**

Small business deduction from line 430 on page 4 ..... \_\_\_\_\_ J

Federal tax abatement ..... **608** \_\_\_\_\_

Manufacturing and processing profits deduction from Schedule 27 ..... **616** \_\_\_\_\_

Investment corporation deduction ..... **620** \_\_\_\_\_

Taxed capital gains **624** \_\_\_\_\_

Additional deduction – credit unions from Schedule 17 ..... **628** \_\_\_\_\_

Federal foreign non-business income tax credit from Schedule 21 ..... **632** \_\_\_\_\_

Federal foreign business income tax credit from Schedule 21 ..... **636** \_\_\_\_\_

General tax reduction for CCPCs from amount J on page 5 ..... **638** \_\_\_\_\_

General tax reduction from amount R on page 5 ..... **639** \_\_\_\_\_

Federal logging tax credit from Schedule 21 ..... **640** \_\_\_\_\_

Eligible Canadian bank deduction under section 125.21 ..... **641** \_\_\_\_\_

Federal qualifying environmental trust tax credit ..... **648** \_\_\_\_\_

Investment tax credit from Schedule 31 ..... **652** \_\_\_\_\_

Subtotal ..... **▶** \_\_\_\_\_ K

**Part I tax payable** – Amount I minus amount K ..... \_\_\_\_\_ L

Enter amount L on line 700 on page 8.

**Privacy statement**

Personal information is collected under the *Income Tax Act* to administer tax, benefits, and related programs. It may also be used for any purpose related to the administration or enforcement of the Act such as audit, compliance and the payment of debts owed to the Crown. It may be shared or verified with other federal, provincial/territorial government institutions to the extent authorized by law. Failure to provide this information may result in interest payable, penalties or other actions. Under the *Privacy Act*, individuals have the right to access their personal information and request correction if there are errors or omissions. Refer to Info Source [canada.ca/cra-info-source](http://canada.ca/cra-info-source), personal information bank CRA PPU 047.

**Summary of tax and credits**

**Federal tax**

Part I tax payable from amount L on page 7	700	
Part II surtax payable from Schedule 46	708	
Part III.1 tax payable from Schedule 55	710	
Part IV tax payable from Schedule 3	712	
Part IV.1 tax payable from Schedule 43	716	
Part VI tax payable from Schedule 38	720	
Part VI.1 tax payable from Schedule 43	724	
Part XIII.1 tax payable from Schedule 92	727	
Part XIV tax payable from Schedule 20	728	
<b>Total federal tax</b>		

**Add provincial or territorial tax:**

Provincial or territorial jurisdiction . . . **750** ON  
(if more than one jurisdiction, enter "multiple" and complete Schedule 5)

Net provincial or territorial tax payable (except Quebec and Alberta) . . . . . **760** 15,380,716

**Total tax payable** **770** 15,380,716 **A**

**Deduct other credits:**

Investment tax credit refund from Schedule 31	780	
Dividend refund from amount U on page 6	784	
Federal capital gains refund from Schedule 18	788	
Federal qualifying environmental trust tax credit refund	792	
Canadian film or video production tax credit refund (Form T1131)	796	
Film or video production services tax credit refund (Form T1177)	797	
Tax withheld at source	800	
Total payments on which tax has been withheld	<b>801</b>	
Provincial and territorial capital gains refund from Schedule 18	808	
Provincial and territorial refundable tax credits from Schedule 5	812	
Tax instalments paid	840	21,669,590
<b>Total credits</b>	<b>890</b>	<b>21,669,590</b>

Refund code **894** 2 Overpayment 6,288,874 ← Balance (amount A minus amount B) -6,288,874 **B**

**Direct deposit request**

To have the corporation's refund deposited directly into the corporation's bank account at a financial institution in Canada, or to change banking information you already gave us, complete the information below:

Start  Change information

**910** Branch number

**914** Institution number **918** Account number

If the result is positive, you have a **balance unpaid**.  
If the result is negative, you have an **overpayment**.  
Enter the amount on whichever line applies.  
Generally, we do not charge or refund a difference of \$2 or less.

Balance unpaid . . . . .

For information on how to make your payment, go to [canada.ca/payments](http://canada.ca/payments).

If the corporation is a Canadian-controlled private corporation throughout the tax year, does it qualify for the one-month extension of the date the balance of tax is due? . . . . . **896** 1 Yes  2 No

If this return was prepared by a tax preparer for a fee, provide their EFILE number . . . . . **920**

**Certification**

I, **950** Tran Lastname **951** Nancy First name **954** VP, Corporate Tax Position, office, or rank

am an authorized signing officer of the corporation. I certify that I have examined this return, including accompanying schedules and statements, and that the information given on this return is, to the best of my knowledge, correct and complete. I also certify that the method of calculating income for this tax year is consistent with that of the previous tax year except as specifically disclosed in a statement attached to this return.

**955** 2018-12-12 Date (yyyy/mm/dd) Signature of the authorized signing officer of the corporation **956** (416) 345-6778 Telephone number

Is the contact person the same as the authorized signing officer? If **no**, complete the information below . . . . . **957** 1 Yes  2 No

**958** Name of other authorized person **959** Telephone number

**Language of correspondence – Langue de correspondance**

Indicate your language of correspondence by entering 1 for English or 2 for French.  
Indiquez votre langue de correspondance en inscrivant 1 pour anglais ou 2 pour français. **990** 1

## Schedule of Instalment Remittances

Name of corporation contact Nancy Tran  
Telephone number (416) 345-6778

Effective interest date	Description (instalment remittance, split payment, assessed credit)	Amount of credit
	Instalments	21,669,590
<b>Total amount of instalments claimed (carry the result to line 840 of the T2 Return)</b>		<b><u>21,669,590</u> A</b>
<b>Total instalments credited to the taxation year per T9</b>		<b><u>21,669,590</u> B</b>

### Transfer

Account number	Taxation year end	Amount	Effective interest date	Description
From:				
To:				
From:				
To:				
From:				
To:				
From:				
To:				
From:				
To:				

Form identifier 100

**GENERAL INDEX OF FINANCIAL INFORMATION – GIF1**

Corporation's name	Business number	Tax year end Year Month Day
HYDRO ONE NETWORKS INC.	87086 5821 RC0001	2017-12-31

**Balance sheet information**

Account	Description	GIFI	Current year	Prior year
<b>Assets</b>				
	Total current assets	<b>1599</b> +	1,058,000,000	1,074,000,000
	Total tangible capital assets	<b>2008</b> +	29,374,000,000	28,073,000,000
	Total accumulated amortization of tang ble capital assets	<b>2009</b> -	10,284,000,000	9,789,000,000
	Total intang ble capital assets	<b>2178</b> +	910,000,000	846,000,000
	Total accumulated amortization of intang ble capital assets	<b>2179</b> -	374,000,000	330,000,000
	Total long-term assets	<b>2589</b> +	2,882,000,000	3,327,000,000
	* Assets held in trust	<b>2590</b> +		
	<b>Total assets</b> (mandatory field)	<b>2599</b> =	<u>23,566,000,000</u>	<u>23,201,000,000</u>

<b>Liabilities</b>				
	Total current liabilities	<b>3139</b> +	3,357,598,696	2,217,579,543
	Total long-term liabilities	<b>3450</b> +	10,396,000,000	11,360,000,000
	* Subordinated debt	<b>3460</b> +		
	* Amounts held in trust	<b>3470</b> +		
	<b>Total liabilities</b> (mandatory field)	<b>3499</b> =	<u>13,753,598,696</u>	<u>13,577,579,543</u>

<b>Shareholder equity</b>				
	<b>Total shareholder equity</b> (mandatory field)	<b>3620</b> +	9,812,401,304	9,623,420,457

	<b>Total liabilities and shareholder equity</b>	<b>3640</b> =	<u>23,566,000,000</u>	<u>23,201,000,000</u>
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<b>Retained earnings</b>				
	<b>Retained earnings/deficit – end</b> (mandatory field)	<b>3849</b> =	<u>5,128,401,304</u>	<u>4,431,420,457</u>

\* Generic item

Form identifier 125

**GENERAL INDEX OF FINANCIAL INFORMATION – GIFI**

Corporation's name HYDRO ONE NETWORKS INC.	Business number 87086 5821 RC0001	Tax year end Year Month Day 2017-12-31
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**Income statement information**

Description	GIFI
Operating name	0001
Description of the operation	0002
Sequence number	0003 01

Account	Description	GIFI	Current year	Prior year
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Income statement information					
	Total sales of goods and services	8089	+	5,829,000,000	6,343,000,000
	Cost of sales	8518	-	2,875,000,000	3,365,000,000
	<b>Gross profit/loss</b>	<b>8519</b>	<b>=</b>	<b>2,954,000,000</b>	<b>2,978,000,000</b>
	Cost of sales	8518	+	2,875,000,000	3,365,000,000
	Total operating expenses	9367	+	2,137,198,543	2,114,297,188
	<b>Total expenses (mandatory field)</b>	<b>9368</b>	<b>=</b>	<b>5,012,198,543</b>	<b>5,479,297,188</b>
	Total revenue (mandatory field)	8299	+	5,829,000,000	6,343,000,000
	Total expenses (mandatory field)	9368	-	5,012,198,543	5,479,297,188
	<b>Net non-farming income</b>	<b>9369</b>	<b>=</b>	<b>816,801,457</b>	<b>863,702,812</b>

Farming income statement information					
	Total farm revenue (mandatory field)	9659	+		
	Total farm expenses (mandatory field)	9898	-		
	<b>Net farm income</b>	<b>9899</b>	<b>=</b>		

	<b>Net income/loss before taxes and extraordinary items</b>	<b>9970</b>	<b>=</b>	<b>816,801,457</b>	<b>863,702,812</b>
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	<b>Total other comprehensive income</b>	<b>9998</b>	<b>=</b>	<b>303,906</b>	<b>309,758</b>
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Extraordinary items and income (linked to Schedule 140)					
	Extraordinary item(s)	9975	-		
	Legal settlements	9976	-		
	Unrealized gains/losses	9980	+		
	Unusual items	9985	-		
	Current income taxes	9990	-	22,551,447	22,472,359
	Future (deferred) income tax provision	9995	-	95,769,163	114,779,881
	Total – Other comprehensive income	9998	+	303,906	309,758
	<b>Net income/loss after taxes and extraordinary items (mandatory field)</b>	<b>9999</b>	<b>=</b>	<b>698,784,753</b>	<b>726,760,330</b>

**Notes Checklist**

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax Year End Year Month Day <b>2017-12-31</b>
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- Parts 1, 2, and 3 of this schedule must be completed from the perspective of the person (referred to in these parts as the **accountant**) who prepared or reported on the financial statements. If the person preparing the tax return is not the accountant referred to above, they must still complete Parts 1, 2, 3, and 4, as applicable.
- For more information, see Guide RC4088, *General Index of Financial Information (GIFI)* and T4012, *T2 Corporation – Income Tax Guide*.
- Complete this schedule and include it with your T2 return along with the other GIFI schedules.

**Part 1 – Information on the accountant who prepared or reported on the financial statements**

Does the accountant have a professional designation? ..... **095** Yes  No

Is the accountant connected\* with the corporation? ..... **097** Yes  No

**Note**

If the accountant does not have a professional designation or is connected to the corporation, you do not have to complete Parts 2 and 3 of this schedule. However, you **do have** to complete Part 4, as applicable.

\*A person connected with a corporation can be: (i) a shareholder of the corporation who owns more than 10% of the common shares; (ii) a director, an officer, or an employee of the corporation; or (iii) a person not dealing at arm's length with the corporation.

**Part 2 – Type of involvement with the financial statements**

Choose the option that represents the highest level of involvement of the accountant: **198**

Completed an auditor's report ..... 1

Completed a review engagement report ..... 2

Conducted a compilation engagement ..... 3

**Part 3 – Reservations**

If you selected option 1 or 2 under **Type of involvement with the financial statements** above, answer the following question:

Has the accountant expressed a reservation? ..... **099** Yes  No

**Part 4 – Other information**

If you have a professional designation and are not the accountant associated with the financial statements in Part 1 above, choose one of the following options: **110**

Prepared the tax return (financial statements prepared by client) ..... 1

Prepared the tax return and the financial information contained therein (financial statements have not been prepared) ..... 2

Were notes to the financial statements prepared? ..... **101** Yes  No

If **yes**, complete lines 104 to 107 below:

Are subsequent events mentioned in the notes? ..... **104** Yes  No

Is re-evaluation of asset information mentioned in the notes? ..... **105** Yes  No

Is contingent liability information mentioned in the notes? ..... **106** Yes  No

Is information regarding commitments mentioned in the notes? ..... **107** Yes  No

Does the corporation have investments in joint venture(s) or partnership(s)? ..... **108** Yes  No

**Part 4 – Other information (continued)**

**Impairment and fair value changes**

In any of the following assets, was an amount recognized in net income or other comprehensive income (OCI) as a result of an impairment loss in the tax year, a reversal of an impairment loss recognized in a previous tax year, or a change in fair value during the tax year? **200** Yes  No

If **yes**, enter the amount recognized:

	<b>In net income</b> Increase (decrease)	<b>In OCI</b> Increase (decrease)
Property, plant, and equipment	<b>210</b>	<b>211</b>
Intangible assets	<b>215</b>	<b>216</b>
Investment property	<b>220</b>	
Biological assets	<b>225</b>	
Financial instruments	<b>230</b>	<b>231</b> 303,906
Other	<b>235</b>	<b>236</b>

**Financial instruments**

Did the corporation derecognize any financial instrument(s) during the tax year (other than trade receivables)? **250** Yes  No

Did the corporation apply hedge accounting during the tax year? **255** Yes  No

Did the corporation discontinue hedge accounting during the tax year? **260** Yes  No

**Adjustments to opening equity**

Was an amount included in the opening balance of retained earnings or equity, in order to correct an error, to recognize a change in accounting policy, or to adopt a new accounting standard in the current tax year? **265** Yes  No

If **yes**, you have to maintain a separate reconciliation.



**SCHEDULE 100**

**GENERAL INDEX OF FINANCIAL INFORMATION – GIF1**

Form identifier 100

Name of corporation	Business Number	Tax year-end Year Month Day
HYDRO ONE NETWORKS INC.	87086 5821 RC0001	2017-12-31

**Assets – lines 1000 to 2599**

<b>1000</b>	37,000,000	<b>1060</b>	659,000,000	<b>1061</b>	-29,000,000
<b>1120</b>	15,000,000	<b>1400</b>	308,000,000	<b>1480</b>	68,000,000
<b>1599</b>	1,058,000,000	<b>1900</b>	28,171,000,000	<b>1901</b>	-10,284,000,000
<b>1920</b>	1,203,000,000	<b>2008</b>	29,374,000,000	<b>2009</b>	-10,284,000,000
<b>2010</b>	742,000,000	<b>2011</b>	-374,000,000	<b>2012</b>	168,000,000
<b>2178</b>	910,000,000	<b>2179</b>	-374,000,000	<b>2420</b>	1,938,000,000
<b>2421</b>	944,000,000	<b>2589</b>	2,882,000,000	<b>2599</b>	23,566,000,000

**Liabilities – lines 2600 to 3499**

<b>2620</b>	862,598,696	<b>2700</b>	750,000,000	<b>2860</b>	1,745,000,000
<b>3139</b>	3,357,598,696	<b>3140</b>	8,585,000,000	<b>3320</b>	1,811,000,000
<b>3450</b>	10,396,000,000	<b>3499</b>	13,753,598,696		

**Shareholder equity – lines 3500 to 3640**

<b>3500</b>	4,687,000,000	<b>3541</b>	5,000,000	<b>3580</b>	-8,000,000
<b>3600</b>	5,128,401,304	<b>3620</b>	9,812,401,304	<b>3640</b>	23,566,000,000

**Retained earnings – lines 3660 to 3849**

<b>3660</b>	4,431,420,457	<b>3680</b>	698,480,847	<b>3701</b>	-1,500,000
<b>3849</b>	5,128,401,304				

**SCHEDULE 125**

**GENERAL INDEX OF FINANCIAL INFORMATION – GIF1**

Form identifier 125

Name of corporation	Business Number	Tax year-end Year Month Day
HYDRO ONE NETWORKS INC.	87086 5821 RC0001	2017-12-31

**Description**

Sequence number . . . . . **0003** 01

**Other comprehensive income – lines 7000 to 7020**

**7008** 303,906

**Revenue – lines 8000 to 8299**

**8000** 5,829,000,000      **8089** 5,829,000,000      **8299** 5,829,000,000

**Cost of sales – lines 8300 to 8519**

**8320** 2,875,000,000      **8518** 2,875,000,000      **8519** 2,954,000,000

**Operating expenses – lines 8520 to 9369**

**8523** 10,751,450      **8570** 61,951,011      **8623** 36,783,166  
**8670** 725,596,549      **8710** 398,000,000      **9284** 904,116,367  
**9367** 2,137,198,543      **9368** 5,012,198,543      **9369** 816,801,457

**Extraordinary items and taxes – lines 9970 to 9999**

**9970** 816,801,457      **9990** 22,551,447      **9995** 95,769,163  
**9998** 303,906      **9999** 698,784,753

# Net Income (Loss) for Income Tax Purposes

## Schedule 1

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- The purpose of this schedule is to provide a reconciliation between the corporation's net income (loss) as reported on the financial statements and its net income (loss) for tax purposes. For more information, see the T2 *Corporation – Income Tax Guide*.
- All legislative references are to the *Income Tax Act*.

Net income (loss) after taxes and extraordinary items from line 9999 of Schedule 125 ..... **698,784,753** A

### Add:

Provision for income taxes – current	<b>101</b>	22,551,447	
Provision for income taxes – deferred	<b>102</b>	95,769,163	
Interest and penalties on taxes	<b>103</b>	254,706	
Amortization of tangible assets	<b>104</b>	725,596,549	
Amortization of intangible assets	<b>106</b>	61,951,011	
Charitable donations and gifts from Schedule 2	<b>112</b>	750,089	
Scientific research expenditures deducted per financial statements	<b>118</b>	193,942	
Non-deductible meals and entertainment expenses	<b>121</b>	5,375,725	
Other reserves on lines 270 and 275 from Schedule 13	<b>125</b>	46,625,639	
Reserves from financial statements – balance at the end of the year	<b>126</b>	1,711,665,237	
Subtotal of additions		<b>2,670,733,508</b>	<b>2,670,733,508</b>

### Other additions:

Capital items expensed	<b>206</b>	18,651,565
Financing fees deducted in books	<b>216</b>	4,264,599

### Miscellaneous other additions:

	1 Description	2 Amount	
	<b>605</b>	<b>295</b>	
1	Other additions - See attached schedule	11,319,054	
2	CCRA true up	8,719,041	
3	Capital contributions received 12(1)(x)	141,278,974	
	Total of column 2	<b>161,317,069</b>	<b>161,317,069</b>
	Subtotal of other additions	<b>199</b>	<b>184,233,233</b>
	Total additions	<b>500</b>	<b>2,854,966,741</b>

Amount A plus amount B ..... **3,553,751,494** C

### Deduct:

Capital cost allowance from Schedule 8	<b>403</b>	1,668,642,802	
Other reserves on line 280 from Schedule 13	<b>413</b>	40,478,960	
Reserves from financial statements – balance at the beginning of the year	<b>414</b>	1,543,554,594	
Contributions to deferred income plans from Schedule 15	<b>417</b>	47,581,893	
Subtotal of deductions		<b>3,300,258,249</b>	<b>3,300,258,249</b>

### Other deductions:

### Miscellaneous other deductions:

	1 Description	2 Amount
	<b>705</b>	<b>395</b>
1	Deduction under 20(1)(e) ITA	4,766,589
2	Capitalized interest expenses (a/c 761401/761402)	56,109,031
3	Capitalized operation, maintenance & admin.	64,216,948
4	Capitalized OPEB expenses	68,822,394

	1 Description <b>705</b>	2 Amount <b>395</b>			
5	Capitalized removal costs	7,690,287			
6	Other deductions - See attached schedule	8,476,196			
7	Environmental payments	22,409,630			
8	Capital contributions - 13(7.4) election	141,278,974			
	<b>Total of column 2</b>	<u>373,770,049</u>	▶	<b>396</b>	<u>373,770,049</u>
				Subtotal of other deductions	<b>499</b>
					<u>373,770,049</u>
				<b>Total deductions</b>	<b>510</b>
					<u>3,674,028,298</u>
					<u>373,770,049</u>
					<u>3,674,028,298</u> D
	<b>Net income (loss) for income tax purposes</b> (amount C minus amount D)				<u>-120,276,804</u> E

Enter amount E on line 300 of the T2 return.

T2 SCH 1 E (17)



## Attached Schedule with Total

Line 206 – Capital items expensed

Title Line 206 – Capital items expensed

Description	Operator (Note)	Amount
Equipment under \$2K (GL 620510)		609,776 00
Computer Application Software (GL 620046)	+	9,254,452 00
Computer System Software (GL 620040)	+	338,966 00
Project Cancellation Costs (GL 670000)	+	8,448,371 00
<b>Total</b>		<b>18,651,565 00</b>

**Note:** The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula 1+2\*3 will not result in the same thing as the formula 1+3\*2.

## Attached Schedule with Total

Line 216 – Financing fees deducted in books

Title Line 216 – Financing fees deducted in books

Description	Operator (Note)	Amount
Amortization of Underwriting fee (GL #761780)		2,828,324 00
Amortization of Prospectus fee (GL #761790)	+	257,683 00
Amortization of Upfront Loan fee (included in GL #761730)	+	1,178,592 00
	+	
	<b>Total</b>	<b>4,264,599 00</b>

**Note:** The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula 1+2\*3 will not result in the same thing as the formula 1+3\*2.

## Attached Schedule with Total

Line 295 – Amount

Title Line 295 – Amount

Description	Operator (Note)	Amount
Restricted transmission asset write-off (670002)		773 00
LTIP expense	+	2,620,824 00
Union share grant expenses	+	6,170,939 00
2016 Ontario ITCs underaccrual	+	1,107,359 00
Unrealized mark to market loss on interest rate swaps	+	338,951 00
Reverse insurance proceeds capitalized for tax	+	732,620 00
Non-deductible secondary offering costs	+	25,588 00
Loss on housing guarantee	+	117,089 00
2017 Ontario apprenticeship underaccrual	+	204,911 00
	+	
	<b>Total</b>	<b>11,319,054 00</b>

**Note:** The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula  $1+2*3$  will not result in the same thing as the formula  $1+3*2$ .

## Attached Schedule with Total

Line 395 – Amount

Title Line 395 – Amount

Description	Operator (Note)	Amount
Bond premium/discount amortization (net of P&L credit)		1,501,600 00
S. 18(9.1) deduction	+	135,474 00
Landscaping adjustments	+	1,004,720 00
Insurance proceeds	+	4,800,000 00
Non-taxable accrual release	+	543,344 00
2017 Ontario co-op overaccrual	+	331,058 00
2017 OBRI accrual	+	160,000 00
	+	
	<b>Total</b>	<b>8,476,196 00</b>

**Note:** The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula  $1+2*3$  will not result in the same thing as the formula  $1+3*2$ .



## Deduction summary as per paragraph 20(1)(e) of the ITA

### Federal

#### Deduction summary as per paragraph 20(1)(e) of the ITA

Description	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	E Annual deduction (This amount is posted to one of the lines 395 of Schedule 1)	F Balance at the end of the year
1. 2013 Underwriting Fees	2013-01-01	4,800,000	3,842,630	957,370	
2. 2014 Underwriting Fees	2014-01-01	2,646,500	1,589,350	529,300	527,850
3. 2015 Underwriting Fees (\$350M/5YRS 0.3%)	2015-04-30	105,000	42,058	21,000	41,942
4. 2016 Underwriting Fees (\$500M/5YRS 0.35% + \$500M/20YRS 0.	2016-02-24	5,460,000	1,094,992	1,092,000	3,273,008
5. 2016 Underwriting Fees (\$500M/3YRS 0.25% + \$450M/31YRS 0.	2016-11-18	3,500,000	701,918	700,000	2,098,082
6. 2013 Prospectus Fees	2013-01-01	187,960	150,471	37,489	
7. 2014 Prospectus Fees	2014-01-01	113,279	68,030	22,656	22,593
8. 2015 Prospectus Fees	2015-04-30	4,390	1,758	878	1,754
9. 2016 Prospectus Fees (\$1,350M of new debt)	2016-02-24	207,156	41,545	41,431	124,180
10. 2016 Prospectus Fees (\$950M of new debt)	2016-11-18	149,199	29,922	29,840	89,437
11. 2013 Upfront Fees	2013-05-31	1,072,000	858,187	213,813	
12. 2014 Upfront Fees	2014-06-01	600,000	360,329	120,000	119,671
13. 2015 Upfront Fees	2015-06-01	1,560,000	624,855	312,000	623,145
14. 2016 Upfront Loan Fees (\$2.3B of new debt)	2016-08-15	1,438,109	288,410	287,622	862,077
15. 2013 Legal Fees	2013-01-01	701,225	561,583	139,642	
16. 2014 Legal Fees	2014-01-01	45,898	27,566	9,180	9,152
17. 2015 Legal Fees	2015-01-01	66,396	26,616	13,279	26,501
18. 2015 Legal Fees	2015-11-05	63,475	14,871	12,695	35,909
19. 2016 Legal Fees	2016-01-01	211,970	42,510	42,394	127,066
20. 2017 Upfront Fees	2017-06-01	920,000		184,000	736,000
<b>Totals</b>		<b>23,852,557</b>	<b>10,367,601</b>	<b>4,766,589</b>	<b>8,718,367</b>

## Deduction as per paragraph 20(1)(e) of the ITA

This workchart allows you to determine the tax deduction as per paragraph 20(1)(e) of the Income Tax Act (ITA). It relates to the expenses of issuing or selling shares, units or interests and expenses of borrowing money.

Ensure that any of these expenses deducted in the financial statements have been added back on line 216, "Financing fees deducted in books," and/or on line 235, "Share issue expense" to Schedule 1, if applicable.

\* If the check box was selected, the annual deduction will be equal to the amount in column C.

<b>1</b> Description: 2013 Underwriting Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2013-01-01	4,800,000	3,842,630	957,370	960,000	957,370	

<b>2</b> Description: 2014 Underwriting Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2014-01-01	2,646,500	1,589,350	1,057,150	529,300	529,300	527,850

<b>3</b> Description: 2015 Underwriting Fees (\$350M/5YRS 0.3%)							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2015-04-30	105,000	42,058	62,942	21,000	21,000	41,942

<b>4</b> Description: 2016 Underwriting Fees (\$500M/5YRS 0.35% + \$500M/20YRS 0.392% + \$350M/30YRS 0.5%)							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2016-02-24	5,460,000	1,094,992	4,365,008	1,092,000	1,092,000	3,273,008

<b>5</b> Description: 2016 Underwriting Fees (\$500M/3YRS 0.25% + \$450M/31YRS 0.5%)							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2016-11-18	3,500,000	701,918	2,798,082	700,000	700,000	2,098,082

<b>6</b> Description: 2013 Prospectus Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2013-01-01	187,960	150,471	37,489	37,592	37,489	

<b>7</b> Description: 2014 Prospectus Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2014-01-01	113,279	68,030	45,249	22,656	22,656	22,593

<b>8</b> Description: 2015 Prospectus Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2015-04-30	4,390	1,758	2,632	878	878	1,754

<b>9</b> Description: 2016 Prospectus Fees (\$1,350M of new debt)							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2016-02-24	207,156	41,545	165,611	41,431	41,431	124,180

<b>10</b> Description: 2016 Prospectus Fees (\$950M of new debt)							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2016-11-18	149,199	29,922	119,277	29,840	29,840	89,437

<b>11</b> Description: 2013 Upfront Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2013-05-31	1,072,000	858,187	213,813	214,400	213,813	

<b>12</b> Description: 2014 Upfront Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2014-06-01	600,000	360,329	239,671	120,000	120,000	119,671

<b>13</b> Description: 2015 Upfront Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2015-06-01	1,560,000	624,855	935,145	312,000	312,000	623,145

<b>14</b> Description: 2016 Upfront Loan Fees (\$2.3B of new debt)							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2016-08-15	1,438,109	288,410	1,149,699	287,622	287,622	862,077

<b>15</b> Description: 2013 Legal Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2013-01-01	701,225	561,583	139,642	140,245	139,642	

<b>16</b> Description: 2014 Legal Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2014-01-01	45,898	27,566	18,332	9,180	9,180	9,152

<b>17</b> Description: 2015 Legal Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2015-01-01	66,396	26,616	39,780	13,279	13,279	26,501

<b>18</b> Description: 2015 Legal Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2015-11-05	63,475	14,871	48,604	12,695	12,695	35,909

<b>19</b> Description: 2016 Legal Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2016-01-01	211,970	42,510	169,460	42,394	42,394	127,066

<b>20</b> Description: 2017 Upfront Fees							
Subparagraph 20(1)(e)(v) is applicable in the taxation year*	Date of expense	A Expense amount	B Amounts deductible in the preceding taxation years	C Balance before the annual expense (column A minus column B)	D 20 % of amount A x number of days in the taxation year 365 / 365	E Annual deduction (C or D, whichever is less)*	F Balance at the end of the year (column C minus column E)
<input type="checkbox"/>	2017-06-01	920,000		920,000	184,000	184,000	736,000



**Part 1 – Charitable donations**

Charity/Recipient

Amount (\$100 or more only)



100  
100  
100  
100  
200  
100  
100  
100  
100  
100  
100  
100  
100  
100  
100  
100  
100  
100  
100  
1,000  
500  
20,000  
1,000  
1,000  
650  
195  
693  
585  
1,000  
25,000  
123  
536  
156  
520  
1,300  
30,000  
50,000  
125,000  
10,000  
5,400  
4,000  
500  
500  
500

Subtotal 750,089

**Add:**Total donations of less than \$100 each

Total donations in current tax year 750,089

**Part 1 – Charitable donations**

	Federal	Québec	Alberta
Charitable donations at the end of the previous tax year	464,969 1A	464,969	464,969
Charitable donations expired after five tax years*	<b>239</b>		
Charitable donations at the beginning of the current tax year (amount 1A <b>minus</b> line 239)	464,969	464,969	464,969
Charitable donations transferred on an amalgamation or the wind-up of a subsidiary	<b>250</b>		
Total charitable donations made in the current year	<b>210</b> 750,089	750,089	750,089
Include on line 112 of Schedule 1 <i>Net Income (Loss) for Income Tax Purposes</i>			
Subtotal (line 250 <b>plus</b> line 210)	750,089 1B	750,089	750,089
Subtotal (line 240 <b>plus</b> amount 1B)	1,215,058 1C	1,215,058	1,215,058
Adjustment for an acquisition of control	<b>255</b>		
Total charitable donations available (amount 1C <b>minus</b> line 255)	1,215,058 1D	1,215,058	1,215,058
Amount applied in the current year against taxable income (cannot be more than amount 2H in Part 2)	<b>260</b>		
Enter on line 311 of the T2 return			
Charitable donations closing balance (amount 1D <b>minus</b> line 260)	<b>280</b> 1,215,058	1,215,058	1,215,058
The amount of qualifying donations for the Ontario community food program donation tax credit for farmers included in line 260 (for donations made after December 31, 2013)	<b>262</b>		
Ontario community food program donation tax credit for farmers (line 262 <b>multiplied by</b> 25 %)			1E
Enter amount 1E on line 420 of Schedule 5, <i>Tax Calculation Supplementary – Corporations</i> . The maximum amount you can claim in the current year is whichever is less: the Ontario income tax otherwise payable or amount 1E. For more information, see section 103.1.2 of the <i>Taxation Act, 2007</i> (Ontario).			
The amount of qualifying donations for the Nova Scotia food bank tax credit for farmers included in line 260 (for donations made after December 31, 2015)	<b>263</b>		
Nova Scotia food bank tax credit for farmers (line 263 <b>multiplied by</b> 25 %)			1F
Enter amount 1F on line 570 of Schedule 5, <i>Tax Calculation Supplementary – Corporations</i> . The maximum amount you can claim in the current year is whichever is less: the Nova Scotia income tax otherwise payable or amount 1F. For more information, see section 50A of the Nova Scotia <i>Income Tax Act</i> .			
The amount of qualifying gifts for the British Columbia farmers' food donation tax credit included in line 260 (for donations made after February 16, 2016 and before January 1, 2019)	<b>265</b>		
British Columbia farmers' food donation tax credit (line 265 <b>multiplied by</b> 25 %)			1G
Enter amount 1G on line 683 of Schedule 5, <i>Tax Calculation Supplementary – Corporations</i> . The maximum amount you can claim in the current year is whichever is less: the British Columbia income tax otherwise payable or amount 1G. For more information, see section 20.1 of the British Columbia <i>Income Tax Act</i> .			

\* For federal and Alberta tax purposes, donations and gifts expire after five tax years. For Québec tax purposes, donations and gifts made in a tax year that ended before March 24, 2006, expire after five tax years; otherwise, donations and gifts expire after twenty tax years.



**Amounts carried forward – Charitable donations**

Year of origin:		Federal	Québec	Alberta
1 <sup>st</sup> prior year	2016-12-31	233,603	233,603	233,603
2 <sup>nd</sup> prior year	2015-12-31	226,366	226,366	226,366
3 <sup>rd</sup> prior year	2015-11-04	5,000	5,000	5,000
4 <sup>th</sup> prior year	2015-10-31			
5 <sup>th</sup> prior year	2014-12-31			
6 <sup>th</sup> prior year*	2013-12-31			
7 <sup>th</sup> prior year	2012-12-31			
8 <sup>th</sup> prior year	2011-12-31			
9 <sup>th</sup> prior year	2010-12-31			
10 <sup>th</sup> prior year	2009-12-31			
11 <sup>th</sup> prior year	2008-12-31			
12 <sup>th</sup> prior year	2007-12-31			
13 <sup>th</sup> prior year	2006-12-31			
14 <sup>th</sup> prior year	2005-12-31			
15 <sup>th</sup> prior year	2004-12-31			
16 <sup>th</sup> prior year	2003-12-31			
17 <sup>th</sup> prior year	2002-12-31			
18 <sup>th</sup> prior year	2001-12-31			
19 <sup>th</sup> prior year	2000-12-31			
20 <sup>th</sup> prior year	1999-12-31			
21 <sup>st</sup> prior year*	1999-03-31			
<b>Total (to line A)</b>		<b>464,969</b>	<b>464,969</b>	<b>464,969</b>

\* For federal and Alberta tax purposes, donations and gifts included on line 6<sup>th</sup> prior year expire automatically in the current tax year. For Québec tax purposes, donations and gifts made in a tax year that ended before March 24, 2006, that are included on line 6<sup>th</sup> prior year and donations and gifts that are included on line 21<sup>st</sup> prior year expire automatically in the current tax year.

**Part 2 – Maximum allowable deduction for charitable donations**

Net income for tax purposes* multiplied by 75 %		2A
Taxable capital gains arising in respect of gifts of capital property included in Part 1 **	225	
Taxable capital gain in respect of a disposition of a non-qualifying security under subsection 40(1.01)	227	
The amount of the recapture of capital cost allowance in respect of charitable donations	230	
Proceeds of disposition, less outlays and expenses**	2B	
Capital cost**	2C	
Amount 2B or 2C, whichever is less	235	
Line 230 or 235, whichever is less		2D
Subtotal (add lines 225, 227 and amount 2D)		2E
Amount 2E multiplied by 25 %		2F
Subtotal (amount 2A plus amount 2F)		2G
<b>Maximum allowable deduction for charitable donations</b> (amount 1D from Part 1, amount 2G, or net income for tax purposes, whichever is less)		2H

\* For credit unions, subsection 137(2) states that this amount is before the deduction of payments pursuant to allocations in proportion to borrowing and bonus interest.

\*\* This amount must be prorated by the following calculation: eligible amount of the gift divided by the proceeds of disposition of the gift.

**Part 3 – Gifts of certified cultural property**

	Federal	Québec	Alberta
Gifts of certified cultural property at the end of the previous tax year	3A		
Gifts of certified cultural property expired after five tax years*	<b>439</b>		
Gifts of certified cultural property at the beginning of the current tax year (amount 3A minus line 439)	<b>440</b>		
Gifts of certified cultural property transferred on an amalgamation or the wind-up of a subsidiary	<b>450</b>		
Total gifts of certified cultural property in the current year	<b>410</b>		
Include on line 112 of Schedule 1			
Subtotal (line 450 plus line 410)	3B		
Subtotal (line 440 plus amount 3B)	3C		
Adjustment for an acquisition of control	<b>455</b>		
Amount applied in the current year against taxable income	<b>460</b>		
Enter on line 313 of the T2 return			
Subtotal (line 455 plus line 460)	3D		
Gifts of certified cultural property closing balance (amount 3C minus amount 3D)	<b>480</b>		

\* For federal and Alberta tax purposes, donations and gifts expire after five tax years. For Québec tax purposes, donations and gifts made in a tax year that ended before March 24, 2006, expire after five tax years; otherwise, donations and gifts expire after twenty tax years.

**Amount carried forward – Gifts of certified cultural property**

Year of origin:	Federal	Québec	Alberta
1 <sup>st</sup> prior year	2016-12-31		
2 <sup>nd</sup> prior year	2015-12-31		
3 <sup>rd</sup> prior year	2015-11-04		
4 <sup>th</sup> prior year	2015-10-31		
5 <sup>th</sup> prior year	2014-12-31		
6 <sup>th</sup> prior year*	2013-12-31		
7 <sup>th</sup> prior year	2012-12-31		
8 <sup>th</sup> prior year	2011-12-31		
9 <sup>th</sup> prior year	2010-12-31		
10 <sup>th</sup> prior year	2009-12-31		
11 <sup>th</sup> prior year	2008-12-31		
12 <sup>th</sup> prior year	2007-12-31		
13 <sup>th</sup> prior year	2006-12-31		
14 <sup>th</sup> prior year	2005-12-31		
15 <sup>th</sup> prior year	2004-12-31		
16 <sup>th</sup> prior year	2003-12-31		
17 <sup>th</sup> prior year	2002-12-31		
18 <sup>th</sup> prior year	2001-12-31		
19 <sup>th</sup> prior year	2000-12-31		
20 <sup>th</sup> prior year	1999-12-31		
21 <sup>st</sup> prior year*	1999-03-31		
<b>Total</b>			

\* For federal and Alberta tax purposes, donations and gifts included on line 6<sup>th</sup> prior year expire automatically in the current tax year. For Québec tax purposes, donations and gifts made in a tax year that ended before March 24, 2006, that are included on line 6<sup>th</sup> prior year and donations and gifts that are included on line 21<sup>st</sup> prior year expire automatically in the current tax year.

**Part 4 – Gifts of certified ecologically sensitive land**

	Federal	Québec	Alberta
Gifts of certified ecologically sensitive land at the end of the previous tax year	4A		
Gifts of certified ecologically sensitive land expired after 5 tax years, or after 10 tax years for gifts made after February 10, 2014*	<b>539</b>		
Gifts of certified ecologically sensitive land at the beginning of the current tax year (amount 4A <b>minus</b> line 539)	<b>540</b>		
Gifts of certified ecologically sensitive land transferred on an amalgamation or the wind-up of a subsidiary	<b>550</b>		
Total current-year gifts of certified ecologically sensitive land made before February 11, 2014 (include on line 112 of Schedule 1)	<b>510</b>		
Total current-year gifts of certified ecologically sensitive land made after February 10, 2014 (include on line 112 of Schedule 1)	<b>520</b>		
Subtotal ( <b>add</b> lines 550, 510, and 520)	4B		
Subtotal (line 540 <b>plus</b> amount 4B)	4C		
Adjustment for an acquisition of control	<b>555</b>		
Amount applied in the current year against taxable income (enter on line 314 of the T2 return)	<b>560</b>		
Subtotal (line 555 <b>plus</b> line 560)	4D		
Gifts of certified ecologically sensitive land closing balance (amount 4C <b>minus</b> amount 4D)	<b>580</b>		

\* For federal and Alberta tax purposes, donations and gifts made before February 11, 2014, expire after five tax years and gifts made after February 10, 2014, expire after ten tax years. For Québec tax purposes, donations and gifts made during a tax year that ended before March 24, 2006, expire after five tax years; otherwise, donation and gifts expire after twenty tax years.

**Amounts carried forward – Gifts of certified ecologically sensitive land**

Amount of carried forward gifts made on or after February 11, 2014, in the tax year including this date		Federal	Québec	Alberta
Year of origin:				
1 <sup>st</sup> prior year	2016-12-31			
2 <sup>nd</sup> prior year	2015-12-31			
3 <sup>rd</sup> prior year	2015-11-04			
4 <sup>th</sup> prior year	2015-10-31			
5 <sup>th</sup> prior year	2014-12-31			
6 <sup>th</sup> prior year*	2013-12-31			
7 <sup>th</sup> prior year	2012-12-31			
8 <sup>th</sup> prior year	2011-12-31			
9 <sup>th</sup> prior year	2010-12-31			
10 <sup>th</sup> prior year	2009-12-31			
11 <sup>th</sup> prior year*	2008-12-31			
12 <sup>th</sup> prior year	2007-12-31			
13 <sup>th</sup> prior year	2006-12-31			
14 <sup>th</sup> prior year	2005-12-31			
15 <sup>th</sup> prior year	2004-12-31			
16 <sup>th</sup> prior year	2003-12-31			
17 <sup>th</sup> prior year	2002-12-31			
18 <sup>th</sup> prior year	2001-12-31			
19 <sup>th</sup> prior year	2000-12-31			
20 <sup>th</sup> prior year	1999-12-31			
21 <sup>st</sup> prior year*	1999-03-31			
<b>Total</b>				

\* For federal and Alberta tax purposes, donations and gifts made before February 11, 2014, that are included on line 6<sup>th</sup> prior year and gifts that are included on line 11<sup>th</sup> prior year expire automatically in the current year.

The field "Amount of carried forward gifts made on or after February 11, 2014, in the tax year including this date" is used to distinguish the portion of the gifts made in the tax year straddling February 11, 2014, that expires after ten tax years, from the portion that expires in the current tax year.

For Québec tax purposes, donations and gifts made during a tax year that ended before March 24, 2006, that are included on line 6<sup>th</sup> prior year and gifts that are included on line 21<sup>st</sup> prior year expire automatically in the current tax year.

**Part 5 – Additional deduction for gifts of medicine**

	Federal	Québec	Alberta
Additional deduction for gifts of medicine at the end of the previous tax year	5A		
Additional deduction for gifts of medicine expired after five tax years* . . .	<b>639</b>		
Additional deduction for gifts of medicine at the beginning of the current tax year (amount 5A <b>minus</b> line 639)	<b>640</b>		
Additional deduction for gifts of medicine made before March 22, 2017 transferred on an amalgamation or the wind-up of a subsidiary . . . . .	<b>650</b>		
Additional deduction for gifts of medicine made before March 22, 2017:			
Proceeds of disposition . . . . .	<b>602</b>		
Cost of gifts of medicine made before March 22, 2017 . . . . .	<b>601</b>		
Subtotal (line 602 <b>minus</b> line 601)	5B		
Amount 5B <b>multiplied</b> by 50 % . . . . .	5C		
Eligible amount of gifts . . . . .	<b>600</b>		
		Additional deduction for gifts of medicine made before March 22, 2017 . . . . .	<b>610</b>
<b>Federal</b>			
a _____ x $\left( \frac{b}{c} \right)$ =			
<b>Québec</b>			
a _____ x $\left( \frac{b}{c} \right)$ =			
<b>Alberta</b>			
a _____ x $\left( \frac{b}{c} \right)$ =			
where:			
<b>a</b> is the <b>lesser</b> of line 601 and amount 5C			
<b>b</b> is the eligible amount of gifts (line 600)			
<b>c</b> is the proceeds of disposition (line 602)			
Subtotal (line 650 <b>plus</b> line 610)	5D		
Subtotal (line 640 <b>plus</b> amount 5D)	5E		
Adjustment for an acquisition of control . . . . .	<b>655</b>		
Amount applied in the current year against taxable income . . . . .	<b>660</b>		
Enter on line 315 of the T2 return			
Subtotal (line 655 <b>plus</b> line 660)	5F		
Additional deduction for gifts of medicine closing balance (amount 5E <b>minus</b> amount 5F)	<b>680</b>		

\* For federal and Alberta tax purposes, donations and gifts expire after five tax years. For Québec tax purposes, donations and gifts made in a tax year that ended before March 19, 2007, expire after five tax years; otherwise, donations and gifts expire after twenty tax years.

**Amounts carried forward – Additional deduction for gifts of medicine**

Year of origin:		Federal	Québec	Alberta
1 <sup>st</sup> prior year	2016-12-31			
2 <sup>nd</sup> prior year	2015-12-31			
3 <sup>rd</sup> prior year	2015-11-04			
4 <sup>th</sup> prior year	2015-10-31			
5 <sup>th</sup> prior year	2014-12-31			
6 <sup>th</sup> prior year*	2013-12-31			
7 <sup>th</sup> prior year	2012-12-31			
8 <sup>th</sup> prior year	2011-12-31			
9 <sup>th</sup> prior year	2010-12-31			
10 <sup>th</sup> prior year	2009-12-31			
11 <sup>th</sup> prior year	2008-12-31			
12 <sup>th</sup> prior year	2007-12-31			
13 <sup>th</sup> prior year	2006-12-31			
14 <sup>th</sup> prior year	2005-12-31			
15 <sup>th</sup> prior year	2004-12-31			
16 <sup>th</sup> prior year	2003-12-31			
17 <sup>th</sup> prior year	2002-12-31			
18 <sup>th</sup> prior year	2001-12-31			
19 <sup>th</sup> prior year	2000-12-31			
20 <sup>th</sup> prior year	1999-12-31			
21 <sup>st</sup> prior year*	1999-03-31			
<b>Total</b>				

\* For federal and Alberta tax purposes, donations and gifts included on line 6<sup>th</sup> prior year expire automatically in the current tax year. For Québec tax purposes, donations and gifts made in a tax year that ended before March 19, 2007, that are included on line 6<sup>th</sup> prior year and donations and gifts that are included on line 21<sup>st</sup> prior year expire automatically in the current tax year.

**Québec – Gifts of musical instruments**

Gifts of musical instruments at the end of the previous tax year		A
<b>Deduct:</b> Gifts of musical instruments expired after twenty tax years		B
Gifts of musical instruments at the beginning of the tax year		C
<b>Add:</b>		
Gifts of musical instruments transferred on an amalgamation or the wind-up of a subsidiary		D
Total current-year gifts of musical instruments		E
	Subtotal (line D plus line E)	F
<b>Deduct:</b> Adjustment for an acquisition of control		G
Total gifts of musical instruments available		H
<b>Deduct:</b> Amount applied against taxable income (enter this amount on line 255 of form CO-17)		I
Gifts of musical instruments closing balance		J

**Amounts carried forward – Gifts of musical instruments**

Year of origin:		Québec
1 <sup>st</sup> prior year	2016-12-31	
2 <sup>nd</sup> prior year	2015-12-31	
3 <sup>rd</sup> prior year	2015-11-04	
4 <sup>th</sup> prior year	2015-10-31	
5 <sup>th</sup> prior year	2014-12-31	
6 <sup>th</sup> prior year*	2013-12-31	
7 <sup>th</sup> prior year	2012-12-31	
8 <sup>th</sup> prior year	2011-12-31	
9 <sup>th</sup> prior year	2010-12-31	
10 <sup>th</sup> prior year	2009-12-31	
11 <sup>th</sup> prior year	2008-12-31	
12 <sup>th</sup> prior year	2007-12-31	
13 <sup>th</sup> prior year	2006-12-31	
14 <sup>th</sup> prior year	2005-12-31	
15 <sup>th</sup> prior year	2004-12-31	
16 <sup>th</sup> prior year	2003-12-31	
17 <sup>th</sup> prior year	2002-12-31	
18 <sup>th</sup> prior year	2001-12-31	
19 <sup>th</sup> prior year	2000-12-31	
20 <sup>th</sup> prior year	1999-12-31	
21 <sup>st</sup> prior year*	1999-03-31	
<b>Total</b>		

\* These gifts expired in the current year.

## Dividends Received, Taxable Dividends Paid, and Part IV Tax Calculations

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- Corporations must use this schedule to report:
  - non-taxable dividends under section 83;
  - deductible dividends under subsection 138(6);
  - taxable dividends deductible from income under section 112, subsection 113(2) and paragraphs 113(1)(a), (a.1), (b) or (d); or
  - taxable dividends paid in the tax year that qualify for a dividend refund.
- All legislative references are to the federal *Income Tax Act*.
- The calculations in this schedule apply only to private or subject corporations.
- A recipient corporation is **connected** with a payer corporation at any time in a tax year, if at that time the recipient corporation:
  - controls the payer corporation, other than because of a right referred to in paragraph 251(5)(b); or
  - owns more than 10% of the issued share capital (with full voting rights), and shares that have a fair market value of more than 10% of the fair market value of all shares of the payer corporation.
- If you need more space, continue on a separate schedule.
- File one completed copy of this schedule with your *T2 Corporation Income Tax Return*.
- Column A1 – Enter "X" if dividends received from a foreign source.
- Column F1 – Enter the amount of dividends received reported in column 240 that are elig ble.
- Column F2 – Enter the code that applies to the deduct ble taxable dividend.

### Part 1 – Dividends received in the tax year

- Do **not** include dividends received from foreign non-affiliates.
- Complete columns B, C, D, H and I **only if** the payer corporation is **connected**.

#### Important instructions to follow if the payer corporation is connected

- If your corporation's tax year-end is different than that of the **connected** payer corporation, dividends could have been received from more than one tax year of the payer corporation. If so, **use a separate line** to provide the information according to each tax year of the payer corporation.
- When completing column J and K use the **special calculations provided in the notes**.

A Name of payer corporation (from which the corporation received the dividend)	A1	B Enter 1 if payer corporation is <b>connected</b>	C Business Number of <b>connected</b> corporation	D Tax year-end of the payer corporation in which the sections 112/113 and subsection 138(6) dividends in column F were paid YYYY/MM/DD	E Non-taxable dividends under section 83
<b>200</b>		<b>205</b>	<b>210</b>	<b>220</b>	<b>230</b>
1		2			
<b>Total of column E</b> (enter amount on line 402 of Schedule 1)					



F	F1	F2	G	H	I	J	K		
Taxable dividends deductible from taxable income under section 112, subsections 113(2) and 138(6), and paragraphs 113(1)(a), (a.1),(b), or (d) <sup>note 1</sup>	Eligible dividends (included in column F)		Dividends included in column F that was received <b>before 2016</b>	Total taxable dividends paid by <b>connected</b> payer corporation (for tax year in column D)	Dividend refund of the <b>connected</b> payer corporation (for tax year in column D) <sup>note 2</sup>	Part IV tax before deductions. Dividends (from column G) received <b>before 2016 multiplied by 33 1/3%</b> <sup>note 3</sup>	Part IV tax before deductions. Dividends received <b>after 2015</b> (column F <b>minus</b> column G) <b>multiplied</b> by 38 1/3% <sup>note 4</sup>		
<b>240</b>			<b>241</b>	<b>250</b>	<b>260</b>	<b>270</b>	<b>275</b>		
1									
<b>Total of column F</b> (include this amount on line 320 of the T2 Return)						<b>Total of column J</b> (enter amount on line a in Part 2)		<b>Total of column K</b> (enter amount on line b in Part 2)	

1 If taxable dividends are received, enter the amount in column 240, but if the corporation is not subject to Part IV tax (such as a public corporation other than a subject corporation as defined in subsection 186(3)), enter "0" in column 270 or column 275 as applicable according to the date received. Life insurers are not subject to Part IV tax on subsection 138(6) dividends.

2 If the connected payer corporation's tax year ends after the corporation's balance-due day for the tax year (two or three months, as applicable), you have to estimate the payer's dividend refund when you calculate the corporation's Part IV tax payable.

3 For dividends received **before 2016** from **connected** corporations, Part IV tax on dividends is equal to: column G **multiplied** by column I **divided** by column H.

4 For dividends received **after 2015** from **connected** corporations, Part IV tax on dividends is equal to: column I **divided** by column H **multiplied** by the result of column F **minus** column G.

**Part 2 – Calculation of Part IV tax payable**

Part IV tax on dividends received **before 2016**, before deductions (total of column J in part 1) ..... a

Part IV tax on dividends received **after 2015**, before deductions (total of column K in part 1) ..... b

Part IV tax before deductions (amount a **plus** amount b) ..... **L**

**Deduct:**

Part IV tax payable on dividends subject to Part IV tax (from line 360 of Schedule 43) ..... **320**

Subtotal (amount L **minus** line 320) ..... **M**

**Deduct:**

Current-year non-capital loss claimed to reduce Part IV tax ..... **330** c

Non-capital losses from previous years claimed to reduce Part IV tax ..... **335** d

Current-year farm loss claimed to reduce Part IV tax ..... **340** e

Farm losses from previous years claimed to reduce Part IV tax ..... **345** f

Total losses applied against Part IV tax (total of amounts c to f) ..... g

**If your tax year begins after December 31, 2015:**

Amount g **multiplied** by 38 1 / 3 % ..... h

**If your tax year begins before January 1, 2016:**

Amount b or M whichever is less

\_\_\_\_\_ ÷ 38 1 / 3 % ... = \_\_\_\_\_ 1

Amount 1 or g, whichever is less ..... 2

Amount g **minus** amount 2 ..... 3

Amount 2 \_\_\_\_\_ x 38 1 / 3 % = \_\_\_\_\_ i

Amount 3 \_\_\_\_\_ x 33 1 / 3 % = \_\_\_\_\_ j

Subtotal (amount i **plus** amount j) ..... k

Amount h or amount k, whichever applies depending on your tax year start date ..... **N**

**Part IV tax payable** (amount M **minus** amount N, if negative enter "0") ..... **360**

(enter amount on line 712 of the T2 return)

**Part 3 – Taxable dividends paid in the tax year that qualify for a dividend refund**

If your corporation's tax year-end is different than that of the connected recipient corporation, your corporation could have paid dividends in more than one tax year of the recipient corporation. If so, use a separate line to provide the information according to each tax year of the recipient corporation.

	O Name of connected recipient corporation	P Business Number	Q Tax year-end of connected recipient corporation in which the dividends in column R were received YYYY/MM/DD	R Taxable dividends paid to connected corporations	R1 Eligible dividends (included in column R)
1	Hydro One Inc.	[REDACTED]	2017-12-31	1,500,000	1,500,000
<b>Total of column R</b>				<u>1,500,000</u>	
Total taxable dividends paid in the tax year to other than connected corporations				<b>450</b>	
Eligible dividends (included in line 450)				450a	
<b>Total taxable dividends paid in the tax year that qualify for a dividend refund</b> (total of column R plus line 450)				<b>460</b>	<u>1,500,000</u>

**Part 4 – Total dividends paid in the tax year**

Complete this part if the total taxable dividends paid in the tax year that qualify for a dividend refund (line 460) is different from the total dividends paid in the tax year.

Total taxable dividends paid in the tax year for the purposes of a dividend refund (from above)	<u>1,500,000</u>
Other dividends paid in the tax year (total of 510 to 540)	
<b>Total dividends paid in the tax year</b>	<b>500</b> <u>1,500,000</u>

**Deduct:**

Dividends paid out of capital dividend account	<b>510</b>	
Capital gains dividends	<b>520</b>	
Dividends paid on shares described in subsection 129(1.2)	<b>530</b>	
Taxable dividends paid to a controlling corporation that was bankrupt at any time in the year	<b>540</b>	
Subtotal (total of lines 510 to 540)		▶ <u>S</u>
<b>Total taxable dividends paid in the tax year that qualify for a dividend refund (Line 500 minus amount S)</b>		<u>1,500,000</u> T

## Corporation Loss Continuity and Application

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- Use this form to determine the continuity and use of available losses; to determine a current-year non-capital loss, farm loss, restricted farm loss, or limited partnership loss; to determine the amount of restricted farm loss and limited partnership loss that can be applied in a year; and to ask for a loss carryback to previous years.
- A corporation can choose whether or not to deduct an available loss from income in a tax year. The corporation can deduct losses in any order. However, for each type of loss, deduct the oldest loss first.
- According to subsection 111(4) of the *Income Tax Act*, when control has been acquired, no amount of capital loss incurred for a tax year ending before that time is deductible in computing taxable income in a tax year ending after that time. Also, no amount of capital loss incurred in a tax year ending after that time is deductible in computing taxable income of a tax year ending before that time.
- When control has been acquired, subsection 111(5) provides for similar treatment of non-capital and farm losses, except as listed in paragraphs 111(5)(a) and (b).
- For information on these losses, see the *T2 Corporation – Income Tax Guide*.
- File one completed copy of this schedule with the T2 return, or send the schedule by itself to the tax centre where the return is filed.
- All legislative references are to the *Income Tax Act*.

### Part 1 – Non-capital losses

#### Determination of current-year non-capital loss

Net income (loss) for income tax purposes -120,276,804 A

**Deduct:** (increase a loss)

Net capital losses deducted in the year (enter as a positive amount) <span style="float: right;">a</span>		_____
Taxable dividends deductible under section 112 or subsections 113(1) or 138(6) <span style="float: right;">b</span>		_____
Amount of Part VI.1 tax deductible under paragraph 110(1)(k) <span style="float: right;">c</span>		_____
Amount deductible as prospector's and grubstaker's shares – Paragraph 110(1)(d.2) <span style="float: right;">d</span>		_____
Subtotal (total of amounts a to d) <span style="float: right;">B</span>		_____
Subtotal (amount A <b>minus</b> amount B; if positive, enter "0") <span style="float: right;">C</span>		-120,276,804

**Deduct:** (increase a loss)

Section 110.5 or subparagraph 115(1)(a)(vii) – Addition for foreign tax deductions <span style="float: right;">D</span>		_____
Subtotal (amount C <b>minus</b> amount D) <span style="float: right;">E</span>		-120,276,804

**Add:** (decrease a loss)

Current-year farm loss (the lesser of: the net loss from farming or fishing included in income and the non-capital loss before deducting the farm loss) <span style="float: right;">F</span>		_____
Current-year non-capital loss (amount E <b>plus</b> amount F; if positive, enter "0") <span style="float: right;">G</span>		-120,276,804

If amount G is negative, enter it on line 110 as a positive.

#### Continuity of non-capital losses and request for a carryback

Non-capital loss at the end of the previous tax year <span style="float: right;">e</span>	771,066,327		_____
<b>Deduct:</b> Non-capital loss expired (note 1) <span style="float: right;">f</span>	100		_____
Non-capital losses at the beginning of the tax year (amount e <b>minus</b> amount f) <span style="float: right;">H</span>	102	771,066,327	771,066,327

**Add:**

Non-capital losses transferred on an amalgamation or on the wind-up of a subsidiary (note 2) corporation <span style="float: right;">g</span>	105		_____
Current-year non-capital loss (from amount G) <span style="float: right;">h</span>	110	120,276,804	_____
Subtotal (amount g <b>plus</b> amount h) <span style="float: right;">I</span>	120,276,804	_____	120,276,804
Subtotal (amount H <b>plus</b> amount I) <span style="float: right;">J</span>		_____	891,343,131

Note 1: A non-capital loss expires as follows:

- after **10** tax years if it arose in a tax year ending after March 22, 2004, and before 2006; and
- after **20** tax years if it arose in a tax year ending after 2005.

An allowable business investment loss becomes a net capital loss after **10** tax years if it arose in a tax year ending after March 22, 2004.

Note 2: Subsidiary is defined in subsection 88(1) as a taxable Canadian corporation of which 90% or more of each class of issued shares are owned by its parent corporation and the remaining shares are owned by persons that deal at arm's length with the parent corporation.

**Part 1 – Non-capital losses (continued)**

<b>Deduct:</b>	
Other adjustments (includes adjustments for an acquisition of control)	150 i
Section 80 – Adjustments for forgiven amounts	140 j
Subsection 111(10) – Adjustments for fuel tax rebate	j.1
Non-capital losses of previous tax years applied in the current tax year	130 k
Enter amount k on line 331 of the T2 Return.	
Current and previous year non-capital losses applied against current-year taxable dividends subject to Part IV tax (note 3)	135 l
Subtotal (total of amounts i to l) <b>K</b>	
Non-capital losses before any request for a carryback (amount J minus amount K) <u>891,343,131</u> <b>L</b>	
<b>Deduct – Request to carry back non-capital loss to:</b>	
First previous tax year to reduce taxable income	901 m
Second previous tax year to reduce taxable income	902 n
Third previous tax year to reduce taxable income	903 o
First previous tax year to reduce taxable dividends subject to Part IV tax	911 p
Second previous tax year to reduce taxable dividends subject to Part IV tax	912 q
Third previous tax year to reduce taxable dividends subject to Part IV tax	913 r
Total of requests to carry back non-capital losses to previous tax years (total of amounts m to r) <b>M</b>	
Closing balance of non-capital losses to be carried forward to future tax years (amount L minus amount M) <u>180</u> <u>891,343,131</u> <b>N</b>	
Note 3: Amount l is the total of lines 330 and 335 from Schedule 3, <i>Dividends Received, Taxable Dividends Paid, and Part IV Tax Calculation</i> .	

**Part 2 – Capital losses**

<b>Continuity of capital losses and request for a carryback</b>	
Capital losses at the end of the previous tax year	200 a
Capital losses transferred on an amalgamation or on the wind-up of a subsidiary corporation	205 b
Subtotal (amount a plus amount b) <b>A</b>	
<b>Deduct:</b>	
Other adjustments (includes adjustments for an acquisition of control)	250 c
Section 80 – Adjustments for forgiven amounts	240 d
Subtotal (amount c plus amount d) <b>B</b>	
Subtotal (amount A minus amount B) <b>C</b>	
<b>Add:</b> Current-year capital loss (from the calculation on Schedule 6, <i>Summary of Dispositions of Capital Property</i> )	210 117,088 <b>D</b>
Unused non-capital losses that expired in the tax year (note 4)	e
Allowable business investment losses (ABILs) that expired as non-capital losses at the end of the previous tax year (note 5)	f
Enter amount e or f, whichever is less	215 g
ABILs expired as non-capital losses: line 215 multiplied by 2.000000	220 <b>E</b>
Subtotal (total of amounts C to E) <u>117,088</u> <b>F</b>	
<b>Note</b>	
If there has been an amalgamation or a wind-up of a subsidiary, do a separate calculation of the ABIL expired as non-capital loss for each predecessor or subsidiary corporation. Add all these amounts and enter the total on line 220 above.	
Note 4: If the loss was incurred in a tax year ending after March 22, 2004, determine the amount of the loss from the 11th previous tax year and enter the part of that loss that was not used in previous years and the current year on line e.	
Note 5: If the ABILs were incurred in a tax year ending after March 22, 2004, enter the amount of the ABILs from the 11th previous tax year. Enter the full amount on line f.	

**Part 2 – Capital losses (continued)**

**Deduct:** Capital losses from previous tax years applied against the current-year net capital gain (note 6) ..... **225** \_\_\_\_\_ G  
 Capital losses before any request for a carryback (amount F **minus** amount G) ..... 117,088 H

**Deduct – Request to carry back capital loss to** (note 7):

	Capital gain (100%)	Amount carried back (100%)	
First previous tax year .....	<b>951</b>	_____	h
Second previous tax year .....	<b>952</b>	_____	i
Third previous tax year .....	<b>953</b>	_____	j
	Subtotal (total of amounts h to j) .....		I
	Closing balance of capital losses to be carried forward to future tax years (amount H <b>minus</b> amount I) <b>280</b>		<u>117,088</u> J

Note 6: To get the net capital losses required to reduce the taxable capital gain included in the net income (loss) for the current-year tax, enter the amount from line 225 **divided** by 2 at line 332 of the T2 return.

Note 7: On line 225, 951, 952, or 953, whichever applies, enter the actual amount of the loss. When the loss is applied, divide this amount by 2. The result represents the 50% inclusion rate.

**Part 3 – Farm losses**

**Continuity of farm losses and request for a carryback**

Farm losses at the end of the previous tax year ..... a  
**Deduct:** Farm loss expired (note 8) ..... **300** b  
 Farm losses at the beginning of the tax year (amount a **minus** amount b) ..... **302** A

**Add:**

Farm losses transferred on an amalgamation or on the wind-up of a subsidiary corporation ... **305** c  
 Current-year farm loss (amount F in Part 1) ..... **310** d  
 Subtotal (amount c **plus** amount d) ..... B  
 Subtotal (amount A **plus** amount B) ..... C

**Deduct:**

Other adjustments (includes adjustments for an acquisition of control) ..... **350** e  
 Section 80 – Adjustments for forgiven amounts ..... **340** f  
 Farm losses of previous tax years applied in the current tax year ..... **330** g  
 Enter amount g on line 334 of the T2 Return.  
 Current and previous year farm losses applied against current-year taxable dividends subject to Part IV tax (note 9) ..... **335** h  
 Subtotal (total of amounts e to h) ..... D  
 Farm losses before any request for a carryback (amount C **minus** amount D) ..... E

**Deduct – Request to carry back farm loss to:**

First previous tax year to reduce taxable income .....	<b>921</b>	_____	i
Second previous tax year to reduce taxable income .....	<b>922</b>	_____	j
Third previous tax year to reduce taxable income .....	<b>923</b>	_____	k
First previous tax year to reduce taxable dividends subject to Part IV tax .....	<b>931</b>	_____	l
Second previous tax year to reduce taxable dividends subject to Part IV tax .....	<b>932</b>	_____	m
Third previous tax year to reduce taxable dividends subject to Part IV tax .....	<b>933</b>	_____	n
	Subtotal (total of amounts i to n) .....		F
	Closing balance of farm losses to be carried forward to future tax years (amount E <b>minus</b> amount F) <b>380</b>		<u>_____</u> G

Note 8: A farm loss expires as follows:  
 • after **10** tax years if it arose in a tax year ending before 2006; and  
 • after **20** tax years if it arose in a tax year ending after 2005.

Note 9: Amount h is the total of lines 340 and 345 from Schedule 3.

**Part 4 – Restricted farm losses**

**Current-year restricted farm loss**

Total losses for the year from farming business	485	A
<b>Minus</b> the deductible farm loss:		
(amount A above _____ – \$2,500) divided by 2 = _____ a		
Amount a or \$ 15,000 (note 10), whichever is less	2,500	b
	2,500	c
Subtotal (amount b plus amount c)	2,500	B
Current-year restricted farm loss (amount A minus amount B)		C

**Continuity of restricted farm losses and request for a carryback**

Restricted farm losses at the end of the previous tax year		d
<b>Deduct:</b> Restricted farm loss expired (note 11)	400	e
Restricted farm losses at the beginning of the tax year (amount d minus amount e)	402	D
<b>Add:</b>		
Restricted farm losses transferred on an amalgamation or on the wind-up of a subsidiary corporation	405	f
Current-year restricted farm loss (from amount C)	410	g
Enter amount g on line 233 of Schedule 1, <i>Net Income (Loss) for Income Tax Purposes</i> .		
Subtotal (amount f plus amount g)		E
Subtotal (amount D plus amount E)		F

**Deduct:**

Restricted farm losses from previous tax years applied against current farming income	430	h
Enter amount h on line 333 of the T2 return.		
Section 80 – Adjustments for forgiven amounts	440	i
Other adjustments	450	j
Subtotal (total of amounts h to j)		G
Restricted farm losses before any request for a carryback (amount F minus amount G)		H

**Deduct – Request to carry back restricted farm loss to:**

First previous tax year to reduce farming income	941	k
Second previous tax year to reduce farming income	942	l
Third previous tax year to reduce farming income	943	m
Subtotal (total of amounts k to m)		I
Closing balance of restricted farm losses to be carried forward to future tax years (amount H minus amount I)	480	J

**Note**

The total losses for the year from all farming businesses are calculated without including scientific research expenses.

Note 10: For tax years that end before March 21, 2013, use \$6,250 instead of \$15,000.

Note 11: A restricted farm loss expires as follows:

- after 10 tax years if it arose in a tax year ending before 2006; and
- after 20 tax years if it arose in a tax year ending after 2005.

**Part 5 – Listed personal property losses**

**Continuity of listed personal property loss and request for a carryback**

Listed personal property losses at the end of the previous tax year ..... a  
**Deduct:** Listed personal property loss expired after 7 tax years ..... **500** ..... b  
Listed personal property losses at the beginning of the tax year (amount a **minus** amount b) ... **502** ..... **A**  
**Add:** Current-year listed personal property loss (from Schedule 6) ..... **510** ..... **B**  
Subtotal (amount A **plus** amount B) ..... **C**

**Deduct:**  
Listed personal property losses from previous tax years applied against listed personal property gains ..... **530** ..... c  
Enter amount c on line 655 of Schedule 6.  
Other adjustments ..... **550** ..... d  
Subtotal (amount c **plus** amount d) ..... **D**  
Listed personal property losses remaining before any request for a carryback (amount C **minus** amount D) ..... **E**

**Deduct – Request to carry back listed personal property loss to:**

First previous tax year to reduce listed personal property gains ..... **961** ..... e  
Second previous tax year to reduce listed personal property gains ..... **962** ..... f  
Third previous tax year to reduce listed personal property gains ..... **963** ..... g  
Subtotal (total of amounts e to g) ..... **F**  
Closing balance of listed personal property losses to be carried forward to future tax years (amount E **minus** amount F) **580** ..... **G**

**Part 7 – Limited partnership losses**

**Current-year limited partnership losses**

1	2	3	4	5	6	7
Partnership account number	Tax year ending yyyy/mm/dd	Corporation's share of limited partnership loss	Corporation's at-risk amount	Total of corporation's share of partnership investment tax credit, farming losses, and resource expenses	Column 4 <b>minus</b> column 5 (if negative, enter "0")	Current-year limited partnership losses (column 3 <b>minus</b> column 6)
<b>600</b>	<b>602</b>	<b>604</b>	<b>606</b>	<b>608</b>		<b>620</b>

1.

**Total** (enter this amount on line 222 of Schedule 1)

**Limited partnership losses from previous tax years that may be applied in the current year**

1	2	3	4	5	6	7
Partnership account number	Tax year ending yyyy/mm/dd	Limited partnership losses at the end of the previous tax year and amounts transferred on an amalgamation or on the wind-up of a subsidiary	Corporation's at-risk amount	Total of corporation's share of partnership investment tax credit, business or property losses, and resource expenses	Column 4 <b>minus</b> column 5 (if negative, enter "0")	Limited partnership losses that may be applied in the year (the lesser of columns 3 and 6)
<b>630</b>	<b>632</b>	<b>634</b>	<b>636</b>	<b>638</b>		<b>650</b>

1.

**Continuity of limited partnership losses that can be carried forward to future tax years**

1	2	3	4	5	6
Partnership account number	Limited partnership losses at the end of the previous tax year	Limited partnership losses transferred in the year on an amalgamation or on the wind-up of a subsidiary	Current-year limited partnership losses (from line 620)	Limited partnership losses applied in the current year (must be equal to or less than line 650)	Current year limited partnership losses closing balance to be carried forward to future years (column 2 <b>plus</b> column 3 <b>plus</b> column 4 <b>minus</b> column 5)
<b>660</b>	<b>662</b>	<b>664</b>	<b>670</b>	<b>675</b>	<b>680</b>

1.

**Total** (enter this amount on line 335 of the T2 return)

**Note**

If you need more space, you can attach more schedules.

**Part 8 – Election under paragraph 88(1.1)(f)**

If you are making an election under paragraph 88(1.1)(f), check the box  **190** Yes

In the case of the wind-up of a subsidiary, if the election is made, the non-capital loss, restricted farm loss, farm loss, or limited partnership loss of the subsidiary—that otherwise would become the loss of the parent corporation for a particular tax year starting after the wind-up began—will be considered as the loss of the parent corporation for its immediately preceding tax year and not for the particular year.

**Note**

This election is only applicable for wind-ups under subsection 88(1) that are reported on Schedule 24, *First-Time Filer after Incorporation, Amalgamation, or Winding-up of a Subsidiary into a Parent*.



# Non-Capital Loss Continuity Workchart

## Part 6 – Analysis of balance of losses by year of origin

### Non-capital losses – losses that can be carried forward over 20 years

Year of origin	Balance at beginning of year	Loss incurred in current year	Adjustments and transfers	Loss carried back Parts I & IV	Applied to reduce		Balance at end of year
					Taxable income	Part IV tax	
Current	N/A	120,276,804			N/A		120,276,804
1st preceding taxation year 2016-12-31	549,209,136	N/A		N/A			549,209,136
2nd preceding taxation year 2015-12-31	219,765,360	N/A		N/A			219,765,360
3rd preceding taxation year 2015-11-04	2,091,831	N/A		N/A			2,091,831
4th preceding taxation year 2015-10-31		N/A		N/A			
5th preceding taxation year 2014-12-31		N/A		N/A			
6th preceding taxation year 2013-12-31		N/A		N/A			
7th preceding taxation year 2012-12-31		N/A		N/A			
8th preceding taxation year 2011-12-31		N/A		N/A			
9th preceding taxation year 2010-12-31		N/A		N/A			
10th preceding taxation year 2009-12-31		N/A		N/A			
11th preceding taxation year 2008-12-31		N/A		N/A			
12th preceding taxation year 2007-12-31		N/A		N/A			
13th preceding taxation year 2006-12-31		N/A		N/A			
14th preceding taxation year 2005-12-31		N/A		N/A			
15th preceding taxation year 2004-12-31		N/A		N/A			
16th preceding taxation year 2003-12-31		N/A		N/A			
17th preceding taxation year 2002-12-31		N/A		N/A			
18th preceding taxation year 2001-12-31		N/A		N/A			
19th preceding taxation year 2000-12-31		N/A		N/A			
20th preceding taxation year 1999-12-31		N/A		N/A			*
<b>Total</b>	771,066,327	120,276,804					891,343,131

\* This balance expires this year and will not be available next year.

## Tax Calculation Supplementary – Corporations

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business Number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- Use this schedule if, during the tax year, your corporation:
  - had a permanent establishment in more than one jurisdiction (corporations that have no taxable income should only complete columns A, B and D in Part 1);
  - is claiming provincial or territorial tax credits or rebates (see Part 2); or
  - has to pay taxes, other than income tax, for Newfoundland and Labrador, or Ontario (see Part 2).
- All legislative references to the *Income Tax Regulations*.
- For more information, see the *T2 Corporation – Income Tax Guide*.
- Enter the regulation number in field 100 of Part 1.

### Part 1 – Allocation of taxable income

<b>100</b>	Enter the Regulation that applies (402 to 413).				
A Jurisdiction Tick yes if the corporation had a permanent establishment in the jurisdiction during the tax year.*	B Total salaries and wages paid in jurisdiction	C (B x taxable income) / G	D Gross revenue	E (D x taxable income) / H	F Allocation of taxable income (C + E) x 1/2** (where either G or H is nil, do not multiply by 1/2)
Newfoundland and Labrador 003 1 Yes <input type="checkbox"/>	103		143		
Newfoundland and Labrador Offshore 004 1 Yes <input type="checkbox"/>	104		144		
Prince Edward Island 005 1 Yes <input type="checkbox"/>	105		145		
Nova Scotia 007 1 Yes <input type="checkbox"/>	107		147		
Nova Scotia Offshore 008 1 Yes <input type="checkbox"/>	108		148		
New Brunswick 009 1 Yes <input type="checkbox"/>	109		149		
Quebec 011 1 Yes <input type="checkbox"/>	111		151		
Ontario 013 1 Yes <input type="checkbox"/>	113		153		
Manitoba 015 1 Yes <input type="checkbox"/>	115		155		
Saskatchewan 017 1 Yes <input type="checkbox"/>	117		157		
Alberta 019 1 Yes <input type="checkbox"/>	119		159		
British Columbia 021 1 Yes <input type="checkbox"/>	121		161		
Yukon 023 1 Yes <input type="checkbox"/>	123		163		
Northwest Territories 025 1 Yes <input type="checkbox"/>	125		165		
Nunavut 026 1 Yes <input type="checkbox"/>	126		166		
Outside Canada 027 1 Yes <input type="checkbox"/>	127		167		
<b>Total</b>	<b>129</b>	<b>G</b>	<b>169</b>	<b>H</b>	

\* "Permanent establishment" is defined in subsection 400(2).

\*\* For corporations other than those described under section 402, use the appropriate calculation described in the Regulations to allocate taxable income.

**Notes:**

1. After determining the allocation of taxable income, you have to calculate the corporation's provincial or territorial tax payable. For more information on how to calculate the tax for each province or territory, see the instructions for Schedule 5 in the *T2 Corporation – Income Tax Guide*.
2. If the corporation has provincial or territorial tax payable, complete Part 2.
3. If the corporation is a member of a partnership and the partnership had a permanent establishment in a jurisdiction, select the jurisdiction in Column A and include your proportionate share of the partnership's salaries and wages and gross revenue in columns B and D, respectively.

**Part 2 – Ontario tax payable, tax credits, and rebates**

Total taxable income	Income eligible for small business deduction	Provincial or territorial allocation of taxable income	Provincial or territorial tax payable before credits
<b>Ontario basic income tax</b> (from Schedule 500)			<b>270</b>
Ontario small business deduction (from Schedule 500)			<b>402</b>
Subtotal (line 270 <b>minus</b> line 402)			<b>5A</b>
Ontario additional tax re Crown royalties (from Schedule 504)			<b>274</b>
Ontario transitional tax debits (from Schedule 506)			<b>276</b>
Recapture of Ontario research and development tax credit (from Schedule 508)			<b>277</b>
Subtotal (total of lines 274 to 277)			<b>5B</b>
Gross Ontario tax (amount 5A <b>plus</b> amount 5B)			<b>5C</b>
Ontario resource tax credit (from Schedule 504)			<b>404</b>
Ontario tax credit for manufacturing and processing (from Schedule 502)			<b>406</b>
Ontario foreign tax credit (from Schedule 21)			<b>408</b>
Ontario credit union tax reduction (from Schedule 500)			<b>410</b>
Ontario political contributions tax credit (from Schedule 525)			<b>415</b>
Ontario non-refundable tax credits (total of lines 404 to 415)			<b>5D</b>
Subtotal (amount 5C <b>minus</b> amount 5D) (if negative, enter "0")			<b>5E</b>
Ontario research and development tax credit (from Schedule 508)			<b>416</b>
Ontario corporate income tax payable before Ontario corporate minimum tax credit and Ontario community food program donation tax credit for farmers (amount 5E <b>minus</b> line 416) (if negative, enter "0")			<b>5F</b>
Ontario corporate minimum tax credit (from Schedule 510)			<b>418</b>
Ontario community food program donation tax credit for farmers (from Schedule 2)			<b>420</b>
Ontario corporate income tax payable (amount 5F <b>minus</b> the total of lines 418 and 420) (if negative enter "0")			<b>5G</b>
Ontario corporate minimum tax (from Schedule 510)			<b>278</b> 20,619,297
Ontario special additional tax on life insurance corporations (from Schedule 512)			<b>280</b>
Subtotal (line 278 <b>plus</b> line 280)			<b>20,619,297</b> <b>5H</b>
Total Ontario tax payable before refundable tax credits (amount 5G <b>plus</b> amount 5H)			<b>20,619,297</b> <b>5I</b>
Ontario qualifying environmental trust tax credit			<b>450</b>
Ontario co-operative education tax credit (from Schedule 550)			<b>452</b> 1,132,725
Ontario apprenticeship training tax credit (from Schedule 552)			<b>454</b> 4,074,756
Ontario computer animation and special effects tax credit (from Schedule 554)			<b>456</b>
Ontario film and television tax credit (from Schedule 556)			<b>458</b>
Ontario production services tax credit (from Schedule 558)			<b>460</b>
Ontario interactive digital media tax credit (from Schedule 560)			<b>462</b>
Ontario sound recording tax credit (from Schedule 562)			<b>464</b>
Ontario book publishing tax credit (from Schedule 564)			<b>466</b>
Ontario innovation tax credit (from Schedule 566)			<b>468</b>
Ontario business-research institute tax credit (from Schedule 568)			<b>470</b> 31,100
Ontario refundable tax credits (total of lines 450 to 470)			<b>5,238,581</b> <b>5J</b>
<b>Net Ontario tax payable or refundable tax credit</b> (amount 5I <b>minus</b> amount 5J) (if a credit, enter a negative amount) Include this amount on line 255.			<b>290</b> <b>15,380,716</b>

**Summary**

Enter the total net tax payable or refundable tax credits for all provinces and territories on line 255.

**Net provincial and territorial tax payable or refundable tax credits** **255** **15,380,716**

If the amount on line 255 is positive, enter the net provincial and territorial tax payable on line 760 of the T2 return.

If the amount on line 255 is negative, enter the net provincial and territorial refundable tax credits on line 812 of the T2 return.

### Summary of Dispositions of Capital Property

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- Use this schedule if your corporation disposed of (actual or deemed) capital property or claimed an allowable business investment loss (ABIL), or both, in the tax year.
- Also use this schedule to make a designation under paragraph 111(4)(e) of the *Income Tax Act* if control of the corporation has been acquired by a person or a group of persons.
- For more information, see the section called "Schedule 6, Summary of Dispositions of Capital Property" in Guide T4012, *T2 Corporation – Income Tax Guide*.

#### Designation under paragraph 111(4)(e) of the Income Tax Act

Are any dispositions shown on this schedule related to deemed dispositions designated under paragraph 111(4)(e)? . . . . . **050** 1 Yes  2 No

If **yes**, attach a statement specifying which properties such a designation applies to.

#### Part 1 – Shares

1 Number of shares	2 Name of corporation in which the shares are held	3 Class of shares	4 Date of Acquisition YYYY/MM/DD	5 Proceeds of disposition	6 Adjusted cost base	7 Outlays and expenses from disposition	8 Gain (or loss) (column 5 minus columns 6 and 7)	Foreign source
<b>100</b>	<b>105</b>	<b>106</b>	<b>110</b>	<b>120</b>	<b>130</b>	<b>140</b>	<b>150</b>	
<b>Totals</b>								
Total adjustment under subsection 112(3) of the Act to all losses identified in Part 1							<b>160</b>	
Actual gain or loss from the disposition of shares (total of column 8 plus line 160)								<b>A</b>

#### Part 2 – Real estate (Do not include losses on depreciable property)

1 Municipal address of real estate 1 = Address 1 2 = Address 2 3 = City 4 = Province, Country, Postal Code and Zip Code or Foreign Postal Code	2 Date of Acquisition YYYY/MM/DD	3 Proceeds of disposition	4 Adjusted cost base	5 Outlays and expenses from disposition	6 Gain (or loss) (column 3 minus columns 4 and 5)	Foreign source
<b>200</b>	<b>210</b>	<b>220</b>	<b>230</b>	<b>240</b>	<b>250</b>	
1	2015-09-08	296,900	320,000	17,112	-40,212	
2	2016-10-19	286,800	297,500	16,303	-27,003	
3	2016-12-13	945,000	942,500	52,373	-49,873	
<b>Totals</b>		<b>1,528,700</b>	<b>1,560,000</b>	<b>85,788</b>	<b>-117,088</b>	<b>B</b>

#### Part 3 – Bonds

1 Face value of bonds	2 Maturity date YYYY/MM/DD	3 Name of bond issuer	4 Date of Acquisition YYYY/MM/DD	5 Proceeds of disposition	6 Adjusted cost base	7 Outlays and expenses from disposition	8 Gain (or loss) (column 5 minus columns 6 and 7)	Foreign source
<b>300</b>	<b>305</b>	<b>307</b>	<b>310</b>	<b>320</b>	<b>330</b>	<b>340</b>	<b>350</b>	
<b>Totals</b>								<b>C</b>

**Part 4 – Other properties (Do not include losses on depreciable property)**

1 Description of other property	2 Date of Acquisition YYYY/MM/DD	3 Proceeds of disposition	4 Adjusted cost base	5 Outlays and expenses from disposition	6 Gain (or loss) (column 3 minus columns 4 and 5)	Foreign source
<b>400</b>	<b>410</b>	<b>420</b>	<b>430</b>	<b>440</b>	<b>450</b>	
<b>Totals</b>						<b>D</b>

**Note**  
Other property includes capital debts established as bad debts, as well as amounts that arise from foreign currency transactions.

**Part 5 – Personal-use property (Do not include listed personal property)**

1 Description of personal-use property	2 Date of Acquisition YYYY/MM/DD	3 Proceeds of disposition	4 Adjusted cost base	5 Outlays and expenses from disposition	6 Gain only (column 3 minus columns 4 and 5; if negative, enter "0")	Foreign source
<b>500</b>	<b>510</b>	<b>520</b>	<b>530</b>	<b>540</b>	<b>550</b>	
<b>Totals</b>						<b>E</b>

**Note**  
You cannot deduct losses on dispositions of personal-use property (other than listed personal property) from your income.

**Part 6 – Listed personal property**

1 Description of listed personal property	2 Date of Acquisition YYYY/MM/DD	3 Proceeds of disposition	4 Adjusted cost base	5 Outlays and expenses from disposition	6 Gain (or loss) (column 3 minus columns 4 and 5)	Foreign source
<b>600</b>	<b>610</b>	<b>620</b>	<b>630</b>	<b>640</b>	<b>650</b>	
<b>Totals</b>						

**Deduct:** Unapplied listed personal property losses from other years (amount from line 530 of Schedule 4, *Corporation Loss Continuity and Application*) ..... **655**  
 Net gains (or losses) from the disposition of listed personal property (total of column 6 minus line 655) ..... **F**

**Note**  
Net listed personal property losses can only be applied against listed personal property gains.

**Part 7 – Property qualifying for and resulting in an allowable business investment loss**

1 Name of small business corporation	2 Shares, enter 1; debt, enter 2	3 Date of Acquisition YYYY/MM/DD	4 Proceeds of disposition	5 Adjusted cost base	6 Outlays and expenses from disposition	7 Loss only (column 4 minus columns 5 and 6)	Foreign source
<b>900</b>	<b>905</b>	<b>910</b>	<b>920</b>	<b>930</b>	<b>940</b>	<b>950</b>	
<b>Totals</b>							

Allowable business investment losses (ABILs) ..... Total of Column 7 \_\_\_\_\_ x 50.0000 % = **G**  
 Enter amount G on line 406 of Schedule 1, *Net Income (Loss) for Income Tax Purposes*.

**Note**  
Properties listed in Part 7 should not be included in any other parts of this schedule.

**Part 8 – Capital gains or losses**

Total of amounts A to F (do not include amount F if it is a loss)	-117,088	H
<b>Add:</b>		Foreign source <input type="checkbox"/>
Capital gains dividend received in the year	875	I <input type="checkbox"/>
Capital gains reserve opening balance (from Part 1 of Schedule 13, <i>Continuity of Reserves</i> , enter the amount from line 8, <i>Balance at the beginning of the year plus</i> the amount from line 9, <i>Transfer on an amalgamation or the wind-up of a subsidiary</i> )	880	J
Subtotal (total of amounts H to J)	-117,088	K
<b>Deduct:</b> Capital gains reserve closing balance (from Schedule 13)	885	L
Capital gains or losses, excluding ABILs (amount K <b>minus</b> amount L)	890	M

**Part 9 – Taxable capital gains and total capital losses**

Capital gains or losses, excluding ABILs (amount from line 890 in Part 8)	-117,088	N
<b>Deduct</b> the following amounts included in amount N, that are subject to the zero inclusion rate:		
<b>Note</b> When a taxpayer is entitled to an advantage in respect of a donation, the zero inclusion rate is restricted to only part of the taxpayer's capital gain on disposition of the property. See section 38.2 of the Act for more information.		
Gain on the donation to a qualified donee of a share, debt obligation, or right listed on a designated stock exchange and other securities under subparagraphs 38(a.1)(i) and (iii) of the Act	[REDACTED]	a <input type="checkbox"/>
Gain on the donation to a qualified donee of ecologically sensitive land under paragraph 38(a.2) of the Act*	896	b <input type="checkbox"/>
<b>Exempt</b> portion of the gain on the donation of securities arising from the exchange of a partnership interest under paragraph 38(a.3)	[REDACTED]	b-2 <input type="checkbox"/>
Subtotal (amount a <b>plus</b> amount b <b>plus</b> b-2)	[REDACTED]	O
Subtotal (amount N <b>minus</b> amount O)	-117,088	P
<b>Add:</b>		
Deemed capital gain from the donation of property included in a flow-through share class of property to a qualified donee under subsection 40(12) of the Act:		
Exemption threshold at time of disposition	897	c
The total of all capital gains from the disposition of the actual property	898	d
Amount c or amount d, whichever is less		Foreign source <input type="checkbox"/> Q
Taxable capital gains under section 34.2 of the Act (line 275 of Schedule 73, <i>Income Inclusion Summary for Corporations that are Members of Partnerships</i> )	x 2 = 899	R
Subtotal (total of amounts P to R)	-117,088	S
<b>Deduct:</b>		
Allowable capital losses under section 34.2 of the Act (line 285 of Schedule 73, <i>Income Inclusion Summary for Corporations that are Members of Partnerships</i> )	x 2 = 901	T
Total capital gains or losses (amount S <b>minus</b> amount T)	-117,088	U
<b>Taxable capital gains or total capital losses</b>		
Total capital losses (amount U, if amount U is negative; if amount U is positive, enter "0")	117,088	V
Enter amount V on line 210 of Schedule 4.		
Taxable capital gains (if amount U is positive, enter amount U multiplied by 50.0000 %; if amount U is negative, enter "0")		W
Enter amount W on line 113 of Schedule 1.		

\* Do not include gains on donations of ecologically sensitive land to a private foundation.



Canada Revenue Agency  
Agence du revenu du Canada

**Schedule 8**

**Capital Cost Allowance (CCA)**

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>		Business number <b>87086 5821 RC0001</b>	Tax year-end Year/Month/Day <b>2017-12-31</b>
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For more information, see the section called "Capital Cost Allowance" in the *T2 Corporation Income Tax Guide*.

Is the corporation electing under *Regulation 1101(5q)*?  **101** Yes  **No X**

1 Class number *	2 Description	201 Undepreciated capital cost at the beginning of the year (amount from column 12 of last year's schedule 8)	3 Cost of acquisitions during the year (new property must be available for use) (see note 1 below)	205 Adjustments and transfers (see note 2 below)	207 Proceeds of dispositions during the year (amount not to exceed the capital cost)	211 50% rule (1/2 of the amount, if any, by which the net cost of acquisitions exceeds column 5) (see note 3 below)	7 Reduced undepreciated capital cost (column 2 plus or minus column 4 minus column 5) (see note 6 below)	212 CCA rate % (see note 4 below)	9 Recapture of capital cost allowance (line 107 of Schedule 1) (see note 5 below)	213 Terminal loss (line 404 of Schedule 1)	10 Capital cost allowance for declining balance method, column 7 multiplied by column 8, or a lower amount (line 403 of Schedule 1) (see note 6 below)	11 Undepreciated capital cost at the end of the year (column 6 plus column 7 minus column 11)	12 Tax year-end Year/Month/Day
1.		5,130,896,581	62,459,091		0	31,229,546	5,162,126,126	4	0	0	206,485,045	4,986,870,627	
2.		41,327			0		41,327	6	0	0	2,480	38,847	
3.		3,030,700,281			0		3,030,700,281	6	0	0	181,842,017	2,848,858,264	
4.		307,146,511	2,492,135		0	1,246,068	308,392,578	5	0	0	15,419,629	294,219,017	
5.		85,193,309	5,253,827		0	2,626,914	87,820,222	10	0	0	8,782,022	81,665,114	
6.		244,545,050	44,706,768		31,200	22,337,784	266,882,834	20	0	0	53,376,567	235,844,051	
7.		13,865,028			945,000		12,920,028	25	0	0	3,230,007	9,690,021	
8.		300,448,492	35,873,842		3,237,467	16,318,188	316,766,679	30	0	0	95,030,004	238,054,863	
9.	Class 10.1	1,535,907	1,716,000		0	858,000	2,393,907	30	0	0	718,172	2,533,735	
10.		21,090,906	96,732,845		0	48,366,423	69,457,328	100	0	0	69,457,328	48,366,423	
11.	255 Matheson Mississauga (WBS	568,210			0		568,210	NA	0	0	148,247	419,963	
12.	483 Bay Street (WBS 300042991	16,756,716	232,568		0	12,920	16,976,364	NA	0	0	1,797,543	15,191,741	
13.	Amprior Forestry Work Centre (W	166,634			0		166,634	NA	0	0	28,561	138,073	
14.	Atrium on Bay (WBS 300040666	34,477			0		34,477	NA	0	0	8,995	25,482	
15.	Lionhead (WBS 700015140)	16,696			0		16,696	NA	0	0	4,356	12,340	
16.	Newmarket Garage (WBS 300040	57,397			0		57,397	NA	0	0	14,975	42,422	
17.	Newmarket SC (WBS 700016578	5,338			0		5,338	NA	0	0	1,104	4,234	
18.	Nipigon (WBS 700011829)	66,940			0		66,940	NA	0	0	17,465	49,475	
19.	Orillia Forestry Work Centre (WB	181,278			0		181,278	NA	0	0	27,666	153,612	
20.	Orleans OC (WBS 700010809)	1,125,298			0		1,125,298	NA	0	0	291,532	833,766	
21.	Sudbury (WBS 700010356)	149,811			0		149,811	NA	0	0	16,961	132,850	
22.	Sudbury 500 Barrydowne (WBS 7	545,359			0		545,359	NA	0	0	68,617	476,742	
23.	Thunder Bay Fleet Garage (WBS	88,900			0		88,900	NA	0	0	19,756	69,144	



1 Class number *	Description	2 Undepreciated capital cost at the beginning of the year (amount from column 12 of last year's schedule 8)	3 Cost of acquisitions during the year (new property must be available for use) (see note 1 below)	4 Adjustments and transfers (see note 2 below)	5 Proceeds of dispositions during the year (amount not to exceed the capital cost)	6 50% rule (1/2 of the amount, if any, by which the net cost of acquisitions exceeds column 5) (see note 3 below)	7 Reduced undepreciated capital cost (column 2 <b>plus</b> column 3 <b>plus</b> or <b>minus</b> column 4 <b>minus</b> column 5 <b>minus</b> column 6)	8 CCA rate % (see note 4 below)	9 Recapture of capital cost allowance (line 107 of Schedule 1) (see note 5 below)	10 Terminal loss (line 404 of Schedule 1)	11 Capital cost allowance (for declining balance method, column 7 <b>multiplied</b> by column 8, or a lower amount) (line 403 of Schedule 1) (see note 6 below)	12 Undepreciated capital cost at the end of the year (column 6 <b>plus</b> column 7 <b>minus</b> column 11)
<b>200</b>		<b>201</b>	<b>203</b>	<b>205</b>	<b>207</b>	<b>211</b>		<b>212</b>	<b>213</b>	<b>215</b>	<b>217</b>	<b>220</b>
24.	13 Thunder Bay Fleet Garage (WBS)		3,515,103		0	70,302	3,444,801	NA	0	0	70,302	3,444,801
25.	14	2,148,316			0		2,148,316	NA	0	0	92,310	2,056,006
26.	14.1	3,591,878,042			0		3,591,878,042	5	0	0	251,431,463	3,340,446,579
27.	14.1		6,481,108		0	3,240,554	3,240,554	5	0	0	162,028	6,319,080
28.	17	125,704,944	14,571,987		0	7,285,994	132,990,937	8	0	0	10,639,275	129,637,656
29.	42	125,487,250	5,261,391		0	2,630,696	128,117,945	12	0	0	15,374,153	115,374,488
30.	43.2	15,853			0		15,853	50	0	0	7,927	7,926
31.	45	12,246,981			0		12,246,981	45	0	0	5,511,141	6,735,840
32.	46	9,563,296	5,003,392		0	2,501,696	12,064,992	30	0	0	3,619,498	10,947,190
33.	47	7,363,986,847	1,077,547,390		1,277,453	538,134,969	7,902,121,815	8	0	0	632,169,745	7,808,087,039
34.	50	193,322,751	23,448,718		0	11,724,359	205,047,110	55	0	0	112,775,911	103,995,558
	<b>Totals</b>	20,579,580,726	1,385,296,165		5,491,120	688,584,413	21,270,801,358				1,668,642,802	20,290,742,969

\* Class numbers followed by a letter indicate the basic rate of the class taking into account the additional deduction allowed.  
Class 1a: 4% + 6% = 10% (class 1 to 10%), class 1b: 4% + 2% = 6% (class 1 to 6%).

- Note 1. Include any property acquired in previous years that has now become available for use. This property would have been previously excluded from column 3. List separately any acquisitions that are not subject to the 50% rule, see *Regulation 1100(2)* and (2.2). Items that **increase** the undepreciated capital cost include amounts transferred under section 85, or transferred on amalgamation or winding-up of a subsidiary. Items that **reduce** the undepreciated capital cost include government assistance received or entitled to be received in the year, or a reduction of capital cost after the application of section 80. See the *T2 Corporation Income Tax Guide* for other examples of adjustments and transfers to include in column 4.
- Note 3. The net cost of acquisitions is the cost of acquisitions (column 3) **plus** or **minus** certain adjustments and transfers from column 4. For information on the exceptions to the 50% rule, as well as how to calculate the amounts to enter in column 6 in those cases, see Interpretation Bulletin IT-285, *Capital Cost Allowance - General Comments*.
- Note 4. Enter a rate only if you are using the declining balance method. For any other method (for example the straight-line method, where calculations are always based on the cost of acquisitions), enter N/A. Then enter the amount you are claiming in column 11.
- Note 5. For every entry in column 9, "Recapture of capital cost allowance", there must be a corresponding entry in column 5, "Proceeds of dispositions during the year". The recapture and terminal loss rules do not apply to passenger vehicles in Class 10.1.
- Note 6. If the tax year is shorter than 365 days, prorate the CCA claim. Some classes of property do not have to be prorated. See the *T2 Corporation Income Tax Guide* for more information.

T2 SCH 8 (17)





## Fixed Assets Reconciliation

Reconciliation of change in fixed assets per financial statements to amounts used per tax return.

### Tax return

Additions for tax purposes – Schedule 8 regular classes		1,381,548,494	
Additions for tax purposes – Schedule 8 leasehold improvements	+	3,747,671	
Operating leases capitalized for book purposes	+		
Capital gain deferred	+		
Recapture deferred	+		
Deductible expenses capitalized for book purposes – Schedule 1	+	247,705,961	
Other (specify):			
Decrease in CIP CY \$1.203B - PY\$1.221B (excluded from Sch.8 adds)	+	-30,000,000	
Future Use Assets movement	+	7,819,000	
Land additions	+	1,714,434	
Capital items expensed for book purposes	+	-10,203,194	
Project cancellation costs expensed for book purposes	+	-8,448,371	
Disallowed Class 10.1 Additions	+	522,453	
CCRA - reversal of Book negative adds	+	-1,618,241	
Environmental depreciation (not part of PP&E)	+	22,409,628	
DSC exemption depreciation (did not hit Accum Depn)	+	-774,374	
OPA directed costs depreciation (did not hit Accum depn)	+	-773	
2017 Capitalized SRED Expenditures	+	305,980	
Insurance proceeds capitalized for tax	+	4,800,000	
Less Insurance proceed spend	+	-732,620	
Reverse PY adjustment for misposted DR to fixed assets	+	-26,141	
Depreciation elim recorded against reg asset	+	326,000	
		<b>1,619,095,907</b>	<b>1,619,095,907</b>
Proceeds up to original cost – Schedule 8 regular classes		5,491,120	
Proceeds up to original cost – Schedule 8 leasehold improvements	+		
Proceeds in excess of original cost – capital gain	+		
Recapture deferred – as above	+		
Capital gain deferred – as above	+		
Pre V-day appreciation	+		
Other (specify):			
Rounding	+	57,226	
		<b>5,548,346</b>	<b>5,548,346</b>
Depreciation and amortization per accounts – Schedule 1			- 787,547,560
Loss on disposal of fixed assets per accounts			-
Gain on disposal of fixed assets per accounts			+
			<b>826,000,001</b>

### Financial statements

#### Fixed assets (excluding land) per financial statements

Closing net book value		19,626,000,000	
Opening net book value		18,800,000,000	
			<b>826,000,000</b>

If the amounts from the tax return and the financial statements differ, explain why below.

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## Attached Schedule with Total

Tax return – Deductible expenses capitalized for book purposes – Schedule 1

Title Tax return – Deductible expenses capitalized for book purposes – Schedule

Description	Operator (Note)	Amount	
Pension Expenses		47,581,893	00
Capitalized Interest Expenses	+	56,109,031	00
OMA Expenses Capitalized Overhead	+	64,216,948	00
OPEB Expenses	+	68,822,394	00
LTIP Expenses	+	955,515	00
Landscaping	+	1,004,720	00
Removal Costs	+	7,690,287	00
Union share grant expenses	+	1,325,173	00
	+		
	<b>Total</b>	<b>247,705,961</b>	<b>00</b>

**Note:** The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula  $1+2*3$  will not result in the same thing as the formula  $1+3*2$ .

**RELATED AND ASSOCIATED CORPORATIONS**

Name of corporation <b>HYDRO ONE NETWORKS INC.</b>	Business Number <b>87086 5821 RC0001</b>	Tax year end Year Month Day <b>2017-12-31</b>
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- Complete this schedule if the corporation is related to or associated with at least one other corporation.
- For more information, see the *T2 Corporation Income Tax Guide*.

	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>550</b>	<b>600</b>	<b>650</b>	<b>700</b>
	Name	Country of residence (other than Canada)	Business number (see note 1)	Relationship code (see note 2)	Number of common shares you own	% of common shares you own	Number of preferred shares you own	% of preferred shares you own	Book value of capital stock
1.	Hydro One Limited	CA		3					
2.	Hydro One Inc.	CA		1					
3.	2486267 Ontario Inc.	CA		3					
4.	2486268 Ontario Inc.	CA		3					
5.	Hydro One Remote Communities Inc.	CA		3					
6.	Hydro One Telecom Inc.	CA		3					
7.	Hydro One Telecom Link Limited	CA		3					
8.	Municipal Billing Services Inc.	CA		3					
9.	Hydro One Lake Erie Link Management	CA		3					
10.	1938454 Ontario Inc.	CA		3					
11.	1943404 Ontario Inc.	CA		3					
12.	B2M GP Inc.	CA		3					
13.	Hydro One B2M Holdings Inc.	CA		3					
14.	Hydro One B2M LP Inc.	CA		3					
15.	Norfolk Energy Inc.	CA		3					
16.	Norfolk Power Distribution Inc.	CA		2					
17.	Haldimand County Energy Inc.	CA		2					
18.	Haldimand County Hydro Inc.	CA		2					
19.	Woodstock Hydro Services Inc.	CA		2					
20.	1937672 Ontario Inc.	CA		3					
21.	Hydro One Sault Ste. Marie Holdings	CA		3					
22.	Hydro One Sault Ste. Marie Inc.	CA		3					
23.	Hydro One Sault Ste. Marie Holding	CA		3					
24.	1228185 Ontario Inc.	CA		3					
25.	Hydro One East-West Tie Inc.	CA		3					
26.	1937680 Ontario Inc.	CA		3					
27.	1937681 Ontario Inc.	CA		3					
28.	2587264 Ontario Inc.	CA		3					
29.	2593958 Ontario Inc.	CA		3					
30.	2587265 Ontario Inc.	CA		3					
31.	Olympus Holding Corp.	US		3					
32.	Olympus Corp.	US		3					

Note 1: Enter "NR" if the corporation is not registered or does not have a business number.

Note 2: Enter the code number of the relationship that applies from the following order: 1 - Parent 2 - Subsidiary 3 - Associated 4 - Related but not associated

**CONTINUITY OF RESERVES**

Name of corporation <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year end Year Month Day <b>2017-12-31</b>
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- For use by corporations to provide a continuity of all reserves claimed which are allowed for tax purposes.
- File one completed copy of this schedule with the corporation's *T2 Corporation Income Tax Return*.
- For more information, see the *T2 Corporation Income Tax Guide*.

**Part 1 – Capital gains reserves**

Description of property	Balance at the beginning of the year \$	Transfer on an amalgamation or the wind-up of a subsidiary \$	Add \$	Deduct \$	Balance at the end of the year \$
<b>001</b>	<b>002</b>	<b>003</b>			<b>004</b>
1					
<b>Totals</b>	<b>008</b>	<b>009</b>			<b>010</b>

The amount from line 008 plus the amount from line 009 should be entered on line 880 of Schedule 6, *Summary of Dispositions of Capital Property*. The amount from line 010 should be entered on line 885 of Schedule 6.

**Part 2 – Other reserves**

Description	Balance at the beginning of the year \$	Transfer on an amalgamation or the wind-up of a subsidiary \$	Add \$	Deduct \$	Balance at the end of the year \$
	<b>110</b>	<b>115</b>			<b>120</b>
Reserve for doubtful debts . . . . . <input type="checkbox"/>					
Reserve for undelivered goods and services not rendered . . . . . <input checked="" type="checkbox"/>	46,625,639			6,146,679	40,478,960
Reserve for prepaid rent . . . . . <input type="checkbox"/>					
Reserve for refundable containers . . . . . <input type="checkbox"/>					
Reserve for unpaid amounts . . . . . <input type="checkbox"/>					
Other tax reserves . . . . . <input type="checkbox"/>					
<b>Totals</b>	<b>270</b> 46,625,639	<b>275</b>		<b>280</b> 6,146,679	<b>280</b> 40,478,960

Enter "X" in the column above if the tax reserve has also been reported on the corporation's financial statements. This allows offsetting entries on Schedule 1, resulting in a zero effect on net income for tax purposes.

The amount from line 270 plus the amount from line 275 should be entered on line 125 of Schedule 1, *Net Income (Loss) for Income Tax Purposes*, as an addition. The amount from line 280 should be entered on line 413 of Schedule 1 as a deduction.

# Continuity of financial statement reserves (not deductible)

Financial statement reserves (not deductible)					
Description	Balance at the beginning of the year	Transfer on an amalgamation or the wind-up of a subsidiary	Add	Deduct	Balance at the end of the year
1 OPEB Liability Short Term	54,304,773			54,304,773	
2 OPEB Liability Long Term	1,603,300,821		54,304,773	121,737,274	1,535,868,320
3 Environmental Short Term	25,779,844			25,779,844	
4 Environmental Long Term	153,758,414		25,779,844	18,148,928	161,389,330
5 Regulatory Assets OPEB & Envi	-420,376,953		222,809,383		-197,567,570
6 Net Regulatory Liabilities	35,544,621		106,065,853		141,610,474
7 Tenant Inducement	6,613,647			2,453,116	4,160,531
8 Asset Retirement Obligations	9,101,916		270,647		9,372,563
9 General Bad Debt Reserve					
10 Insurance proceeds reserve	4,261,543			732,620	3,528,923
11 Donation Accrual	100,000			100,000	
12 OPEB Liability - LDCs	2,331,421			2,331,421	
13 Bonus payable	11,910,794		1,371,809	11,910,794	1,371,809
14 Contingent Liabilities	10,298,114		968,837		11,266,951
15 DSU			184,946		184,946
Reserves from Part 2 of Schedule 13	46,625,639			6,146,679	40,478,960
<b>Totals</b>	<b>1,543,554,594</b>		<b>411,756,092</b>	<b>243,645,449</b>	<b>1,711,665,237</b>

The total opening balance plus the total transfers should be entered on line 414 of Schedule 1 as a deduction.  
The total closing balance should be entered on line 126 of Schedule 1 as an addition.

**MISCELLANEOUS PAYMENTS TO RESIDENTS**

Name of corporation HYDRO ONE NETWORKS INC.	Business Number 87086 5821 RC0001	Tax year end Year Month Day 2017-12-31
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- This schedule must be completed by all corporations who made the following payments to residents of Canada: royalties for which the corporation has not filed a T5 slip; research and development fees; management fees; technical assistance fees; and similar payments.
- Please enter the name and address of the recipient and the amount of the payment in the applicable column. If several payments of the same type (i.e., management fees) were made to the same person, enter the total amount paid. If similar types of payments have been made, but do not fit into any of the categories, enter these amounts in the column entitled "Similar payments".

	Name of recipient	Address of recipient	Royalties	Research and development fees	Management fees	Technical assistance fees	Similar payments
	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>700</b>
1	Hydro One Inc	483 Bay Street  Toronto ON M5G 2P5			11,849,575		

T2 SCH 14 (99)



### Deferred Income Plans

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year end Year Month Day <b>2017-12-31</b>
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- Complete the information below if the corporation deducted payments from its income made to a registered pension plan (RPP), a registered supplementary unemployment benefit plan (RSUBP), a deferred profit sharing plan (DPSP), a pooled registered pension plan (PRPP), or an employee profit sharing plan (EPSP).
- If the trust that governs an employee profit sharing plan is **not resident** in Canada, please indicate if the T4PS, *Statement of Employees Profit Sharing Plan Allocations and Payments*, Supplementary slip(s) were filed for the last calendar year, and whether they were filed by the trustee or the employer.

Type of plan (see note 1)	Amount of contribution \$ (see note 2)	Registration number (RPP, RSUBP, PRPP, and DPSP only)	Name of EPSP trust	Address of EPSP trust	T4PS slip(s) (see note 3)
100	200	300	400	500	600
1	84,365,059				

**Note 1**

Enter the applicable code number:

- 1 – RPP
- 2 – RSUBP
- 3 – DPSP
- 4 – EPSP
- 5 – PRPP

**Note 2**

You do not need to add to Schedule 1 any payments you made to deferred income plans. To reconcile such payments, calculate the following amount:

Total of all amounts indicated in column 200 of this schedule	84,365,059	A
<b>Less:</b>		
Total of all amounts for deferred income plans deducted in your financial statements	36,783,166	B
<b>Deductible amount for contributions to deferred income plans</b> (amount A minus amount B) (if negative, enter "0")	47,581,893	C

Enter amount C on line 417 of Schedule 1

**Note 3**

T4PS slip(s) filed by: 1 – Trustee  
2 – Employer (EPSP only)


**PAYMENTS TO NON-RESIDENTS**


Name of corporation <b>HYDRO ONE NETWORKS INC.</b>	Business Number <b>87086 5821 RC0001</b>	Tax year end Year Month Day <b>2017-12-31</b>
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- A corporation that makes payments or credits amounts to non-residents under subsections 202(1) and 105(1) of the *Income Tax Regulations* has to file the applicable information return.
- The corporation has to complete the information below for all amounts paid or credited to non-residents that are listed in Note 1. If the total amount paid or credited is less than \$100, you do not have to complete the information for that payee.

	Name (list each payee separately)	Address	Payment code (see note 1)	Amount \$
	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>
1			09	18,412
2			09	27,409
3			09	32,491
4			09	5,392
5			09	26,818
6			09	39,795
7			09	47,280
8			09	55,030
9			09	9,471
10			09	20,277
11			09	16,038



	Name (list each payee separately)	Address	Payment code (see note 1)	Amount \$
	100	200	300	400
12			09	127,516
13			09	5,000
14			09	55,781
15			09	32,085
16			09	4,024
17			09	7,467
18			09	60,121
19			09	27,404
20			09	126,438
21			09	72,617
22	09	14,032		
23	09	12,589		
24	09	34,340		

	Name (list each payee separately)	Address	Payment code (see note 1)	Amount \$
	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>
25			09	45,741
26			09	196,564
27			09	89,218
28			02	17,936
29			02	460,101
30			09	375
31			09	750
32			02	5,000
33			09	375
34			09	313
35	09	313		

Name (list each payee separately)	Address	Payment code (see note 1)	Amount \$										
36 <b>100</b>	<b>200</b>	<b>300</b> 09	<b>400</b> 313										
<p>Note 1: Enter the applicable payment code in column 300:</p> <table border="0"> <tr> <td>1 – Royalties</td> <td>6 – Interest</td> </tr> <tr> <td>2 – Rents</td> <td>7 – Dividends</td> </tr> <tr> <td>3 – Management fees/commissions</td> <td>8 – Film payments: – motion picture film, or – a film or video tape for use in connection with television</td> </tr> <tr> <td>4 – Technical assistance fees</td> <td></td> </tr> <tr> <td>5 – Research and development fees</td> <td>9 – Other services</td> </tr> </table>				1 – Royalties	6 – Interest	2 – Rents	7 – Dividends	3 – Management fees/commissions	8 – Film payments: – motion picture film, or – a film or video tape for use in connection with television	4 – Technical assistance fees		5 – Research and development fees	9 – Other services
1 – Royalties	6 – Interest												
2 – Rents	7 – Dividends												
3 – Management fees/commissions	8 – Film payments: – motion picture film, or – a film or video tape for use in connection with television												
4 – Technical assistance fees													
5 – Research and development fees	9 – Other services												

T2 SCH 29 (99)



## Investment Tax Credit – Corporations

### General information

- Use this schedule:
  - to calculate an investment tax credit (ITC) earned during the tax year;
  - to claim a deduction against Part I tax payable;
  - to claim a refund of credit earned during the current tax year;
  - to claim a carryforward of credit from previous tax years;
  - to transfer a credit following an amalgamation or the wind-up of a subsidiary, as described under subsections 87(1) and 88(1);
  - to request a credit carryback to one or more previous years;
  - if you are subject to a recapture of ITC; or
  - if you are claiming:
    - the **Ontario Research and Development Tax Credit**;
    - the **Ontario Innovation Tax Credit**.
- Unless otherwise stated, all legislative references are to the *Income Tax Act* and the *Income Tax Regulations*.
- The ITC is eligible for a three-year carryback (if not deductible in the year earned). It is also eligible for a twenty-year carryforward.
- Investments or expenditures, described in subsection 127(9) and Regulation Part XLVI, that earn an ITC are:
  - qualified property and qualified resource property (Parts 4 to 7 of this schedule);
  - qualified scientific research and experimental development (SR&ED) expenditures (Parts 8 to 17). File Form T661, *Scientific Research and Experimental Development (SR&ED) Expenditures Claim*;
  - pre-production mining expenditures (Parts 18 to 20);
  - apprenticeship job creation expenditures (Parts 21 to 23); and
  - child care spaces expenditures (Parts 24 to 28).
    - Expenditures related to child care spaces incurred after March 21, 2017 no longer qualify for the investment tax credit. If you entered into a written agreement before March 22, 2017, eligible expenditures incurred before 2020 will remain eligible for the credit.
- File this schedule with the *T2 Corporation Income Tax Return*. If you need more space, attach additional schedules.
- For more information on ITCs, see "Investment Tax Credit" in Guide T4012, *T2 Corporation – Income Tax Guide* and read Information Circular IC78-4, *Investment Tax Credit Rates*, and its related Special Release.
- For more information on SR&ED, see guide T4088, *Guide to Form T661 – Scientific Research and Experimental Development (SR&ED) Expenditures Claim*.

### Detailed information

- For the purpose of this schedule, **investment** means the capital cost of the property (excluding amounts added by an election under section 21), determined without reference to subsections 13(7.1) and 13(7.4), minus the amount of any government or non-government assistance that the corporation has received, is entitled to receive, or can reasonably be expected to receive for that property when it files the income tax return for the year in which the property was acquired.
- An ITC deducted or refunded in a tax year for a depreciable property, other than a depreciable property deductible under paragraph 37(1)(b), reduces both the capital cost of that property and the undepreciated capital cost of that class in the next tax year. An ITC for SR&ED deducted or refunded in a tax year will reduce the balance in the pool of deductible SR&ED expenditures and the adjusted cost base (ACB) of an interest in a partnership in the next tax year. An ITC from pre-production mining expenditures deducted in a tax year reduces the balance in the pool of deductible cumulative Canadian exploration expenses in the next tax year.
- Property acquired has to be **available for use** before a claim for an ITC can be made. See subsections 127(11.2) and 248(19) for more information.
- Expenditures for SR&ED and capital costs for a property qualifying for an ITC must be identified by the claimant on Form T661 and Schedule 31 no later than 12 months after the claimant's income tax return is due for the tax year in which it incurred the expenditures or capital costs.
- Expenditures for pre-production mining, apprenticeship, or child care space for an ITC must be identified by the claimant on Schedule 31 no later than 12 months after the claimant's income tax return is due for the tax year in which it incurred the expenditures or capital costs.
- Partnership allocations – Subsection 127(8) provides for the allocation of the amount that may reasonably be considered to be a partner's share of the ITCs of the partnership at the end of the fiscal period of the partnership. An allocation of ITCs is generally considered to be the partner's reasonable share of the ITCs if it is made in the same proportion in which the partners have agreed to share any income or loss and if section 103 is not applicable for the agreement to share any income or loss. Special rules apply to specified members of a partnership and limited partners. For more information, see Guide T4068, *Guide for the Partnership Information Return*.
- For tax purposes, Canada includes the **exclusive economic zone of Canada** as defined in the *Oceans Act* (which generally consists of an area of the sea that is within 200 nautical miles from the Canadian coastline), including the airspace, seabed and subsoil of that zone.
- For the purpose of this schedule, the expression **Atlantic Canada** includes the Gaspé Peninsula and the provinces of Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick, as well as their respective offshore regions (prescribed in Regulation 4609).
- For the purpose of this schedule, **qualified property** means property in Atlantic Canada that is used primarily for manufacturing and processing, farming or fishing, logging, storing grain, or harvesting peat. Property in Atlantic Canada that is used primarily for oil and gas, and mining activities is considered qualified property only if acquired by the taxpayer **before** March 29, 2012. Qualified property includes new buildings and new machinery and equipment (prescribed in Regulation 4600), and if acquired by the taxpayer **after** March 28, 2012, new energy generation and conservation property (prescribed in Regulation 4600). Qualified property can also be used primarily to produce or process electrical energy or steam in a prescribed area (as described in Regulation 4610). See the definition of **qualified property** in subsection 127(9) for more information.

**Detailed information (continued)**

- For the purpose of this schedule, **qualified resource property** means property in Atlantic Canada that is used primarily for oil and gas, and mining activities, if acquired by the taxpayer **after** March 28, 2012, and **before** January 1, 2016. Qualified resource property includes new buildings and new machinery and equipment (prescribed in Regulation 4600). See the definition of **qualified resource property** in subsection 127(9) for more information.
- For the purpose of this schedule, **pre-production mining exploration expenditures** are pre-production mining expenditures incurred **after** March 28, 2012, by the taxpayer to determine the existence, location, extent, or quality of certain mineral resources in Canada, excluding expenses incurred in the exploration of an oil or gas well. See subparagraph (a)(i) of the definition of **pre-production mining expenditure** in subsection 127(9) for more information.
- For the purpose of this schedule, **pre-production mining development expenditures** are pre-production mining expenditures incurred **after** March 28, 2012, by the taxpayer to bring a new mineral resource mine in Canada into production, excluding expenses in the development of a bituminous sands deposit or an oil shale deposit. See subparagraph (a)(ii) of the definition of **pre-production mining expenditure** in subsection 127(9) for more information.

**Part 1 – Investments, expenditures, and percentages**

	<b>Specified percentage</b>
<b>Investments</b>	
Qualified property acquired primarily for use in Atlantic Canada	10 %
Qualified resource property acquired primarily for use in Atlantic Canada and acquired:	
– after March 28, 2012, and before 2014	10 %
– after 2013 and before 2016	5 %
– after 2015*	0 %
<b>Expenditures</b>	
If you are a Canadian-controlled private corporation (CCPC), this percentage may apply to the portion that you claim of the SR&ED qualified expenditure pool that does not exceed your expenditure limit (see Part 10)	35 %
<b>Note:</b> If your current year's qualified expenditures are more than your expenditure limit (see Part 10), the excess is eligible for an ITC calculated at the 15 % rate.	
If you are a corporation that is not a CCPC and have incurred qualified expenditures for SR&ED in any area in Canada:	
– before 2014**	20 %
– after 2013**	15 %
If you are a taxable Canadian corporation that incurred pre-production mining expenditures before March 29, 2012	10 %
If you are a taxable Canadian corporation that incurred pre-production mining exploration expenditures:	
– after March 28, 2012, and before 2013	10 %
– in 2013	5 %
– after 2013	0 %
If you are a taxable Canadian corporation that incurred pre-production mining development expenditures***:	
– after March 28, 2012, and before 2014	10 %
– in 2014	7 %
– in 2015	4 %
– after 2015	0 %
If you paid salary and wages to apprentices in the first 24 months of their apprenticeship contract for employment	10 %
If you incurred expenditures after March 18, 2007 and before March 22, 2017 (or before 2020 if you entered into a written agreement before March 22, 2017) for the creation of licensed child care spaces for the children of your employees and, potentially, for other children	25 %
* A transitional relief rate of 10% may apply to property acquired after 2013 and before 2017, if the property is acquired under a written agreement entered into before March 29, 2012, or the property is acquired as part of a <b>phase</b> of a project where the construction or the engineering and design work for the construction started before March 29, 2012. See paragraph (a.1) of the definition of <b>specified percentage</b> in subsection 127(9) for more information.	
** The reduction of the rate from 20% to 15% applies to 2014 and later tax years, except that, for 2014 tax years that start before 2014, the reduction is pro-rated based on the number of days in the tax year that are after 2013.	
*** A transitional relief rate may apply to expenditures incurred after 2013 and before 2016, if the expenditure is incurred under a written agreement entered into before March 29, 2012, or the expenditure is incurred as part of the development of a new mine where the construction or the engineering and design work for the construction of the new mine started before March 29, 2012. See subparagraphs (k)(ii) and (iii) of the definition of <b>specified percentage</b> in subsection 127(9) for more information.	

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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**Part 2 – Determination of a qualifying corporation**

Is the corporation a qualifying corporation? ..... **101** 1 Yes  2 No

For the purpose of a refundable ITC, a **qualifying corporation** is defined under subsection 127.1(2). The corporation has to be a CCPC and its taxable income (before any loss carrybacks) for its previous tax year cannot be more than its **qualifying income limit** for the particular tax year. If the corporation is associated with any other corporations during the tax year, the total of the taxable incomes of the corporation and the associated corporations (before any loss carrybacks), for their last tax year ending in the previous calendar year, cannot be more than their qualifying income limit for the particular tax year.

**Note:** A CCPC considered associated with another corporation under subsection 256(1) will be considered **not** associated for the calculation of a refundable ITC if:

- one corporation is associated with another corporation solely because one or more persons own shares of the capital stock of both corporations; and
- one of the corporations has at least one shareholder who is not common to both corporations.

If you are a **qualifying** corporation, you will earn a **100%** refund on your share of any ITCs earned at the 35% rate on qualified **current** expenditures for SR&ED, up to the allocated expenditure limit. The 100% refund does not apply to qualified **capital** expenditures eligible for the 35% credit rate. They are only eligible for the **40%** refund\*.

Some CCPCs that are **not qualifying** corporations may also earn a **100%** refund on their share of any ITCs earned at the 35% rate on qualified **current** expenditures for SR&ED, up to the allocated expenditure limit. The expenditure limit can be determined in Part 10. The 100% refund does not apply to qualified **capital** expenditures eligible for the 35% credit rate. They are only eligible for the **40%** refund\*.

The 100% refund will not be available to a corporation that is an **excluded corporation** as defined under subsection 127.1(2). A corporation is an excluded corporation if, at any time during the year, it is a corporation that is either controlled by (directly or indirectly, in any manner whatever) or is related to:

- one or more persons exempt from Part I tax under section 149;
- Her Majesty in right of a province, a Canadian municipality, or any other public authority; or
- any combination of persons referred to in a) or b) above.

\* Capital expenditures incurred after December 31, 2013, including lease payments for property that would have been a capital expenditure if purchased directly, are **not** qualified SR&ED expenditures and are **not** eligible for an ITC on SR&ED expenditures.

**Part 3 – Corporations in the farming industry**

Complete this area if the corporation is making SR&ED contributions.

Is the corporation claiming a contribution in the current year to an agricultural organization whose goal is to finance SR&ED work (for example, check-off dues)? ..... **102** 1 Yes  2 No

If **yes**, complete Schedule 125, *Income Statement Information*, to identify the type of farming industry the corporation is involved in.

Contributions to agricultural organizations for SR&ED\* ..... **103** \_\_\_\_\_  
Enter on line 350 of Part 8.

\* Enter only contributions not already included on Form T661.  
Include 80% of the contributions made **after** 2012. For contributions made **before** 2013, include all of the contributions.

**Qualified Property and Qualified Resource Property**

**Part 4 – Eligible investments for qualified property and qualified resource property from the current tax year**

Capital cost allowance class number <b>105</b>	Description of investment <b>110</b>	Date available for use <b>115</b>	Location used in Atlantic Canada (province) <b>120</b>	Amount of investment <b>125</b>
<b>Total of investments for qualified property and qualified resource property</b>				

A1

**Part 5 – Current-year credit and account balances – ITC from investments in qualified property and qualified resource property**

ITC at the end of the previous tax year			B1
Credit deemed as a remittance of co-op corporations	<b>210</b>		
Credit expired	<b>215</b>		
Subtotal (line 210 plus line 215)		▶	C1
ITC at the beginning of the tax year (amount B1 minus amount C1)		<b>220</b>	
Credit transferred on an amalgamation or the wind-up of a subsidiary	<b>230</b>		
ITC from repayment of assistance	<b>235</b>		
Qualified property; and qualified resource property acquired after March 28, 2012, and before January 1, 2014* (applicable part from amount A1 in Part 4)	x	10 % = <b>240</b>	
Qualified resource property acquired after December 31, 2013, and before January 1, 2016 (applicable part from amount A1 in Part 4)	x	5 % = <b>242</b>	
Credit allocated from a partnership	<b>250</b>		
Subtotal (total of lines 230 to 250)		▶	D1
Total credit available (line 220 plus amount D1)			E1
Credit deducted from Part I tax	<b>260</b>		
Credit carried back to previous years (amount H1 in Part 6)		a	
Credit transferred to offset Part VII tax liability	<b>280</b>		
Subtotal (total of line 260, amount a, and line 280)		▶	F1
Credit balance before refund (amount E1 minus amount F1)			G1
Refund of credit claimed on investments from qualified property and qualified resource property (from Part 7)		<b>310</b>	
<b>ITC closing balance of investments from qualified property and qualified resource property</b> (amount G1 minus line 310)		<b>320</b>	

\* Include investments acquired after 2013 and before 2017 that are eligible for transitional relief.

**Part 6 – Request for carryback of credit from investments in qualified property and qualified resource property**

	Year	Month	Day			
1st previous tax year				Credit to be applied	<b>901</b>	
2nd previous tax year				Credit to be applied	<b>902</b>	
3rd previous tax year				Credit to be applied	<b>903</b>	
Total of lines 901 to 903						▶
Enter at amount a in Part 5.						H1

**Part 7 – Refund of ITC for qualifying corporations on investments from qualified property and qualified resource property**

Current-year ITCs (total of lines 240, 242, and 250 in Part 5)			I1
Credit balance before refund (from amount G1 in Part 5)			J1
<b>Refund</b> ( 40 % of amount I1 or J1, whichever is less)			K1

Enter amount K1 or a lesser amount on line 310 in Part 5 (also enter on line 780 of the T2 return if you do not claim an SR&ED ITC refund).

**SR&ED**

**Part 8 – Qualified SR&ED expenditures**

Current expenditures (from line 557 on Form T661)	1,570,686	
Contributions to agricultural organizations for SR&ED		
<b>Deduct:</b>		
Government assistance, non-government assistance, or contract payment		
Contributions to agricultural organizations for SR&ED for the federal ITC (this amount is updated to line 103 of Part 3. For more details, consult the Help.)*		+
Current expenditures (line 557 on Form T661 <b>plus</b> line 103 in Part 3)*	1,570,686	<b>350</b> 1,570,686
Capital expenditures incurred <b>before</b> 2014 (from line 558 on Form T661)**		<b>360</b>
Repayments made in the year (from line 560 on Form T661)		<b>370</b>
<b>Qualified SR&amp;ED expenditures</b> (total of lines 350 to 370)		<b>380</b> 1,570,686

\* If you are claiming only contributions made to agricultural organizations for SR&ED, line 350 should equal line 103 in Part 3. Do not file Form T661.

\*\* Capital expenditures incurred after December 31, 2013, are not qualified SR&ED expenditures. Capital cost allowance can be claimed for depreciable property acquired for use in SR&ED after 2013.

**Part 9 – Components of the SR&ED expenditure limit calculation**

**Part 9 only applies if you are a CCPC.**

**Note:** A CCPC considered associated with another corporation under subsection 256(1) will be considered not associated for the calculation of an SR&ED expenditure limit if:

- one corporation is associated with another corporation solely because one or more persons own shares of the capital stock of the corporation; and
- one of the corporations has at least one shareholder who is not common to both corporations.

Is the corporation associated with another CCPC for the purpose of calculating the SR&ED expenditure limit? **385** 1 Yes  2 No

If you answered **no** to the question on line 385 or if you are not associated with any other corporations, complete lines 390 and 398. If you answered **yes**, the amounts for associated corporations will be determined on Schedule 49.

Enter your taxable income for the previous tax year\* (prior to any loss carrybacks applied) **390**

Enter your taxable capital employed in Canada for the previous tax year minus \$10 million. If this amount is nil or negative, enter "0". If this amount is over \$40 million, enter \$40 million **398**

\* If the tax year referred to on line 390 is less than 51 weeks, **multiply** the taxable income by the following result: 365 **divided** by the number of days in that tax year.

**Part 10 – SR&ED expenditure limit for a CCPC**

<b>For a stand-alone (not associated) corporation:</b>		<b>\$ 8,000,000</b>
Taxable income for the previous tax year (line 390 in Part 9) or \$500,000, whichever is more	x 10 =	A2
Excess (\$8,000,000 <b>minus</b> amount A2; if negative, enter "0")		B2
\$ 40,000,000 <b>minus</b> line 398 in Part 9	b	
Amount b <b>divided</b> by \$ 40,000,000		C2
<b>Expenditure limit for the stand-alone corporation</b> (amount B2 <b>multiplied</b> by amount C2)*		D2
<b>For an associated corporation:</b>		
If associated, the allocation of the SR&ED expenditure limit, as provided on Schedule 49*	<b>400</b>	E2
<b>If your tax year is less than 51 weeks, calculate the amount of the expenditure limit as follows:</b>		
Amount D2 or E2	x Number of days in the tax year / 365 =	F2
<b>Your SR&amp;ED expenditure limit for the year</b> (enter amount D2, E2, or F2, whichever applies)	<b>410</b>	

\* Amount D2 or E2 cannot be more than \$3,000,000.



**Part 11 – Investment tax credits on SR&ED expenditures**

Current expenditures (from line 350 in Part 8) or the expenditure limit (from line 410 in Part 10), whichever is less*		<b>420</b>	x	35 %	=	_____	G2
Line 350 <b>minus</b> line 410 (if negative, enter "0")		<b>430</b>		1,570,686			
Amount from line 430	x	Number of days in the tax year before 2014	x	20%	=	_____	c
Amount from line 430**	x	Number of days in the tax year after 2013	x	15 %	=	_____	d
	1,570,686	365	365			235,603	
Subtotal (amount c <b>plus</b> amount d)						<b>235,603</b>	H2
Line 410 <b>minus</b> line 350 (if negative, enter "0")						_____	e
Capital expenditures (line 360 in Part 8) or amount e, whichever is less*		<b>440</b>	x	35 %	=	_____	I2
Line 360 <b>minus</b> amount e (if negative, enter "0")		<b>450</b>					
Amount from line 450	x	Number of days in the tax year before 2014	x	20%	=	_____	f
Amount from line 450**	x	Number of days in the tax year after 2013	x	15 %	=	_____	g
		365	365				
Subtotal (amount f <b>plus</b> amount g)						_____	J2

If a corporation makes a repayment of any government or non-government assistance, or contract payments that reduced the amount of qualified expenditures for ITC purposes, the amount of the repayment is eligible for a credit.

**Repayments** (amount from line 370 in Part 8) \_\_\_\_\_

Enter the amount of the repayment on the line that corresponds to the appropriate rate.

Repayment of assistance that reduced a qualifying expenditure for a CCPC***	<b>460</b>	x	35 %	=	_____	h	
Repayment of assistance made after September 16, 2016 that reduced a qualifying expenditure incurred before 2015	<b>480</b>	x	20 %	=	_____	i	
Repayment of assistance made after September 16, 2016 that reduced a qualifying expenditure incurred after 2014	<b>490</b>	x	15 %	=	_____	j	
Subtotal ( <b>add</b> amounts h to j)						_____	K2

**Current-year SR&ED ITC** (total of amounts G2 to K2; enter on line 540 in Part 12) \_\_\_\_\_ **235,603** L2

\* For corporations that are not CCPCs, enter "0" for amounts G2 and I2.

\*\* For tax years that end after 2013, the general SR&ED ITC rate is reduced from 20% to 15%, except that, for 2014 tax years that start **before** 2014, the reduction is pro-rated based on the number of days in the tax year that are **after** 2013. For tax years that have a start date **after** 2013, **multiply** the amount by 15%.

\*\*\* If you were a Canadian-controlled private corporation (CCPC), this percentage was applied to the portion that you claimed of the SR&ED qualified expenditure pool that did not exceed your expenditure limit at the time. This percentage includes the rate under subsection 127(10.1), **additions to investment tax credit**. See subsection 127(10.1) for details about exceptions. For expenditures not eligible for this rate use line 480 or 490 as appropriate.

**Part 12 – Current-year credit and account balances – ITC from SR&ED expenditures**

ITC at the end of the previous tax year		1,257,270	M2
Credit deemed as a remittance of co-op corporations	<b>510</b>		
Credit expired	<b>515</b>		
Subtotal (line 510 plus line 515)			
ITC at the beginning of the tax year (amount M2 minus amount N2)	<b>520</b>	1,257,270	N2
Credit transferred on an amalgamation or the wind-up of a subsidiary	<b>530</b>		
Total current-year credit (from amount L2 in Part 11)	<b>540</b>	235,603	
Credit allocated from a partnership	<b>550</b>		
Subtotal (total of lines 530 to 550)		235,603	O2
Total credit available (line 520 plus amount O2)		1,492,873	P2
Credit deducted from Part I tax	<b>560</b>		
Credit carried back to previous years (amount S2 in Part 13)			k
Credit transferred to offset Part VII tax liability	<b>580</b>		
Subtotal (total of line 560, amount k, and line 580)			Q2
Credit balance before refund (amount P2 minus amount Q2)		1,492,873	R2
Refund of credit claimed on SR&ED expenditures (from Part 14 or 15, whichever applies)	<b>610</b>		
<b>ITC closing balance on SR&amp;ED</b> (amount R2 minus line 610)	<b>620</b>	1,492,873	

**Part 13 – Request for carryback of credit from SR&ED expenditures**

	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <th style="width: 33%;">Year</th> <th style="width: 33%;">Month</th> <th style="width: 33%;">Day</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Year	Month	Day												
Year	Month	Day														
1st previous tax year		Credit to be applied	<b>911</b>													
2nd previous tax year		Credit to be applied	<b>912</b>													
3rd previous tax year		Credit to be applied	<b>913</b>													
		Total of lines 911 to 913														
		Enter at amount k in Part 12.		S2												

**Part 14 – Refund of ITC for qualifying corporations – SR&ED**

Complete this part only if you are a qualifying corporation as determined on line 101 in Part 2.

Is the corporation an excluded corporation as defined under subsection 127.1(2)?	650	1 Yes <input type="checkbox"/>	2 No <input checked="" type="checkbox"/>
Current-year ITC (lines 540 plus 550 in Part 12 minus amount K2 in Part 11)	.....	I	
Refundable credits (amount I or amount R2 in Part 12, whichever is less)*	.....		T2
Amount T2 or amount G2 in Part 11, whichever is less	.....		U2
Net amount (amount T2 minus amount U2; if negative, enter "0")	.....		V2
Amount V2 multiplied by 40 %	.....		W2
Amount U2	.....		X2
<b>Refund of ITC</b> (amount W2 plus amount X2 – enter this, or a lesser amount, on line 610 in Part 12)	.....		Y2

Enter the total of line 310 in Part 5 and line 610 in Part 12 on line 780 of the T2 return.

\* If you are also an excluded corporation, as defined in subsection 127.1(2), this amount must be multiplied by 40%. Claim this, or a lesser amount, as your refund of ITC for amount Y2.

**Part 15 – Refund of ITC for CCPCs that are not qualifying or excluded corporations – SR&ED**

Complete this part only if you are a CCPC that is not a qualifying or excluded corporation as determined on line 101 in Part 2.

Credit balance before refund (amount R2 in Part 12)	.....	1,492,873	Z2
Amount Z2 or amount G2 in Part 11, whichever is less	.....		AA2
Net amount (amount Z2 minus amount AA2; if negative, enter "0")	.....	1,492,873	BB2
Amount BB2 or amount I2 in Part 11, whichever is less	.....		CC2
Amount CC2 multiplied by 40 %	.....		DD2
Amount AA2	.....		EE2
<b>Refund of ITC</b> (amount DD2 plus amount EE2)	.....		FF2

Enter FF2, or a lesser amount, on line 610 in Part 12 and also on line 780 of the T2 return.

### Recapture – SR&ED

#### Part 16 – Recapture of ITC for corporations and partnerships – SR&ED

You will have a recapture of ITC in a year when **all** of the following conditions are met:

- you acquired a particular property in the current year or in any of the 20 previous tax years, and the credit was earned in a tax year ending after 1997 and did not expire before 2008;
- you claimed the cost of the property as a qualified expenditure for SR&ED on Form T661;
- the cost of the property was included in calculating your ITC or was the subject of an agreement made under subsection 127(13) to transfer qualified expenditures; and
- you disposed of the property or converted it to commercial use after February 23, 1998. This condition is also met if you disposed of or converted to commercial use a property that incorporates the particular property previously referred to.

**Note:**  
The recapture **does not apply** if you disposed of the property to a non-arm's-length purchaser who intended to use it all or substantially all for SR&ED. When the non-arm's-length purchaser later sells or converts the property to commercial use, the recapture rules will apply to the purchaser based on the historical ITC rate of the original user.

You will report a recapture on the T2 return for the year in which you disposed of the property or converted it to commercial use. In the following tax year, add the amount of the ITC recapture to the SR&ED expenditure pool.

If you have more than one disposition for calculations 1 and 2, complete the columns for each disposition for which a recapture applies, using the calculation formats below.

#### Calculation 1 – If you meet all of the above conditions

Amount of ITC you originally calculated for the property you acquired, or the original user's ITC where you acquired the property from a non-arm's length party, as described in the <b>note</b> above  <b>700</b>	Amount calculated using ITC rate at the date of acquisition (or the original user's date of acquisition) on either the proceeds of disposition (if sold in an arm's length transaction) or the fair market value of the property (in any other case)  <b>710</b>	Amount from column 700 or 710, whichever is less
<b>Subtotal</b>		
Enter at amount C3 in Part 17.		A3

#### Calculation 2 – Only if you transferred all or a part of the qualified expenditure to another person under an agreement described in subsection 127(13); otherwise, enter nil on line B3.

A	B	C	D	E	F
Rate that the transferee used in determining its ITC for qualified expenditures under a subsection 127(13) agreement  <b>720</b>	Proceeds of disposition of the property if you dispose of it to an arm's length person; or, in any other case, enter the fair market value of the property at conversion or disposition  <b>730</b>	Amount, if any, already provided for in Calculation 1 (This allows for the situation where only part of the cost of a property is transferred under a subsection 127(13) agreement.)  <b>740</b>	Amount determined by the formula $(A \times B) - C$	ITC earned by the transferee for the qualified expenditures that were transferred  <b>750</b>	Amount from column D or E, whichever is less
<b>Subtotal</b> (total of column F)					
Enter at amount D3 in Part 17.					B3

**Part 16 – Recapture of ITC for corporations and partnerships – SR&ED (continued)**

**Calculation 3**

As a member of the partnership, you will report your share of the SR&ED ITC of the partnership after the SR&ED ITC has been reduced by the amount of the recapture. If this amount is a positive amount, you will report it on line 550 in Part 12. However, if the partnership does not have enough ITC otherwise available to offset the recapture, then the amount by which reductions to ITC exceed additions (the excess) will be determined and reported on line 760.

Corporate partner's share of the excess of SR&ED ITC **760**  
 Enter at amount E3 in Part 17.

**Part 17 – Total recapture of SR&ED investment tax credit**

Recaptured ITC from calculation 1, amount A3 in Part 16	.....	C3
Recaptured ITC from calculation 2, amount B3 in Part 16	.....	D3
Recaptured ITC from calculation 3, line 760 in Part 16	.....	E3
<b>Total recapture of SR&amp;ED investment tax credit</b> (total of amounts C3 to E3)	.....	<b>F3</b>
Enter at amount A8 in Part 29.		

### Pre-Production Mining

#### Part 18 – Pre-production mining expenditures

##### Exploration information

A mineral resource that qualifies for the credit means a mineral deposit from which the principal mineral to be extracted is diamond, a base or precious metal deposit, or a mineral deposit from which the principal mineral to be extracted is an industrial mineral that, when refined, results in a base or precious metal.

In column 800, list all minerals for which pre-production mining expenditures have taken place in the tax year.

For each of the minerals reported in column 800, identify each project (in column 805), mineral title (in column 806), and mining division (in column 807) where title is registered. If there is no mineral title, identify only the project and mining division.

<b>List of minerals</b> <b>800</b>	<b>Project name</b> <b>805</b>
<b>Mineral title</b> <b>806</b>	<b>Mining division</b> <b>807</b>

##### Pre-production mining expenditures\*

##### Exploration:

Pre-production mining expenditures that you incurred in the tax year (**before** January 1, 2014) for the purpose of determining the existence, location, extent, or quality of a mineral resource in Canada:

Prospecting .....	<b>810</b>
Geological, geophysical, or geochemical surveys .....	<b>811</b>
Drilling by rotary, diamond, percussion, or other methods .....	<b>812</b>
Trenching, digging test pits, and preliminary sampling .....	<b>813</b>

##### Development:

Pre-production mining expenditures incurred in the tax year for bringing a new mine in a mineral resource in Canada into production in reasonable commercial quantities and incurred before the new mine comes into production in such quantities:

Clearing, removing overburden, and stripping .....	<b>820</b>
Sinking a mine shaft, constructing an adit, or other underground entry .....	<b>821</b>

Other pre-production mining expenditures incurred in the tax year:

Description <b>825</b>	Amount <b>826</b>
Total of column 826	▶ _____ A4

Total pre-production mining expenditures (total of lines 810 to 821 and amount A4) ..... **830**

Total of all assistance (grants, subsidies, rebates, and forgivable loans) or reimbursements that the corporation has received or is entitled to receive in respect of the amounts referred to on line 830 above ..... **832**

Excess (line 830 **minus** line 832) (if negative, enter "0") ..... B4

Repayments of government and non-government assistance ..... **835**

**Pre-production mining expenditures** (amount B4 **plus** line 835) ..... C4

\* A pre-production mining expenditure is defined under subsection 127(9).

**Part 19 – Current-year credit and account balances – ITC from pre-production mining expenditures**

ITC at the end of the previous tax year ..... D4

Credit deemed as a remittance of co-op corporations ..... **841** \_\_\_\_\_

Credit expired ..... **845** \_\_\_\_\_

Subtotal (line 841 plus line 845) ..... **850** \_\_\_\_\_ E4

ITC at the beginning of the tax year (amount D4 minus amount E4) ..... **850** \_\_\_\_\_

Credit transferred on an amalgamation or the wind-up of a subsidiary ..... **860** \_\_\_\_\_

Pre-production mining expenditures\*  
incurred before January 1, 2013  
(applicable part from amount C4 in Part 18) .. **870** \_\_\_\_\_ x 10 % = \_\_\_\_\_ m

Pre-production mining exploration  
expenditures\*\* incurred in 2013  
(applicable part from amount C4 in Part 18) .. **872** \_\_\_\_\_ x 5 % = \_\_\_\_\_ n

Pre-production mining development  
expenditures incurred in 2014  
(applicable part from amount C4 in Part 18) .. **874** \_\_\_\_\_ x 7 % = \_\_\_\_\_ o

Pre-production mining development  
expenditures incurred in 2015  
(applicable part from amount C4 in Part 18) .. **876** \_\_\_\_\_ x 4 % = \_\_\_\_\_ p

Current year credit (total of amounts m to p) **880** \_\_\_\_\_ F4

Total credit available (total of lines 850, 860, and amount F4) ..... G4

Credit deducted from Part I tax ..... **885** \_\_\_\_\_

Credit carried back to previous years (amount I4 in Part 20) ..... q

Subtotal (line 885 plus amount q) ..... H4

**ITC closing balance from pre-production mining expenditures** (amount G4 minus amount H4) ..... **890** \_\_\_\_\_

\* Also include pre-production mining development expenditures incurred before 2014 and pre-production mining development expenditures incurred after 2013 and before 2016 that are eligible for transitional relief.

\*\* Also include pre-production mining development expenditures incurred in 2015 if the expense is described in subparagraph (a)(ii) of the definition **pre-production mining expenditure** in subsection 127(9) of the Act because of paragraph (g.4) of the definition **Canadian exploration expense** in subsection 66.1(6) of the Act.

**Part 20 – Request for carryback of credit from pre-production mining expenditures**

	Year	Month	Day		
1st previous tax year				..... Credit to be applied	<b>921</b> _____
2nd previous tax year				..... Credit to be applied	<b>922</b> _____
3rd previous tax year				..... Credit to be applied	<b>923</b> _____
Total of lines 921 to 923					..... I4
Enter at amount q in Part 19.					_____

**Apprenticeship Job Creation**

**Part 21 – Total current-year credit – ITC from apprenticeship job creation expenditures**

If you are a related person as defined under subsection 251(2), has it been agreed in writing that you are the only employer who will be claiming the apprenticeship job creation tax credit for this tax year for each apprentice whose contract number (or social insurance number (SIN) or name) appears below? (If not, you cannot claim the tax credit.) ..... **611** 1 Yes  2 No

For each apprentice in their first 24 months of the apprenticeship, enter the apprenticeship contract number registered with Canada, or a province or territory, under an apprenticeship program designed to certify or license individuals in the trade. For the province, the trade must be a Red Seal trade. If there is no contract number, enter the SIN or the name of the eligible apprentice.

	A Contract number (SIN or name of apprentice)	B Name of eligible trade	C Eligible salary and wages*	D Column C x 10 %	E Lesser of column D or \$ 2,000
	<b>601</b>	<b>602</b>	<b>603</b>	<b>604</b>	<b>605</b>
1.		434A	11,084	1,108	1,108
2.		434A	10,429	1,043	1,043

	A Contract number (SIN or name of apprentice) <b>601</b>	B Name of eligible trade <b>602</b>	C Eligible salary and wages* <b>603</b>	D Column C x 10 % <b>604</b>	E Lesser of column D or \$ 2,000 <b>605</b>
3.		434A	12,878	1,288	1,288
4.		310T	19,116	1,912	1,912
5.		310T	17,962	1,796	1,796
6.		310T	12,731	1,273	1,273
7.		434A	13,739	1,374	1,374
8.		434A	15,578	1,558	1,558
9.		434A	14,787	1,479	1,479
10.		434A	12,046	1,205	1,205
11.		434A	15,055	1,506	1,506
12.		434A	14,174	1,417	1,417
13.		434A	16,065	1,607	1,607
14.		434A	14,902	1,490	1,490
15.		434A	13,856	1,386	1,386
16.		434A	18,119	1,812	1,812
17.		434A	14,791	1,479	1,479
18.		434A	16,012	1,601	1,601
19.		434A	17,162	1,716	1,716
20.		434A	15,356	1,536	1,536
21.		434A	13,538	1,354	1,354
22.		434A	23,447	2,345	2,000
23.		434A	16,682	1,668	1,668
24.		434A	19,240	1,924	1,924
25.		434A	14,752	1,475	1,475
26.		434A	16,438	1,644	1,644
27.		434A	15,481	1,548	1,548
28.		434A	14,905	1,491	1,491
29.		434A	16,653	1,665	1,665
30.		434A	17,626	1,763	1,763
31.		434A	15,092	1,509	1,509
32.		434A	18,992	1,899	1,899
33.		434A	19,939	1,994	1,994
34.		434A	21,288	2,129	2,000
35.		434A	25,935	2,594	2,000
36.		434A	20,455	2,046	2,000
37.		434A	22,307	2,231	2,000
38.		434A	24,262	2,426	2,000
39.		434A	22,843	2,284	2,000
40.		434A	22,588	2,259	2,000
41.		434A	19,859	1,986	1,986
42.		434A	21,150	2,115	2,000
43.		434A	27,198	2,720	2,000
44.		434A	20,656	2,066	2,000
45.		434A	20,979	2,098	2,000
46.		434A	13,849	1,385	1,385
47.		434A	21,604	2,160	2,000
48.		434A	20,582	2,058	2,000
49.		434A	35,663	3,566	2,000
50.		434A	20,858	2,086	2,000
51.		434A	22,826	2,283	2,000
52.		434A	22,613	2,261	2,000
53.		434A	27,953	2,795	2,000
54.		434A	22,699	2,270	2,000
55.		434A	29,183	2,918	2,000
56.		434A	21,051	2,105	2,000



	A Contract number (SIN or name of apprentice) <b>601</b>	B Name of eligible trade <b>602</b>	C Eligible salary and wages* <b>603</b>	D Column C x 10 % <b>604</b>	E Lesser of column D or \$ 2,000 <b>605</b>
57.		434A	22,626	2,263	2,000
58.		434A	23,477	2,348	2,000
59.		434A	20,589	2,059	2,000
60.		434A	20,265	2,027	2,000
61.		434A	28,707	2,871	2,000
62.		309A	25,338	2,534	2,000
63.		309A	19,344	1,934	1,934
64.		433A	36,658	3,666	2,000
65.		433A	30,641	3,064	2,000
66.		434A	34,251	3,425	2,000
67.		434A	38,810	3,881	2,000
68.		434A	51,267	5,127	2,000
69.		434A	37,723	3,772	2,000
70.		434A	40,816	4,082	2,000
71.		434A	33,983	3,398	2,000
72.		434A	39,617	3,962	2,000
73.		434A	37,240	3,724	2,000
74.		434A	34,139	3,414	2,000
75.		434A	46,118	4,612	2,000
76.		434A	40,664	4,066	2,000
77.		434A	43,405	4,341	2,000
78.		434A	41,286	4,129	2,000
79.		434A	37,221	3,722	2,000
80.		434A	40,873	4,087	2,000
81.		434A	39,031	3,903	2,000
82.		434A	36,863	3,686	2,000
83.		434A	34,056	3,406	2,000
84.		434A	34,255	3,426	2,000
85.		434A	35,517	3,552	2,000
86.		434A	34,056	3,406	2,000
87.		434A	47,236	4,724	2,000
88.		434A	38,635	3,864	2,000
89.		434A	34,085	3,409	2,000
90.		434A	42,627	4,263	2,000
91.		434A	47,635	4,764	2,000
92.		434A	37,730	3,773	2,000
93.		434A	39,141	3,914	2,000
94.		434A	33,876	3,388	2,000
95.		434A	36,972	3,697	2,000
96.		434A	37,127	3,713	2,000
97.		434A	36,653	3,665	2,000
98.		309A	23,398	2,340	2,000
99.		309A	27,555	2,756	2,000
100.		309A	35,905	3,591	2,000
101.		309A	40,171	4,017	2,000
102.		309A	28,917	2,892	2,000
103.		309A	34,716	3,472	2,000
104.		309A	53,053	5,305	2,000
105.		309A	25,508	2,551	2,000
106.		309A	32,709	3,271	2,000
107.		434A	46,536	4,654	2,000
108.		434A	44,039	4,404	2,000
109.		309A	29,172	2,917	2,000
110.		309A	38,007	3,801	2,000

	A Contract number (SIN or name of apprentice) <b>601</b>	B Name of eligible trade <b>602</b>	C Eligible salary and wages* <b>603</b>	D Column C x 10 % <b>604</b>	E Lesser of column D or \$ 2,000 <b>605</b>
111		434A	53,639	5,364	2,000
112		434A	51,277	5,128	2,000
113		434A	53,560	5,356	2,000
114		434A	58,971	5,897	2,000
115		434A	57,349	5,735	2,000
116		434A	50,063	5,006	2,000
117		434A	50,385	5,039	2,000
118		434A	51,637	5,164	2,000
119		434A	62,832	6,283	2,000
120		434A	53,385	5,339	2,000
121		434A	43,425	4,343	2,000
122		434A	58,762	5,876	2,000
123		434A	53,068	5,307	2,000
124		434A	52,588	5,259	2,000
125		434A	54,223	5,422	2,000
126		309A	73,721	7,372	2,000
127		309A	40,624	4,062	2,000
128		309A	73,321	7,332	2,000
129		309A	31,241	3,124	2,000
130		434A	39,252	3,925	2,000
131		310T	57,349	5,735	2,000
132		310T	47,586	4,759	2,000
133		310T	60,635	6,064	2,000
134		310T	64,043	6,404	2,000
135		434A	56,423	5,642	2,000
136		434A	27,652	2,765	2,000
137		434A	65,434	6,543	2,000
138		434A	73,646	7,365	2,000
139		434A	60,341	6,034	2,000
140		434A	58,045	5,805	2,000
141		434A	66,973	6,697	2,000
142		434A	55,763	5,576	2,000
143		434A	53,828	5,383	2,000
144		434A	62,532	6,253	2,000
145		434A	72,759	7,276	2,000
146		434A	64,574	6,457	2,000
147		434A	38,607	3,861	2,000
148		434A	66,920	6,692	2,000
149		434A	93,962	9,396	2,000
150		434A	70,620	7,062	2,000
151		309A	47,672	4,767	2,000
152		309A	49,363	4,936	2,000
153		309A	45,503	4,550	2,000
154		309A	41,491	4,149	2,000
155		309A	22,458	2,246	2,000
156		309A	38,070	3,807	2,000
157		309A	40,723	4,072	2,000
158		309A	54,995	5,500	2,000
159		309A	44,753	4,475	2,000
160		309A	37,043	3,704	2,000
161		434A	93,749	9,375	2,000
162		434A	74,822	7,482	2,000
163		434A	69,326	6,933	2,000
164		434A	60,231	6,023	2,000

	A Contract number (SIN or name of apprentice) <b>601</b>	B Name of eligible trade <b>602</b>	C Eligible salary and wages* <b>603</b>	D Column C x 10 % <b>604</b>	E Lesser of column D or \$ 2,000 <b>605</b>
165		434A	57,713	5,771	2,000
166		434A	115,156	11,516	2,000
167		434A	70,944	7,094	2,000
168		434A	63,298	6,330	2,000
169		434A	60,436	6,044	2,000
170		434A	56,337	5,634	2,000
171		434A	64,509	6,451	2,000
172		434A	71,261	7,126	2,000
173		434A	54,242	5,424	2,000
174		434A	64,378	6,438	2,000
175		434A	64,236	6,424	2,000
176		434A	72,109	7,211	2,000
177		434A	62,202	6,220	2,000
178		434A	69,205	6,921	2,000
179		434A	57,245	5,725	2,000
180		434A	57,766	5,777	2,000
181		434A	56,187	5,619	2,000
182		434A	72,666	7,267	2,000
183		434A	64,913	6,491	2,000
184		434A	68,352	6,835	2,000
185		434A	63,201	6,320	2,000
186		434A	87,576	8,758	2,000
187		434A	83,558	8,356	2,000
188		434A	63,876	6,388	2,000
189		434A	61,995	6,200	2,000
190		434A	67,654	6,765	2,000
191		434A	66,122	6,612	2,000
192		434A	68,175	6,818	2,000
193		434A	62,142	6,214	2,000
194		434A	60,800	6,080	2,000
195		434A	61,712	6,171	2,000
196		434A	59,481	5,948	2,000
197		434A	69,398	6,940	2,000
198		434A	71,700	7,170	2,000
199		434A	63,708	6,371	2,000
200		434A	76,488	7,649	2,000
201		434A	56,001	5,600	2,000
202		434A	68,044	6,804	2,000
203		309A	47,947	4,795	2,000
204		309A	50,354	5,035	2,000
205		434A	63,852	6,385	2,000
206		434A	68,575	6,858	2,000
207		434A	68,642	6,864	2,000
208		434A	59,566	5,957	2,000
209		434A	72,357	7,236	2,000
210		434A	71,943	7,194	2,000
211		434A	66,276	6,628	2,000
212		434A	53,791	5,379	2,000
213		434A	63,185	6,319	2,000
214		434A	50,804	5,080	2,000
215		434A	62,934	6,293	2,000
216		434A	64,256	6,426	2,000
217		434A	68,985	6,899	2,000
218		434A	80,508	8,051	2,000

	A Contract number (SIN or name of apprentice) <b>601</b>	B Name of eligible trade <b>602</b>	C Eligible salary and wages* <b>603</b>	D Column C x 10 % <b>604</b>	E Lesser of column D or \$ 2,000 <b>605</b>
219		434A	71,928	7,193	2,000
220		309A	42,066	4,207	2,000
221		309A	17,689	1,769	1,769
222		434A	4,507	451	451
223		434A	62,492	6,249	2,000
224		434A	55,558	5,556	2,000
225		434A	51,680	5,168	2,000
226		434A	59,583	5,958	2,000
227		434A	154,690	15,469	2,000
228		434A	70,301	7,030	2,000
229		434A	60,379	6,038	2,000
230		434A	70,031	7,003	2,000
231		434A	56,618	5,662	2,000
232		434A	61,292	6,129	2,000
233		434A	55,487	5,549	2,000
234		434A	61,969	6,197	2,000
235		434A	68,154	6,815	2,000
236		434A	61,930	6,193	2,000
237		434A	62,830	6,283	2,000
238		434A	68,467	6,847	2,000
239		434A	52,550	5,255	2,000
240		434A	57,767	5,777	2,000
241		434A	62,120	6,212	2,000
242		434A	58,995	5,900	2,000
243		434A	65,005	6,501	2,000
244		309A	39,166	3,917	2,000
245		309A	59,381	5,938	2,000
246		309A	45,916	4,592	2,000
247		309A	51,223	5,122	2,000
248		309A	42,641	4,264	2,000
249		309A	69,214	6,921	2,000
250		309A	48,993	4,899	2,000
251		309A	49,069	4,907	2,000
252		309A	75,877	7,588	2,000
253		309A	40,987	4,099	2,000
254		309A	51,860	5,186	2,000
255		309A	55,015	5,502	2,000
256		309A	45,422	4,542	2,000
257		309A	49,076	4,908	2,000
258		309A	51,973	5,197	2,000
259		309A	44,717	4,472	2,000
260		309A	57,099	5,710	2,000
261		309A	51,565	5,157	2,000
262		309A	58,406	5,841	2,000
263		309A	13,391	1,339	1,339
264		309A	51,161	5,116	2,000
265		309A	41,436	4,144	2,000
266		309A	14,718	1,472	1,472
267		309A	24,931	2,493	2,000
268		434A	82,616	8,262	2,000
269		434A	62,203	6,220	2,000
270		434A	54,286	5,429	2,000
271		434A	52,189	5,219	2,000
272		434A	60,307	6,031	2,000

	A Contract number (SIN or name of apprentice) <b>601</b>	B Name of eligible trade <b>602</b>	C Eligible salary and wages* <b>603</b>	D Column C x 10 % <b>604</b>	E Lesser of column D or \$ 2,000 <b>605</b>
273		434A	55,476	5,548	2,000
274		434A	59,208	5,921	2,000
275		434A	51,655	5,166	2,000
276		434A	53,504	5,350	2,000
277		434A	55,293	5,529	2,000
278		434A	53,137	5,314	2,000
279		434A	54,847	5,485	2,000
280		434A	54,517	5,452	2,000
281		434A	54,030	5,403	2,000
282		434A	55,401	5,540	2,000
283		434A	63,292	6,329	2,000
284		434A	33,582	3,358	2,000
285		434A	53,172	5,317	2,000
286		309A	14,932	1,493	1,493
287		434A	57,339	5,734	2,000
288		434A	57,667	5,767	2,000
289		434A	54,852	5,485	2,000
290		434A	33,776	3,378	2,000
291		434A	62,085	6,209	2,000
292		434A	51,226	5,123	2,000
293		434A	59,315	5,932	2,000
294		434A	47,202	4,720	2,000
295		434A	59,848	5,985	2,000
296		434A	56,133	5,613	2,000
297		434A	50,368	5,037	2,000
298		434A	56,746	5,675	2,000
299		434A	49,725	4,973	2,000
300		434A	64,022	6,402	2,000
301		434A	52,187	5,219	2,000
302		403A	25,680	2,568	2,000
303		310T	53,812	5,381	2,000
304		310T	45,890	4,589	2,000
305		310T	40,191	4,019	2,000
306		310T	39,178	3,918	2,000
307		310T	43,920	4,392	2,000
308		310T	37,989	3,799	2,000
309		309A	46,588	4,659	2,000
310		434A	45,275	4,528	2,000
311		434A	41,316	4,132	2,000
312		434A	44,255	4,426	2,000
313		434A	52,296	5,230	2,000
314		434A	40,811	4,081	2,000
315		434A	45,436	4,544	2,000
316		434A	45,951	4,595	2,000
317		434A	46,335	4,634	2,000
318		434A	61,881	6,188	2,000
319		434A	48,410	4,841	2,000
320		434A	48,379	4,838	2,000
321		434A	44,445	4,445	2,000
322		434A	41,901	4,190	2,000
323		434A	44,995	4,500	2,000
324		434A	44,715	4,472	2,000
325		434A	42,734	4,273	2,000
326		309A	33,125	3,313	2,000

	A Contract number (SIN or name of apprentice) <b>601</b>	B Name of eligible trade <b>602</b>	C Eligible salary and wages* <b>603</b>	D Column C x 10 % <b>604</b>	E Lesser of column D or \$ 2,000 <b>605</b>
327		434A	61,234	6,123	2,000
328		309A	36,497	3,650	2,000
329		309A	32,479	3,248	2,000
330		309A	30,798	3,080	2,000
331		309A	34,848	3,485	2,000
332		309A	25,821	2,582	2,000
333		434A	39,329	3,933	2,000
334		434A	46,691	4,669	2,000
335		434A	45,363	4,536	2,000
336		434A	24,047	2,405	2,000
337		434A	51,118	5,112	2,000
338		434A	57,453	5,745	2,000
339		434A	44,382	4,438	2,000
340		434A	49,839	4,984	2,000
341		434A	47,614	4,761	2,000
342		434A	43,262	4,326	2,000
343		434A	42,536	4,254	2,000
344		434A	42,872	4,287	2,000
345		434A	43,569	4,357	2,000
346		434A	41,382	4,138	2,000
347		434A	41,052	4,105	2,000
348		434A	45,818	4,582	2,000
349		434A	29,175	2,918	2,000
350		434A	26,013	2,601	2,000
351		434A	47,597	4,760	2,000
352		434A	42,866	4,287	2,000
353		434A	27,539	2,754	2,000
354		434A	39,067	3,907	2,000
355		434A	45,799	4,580	2,000
356		434A	42,626	4,263	2,000
357		434A	39,940	3,994	2,000
358		434A	25,389	2,539	2,000
359		434A	49,884	4,988	2,000
360		434A	41,716	4,172	2,000
361		434A	38,020	3,802	2,000
362		434A	41,349	4,135	2,000
363		434A	35,521	3,552	2,000
364		434A	31,751	3,175	2,000
365		434A	32,218	3,222	2,000
366		434A	31,569	3,157	2,000
367		434A	32,774	3,277	2,000
368		434A	20,327	2,033	2,000
369		434A	34,897	3,490	2,000
370		434A	30,218	3,022	2,000
371		434A	22,415	2,242	2,000
372		434A	35,080	3,508	2,000
373		434A	30,423	3,042	2,000
374		434A	1,800	180	180
375		434A	31,470	3,147	2,000
376		434A	32,081	3,208	2,000
377		434A	30,087	3,009	2,000
378		434A	28,132	2,813	2,000
379		434A	30,596	3,060	2,000
380		403A	20,468	2,047	2,000

	A Contract number (SIN or name of apprentice) <b>601</b>	B Name of eligible trade <b>602</b>	C Eligible salary and wages* <b>603</b>	D Column C x 10 % <b>604</b>	E Lesser of column D or \$ 2,000 <b>605</b>
381		403A	30,468	3,047	2,000
382		309A	25,526	2,553	2,000
383		309A	26,550	2,655	2,000
384		309A	28,441	2,844	2,000
385		309A	26,638	2,664	2,000
386		309A	27,379	2,738	2,000
387		309A	31,198	3,120	2,000
388		309A	25,517	2,552	2,000
389		309A	23,249	2,325	2,000
390		309A	30,347	3,035	2,000
391		309A	14,069	1,407	1,407
392		309A	22,308	2,231	2,000
393		309A	27,060	2,706	2,000
394		309A	23,696	2,370	2,000
395		309A	36,610	3,661	2,000
396		309A	25,712	2,571	2,000
397		309A	20,118	2,012	2,000
398		434A	32,302	3,230	2,000
399		434A	34,266	3,427	2,000
400		434A	34,421	3,442	2,000
401		434A	27,594	2,759	2,000
402		434A	31,798	3,180	2,000
403		434A	23,089	2,309	2,000
404		434A	31,601	3,160	2,000
405		434A	34,827	3,483	2,000
406		434A	30,220	3,022	2,000
407		434A	4,985	499	499
408		434A	27,428	2,743	2,000
409		434A	25,005	2,501	2,000
410		434A	30,974	3,097	2,000
411		309A	18,050	1,805	1,805
412		434A	23,456	2,346	2,000
413		434A	19,762	1,976	1,976
414		434A	21,358	2,136	2,000
415		434A	21,471	2,147	2,000
416		434A	20,354	2,035	2,000
417		434A	23,400	2,340	2,000
418		434A	15,555	1,556	1,556
419		434A	21,084	2,108	2,000
420		434A	23,049	2,305	2,000
421		434A	20,505	2,051	2,000
422		434A	21,588	2,159	2,000
423		434A	24,658	2,466	2,000
424		434A	24,830	2,483	2,000
425		434A	24,513	2,451	2,000
426		434A	25,137	2,514	2,000
427		434A	18,665	1,867	1,867
428		403A	13,533	1,353	1,353
429		309A	12,342	1,234	1,234
430		434A	21,505	2,151	2,000
431		434A	18,114	1,811	1,811
432		434A	19,390	1,939	1,939
433		434A	23,765	2,377	2,000
434		434A	22,809	2,281	2,000

	A Contract number (SIN or name of apprentice)	B Name of eligible trade	C Eligible salary and wages*	D Column C x 10 %	E Lesser of column D or \$ 2,000
	601	602	603	604	605
435		434A	21,510	2,151	2,000
436		434A	20,250	2,025	2,000
437		434A	18,023	1,802	1,802
438		434A	20,464	2,046	2,000
439		434A	26,502	2,650	2,000
440		434A	19,821	1,982	1,982
441		434A	25,019	2,502	2,000
442		434A	20,554	2,055	2,000
443		434A	24,541	2,454	2,000
444		434A	19,003	1,900	1,900
445		434A	19,348	1,935	1,935
446		309A	8,555	856	856
447		309A	20,423	2,042	2,000
448		309A	8,600	860	860
449		309A	20,593	2,059	2,000
450		309A	16,947	1,695	1,695
451		309A	10,184	1,018	1,018
452		309A	11,040	1,104	1,104
453		309A	12,929	1,293	1,293
454		309A	9,944	994	994
455		309A	10,676	1,068	1,068
456		309A	9,202	920	920
457		434A	14,413	1,441	1,441
458		309A	9,278	928	928
459		309A	14,345	1,435	1,435
460		309A	7,723	772	772
461		309A	6,955	696	696
462		309A	9,962	996	996
463		309A	2,893	289	289
464		309A	11,251	1,125	1,125
465		309A	7,661	766	766
466		434A	15,829	1,583	1,583
467		434A	10,269	1,027	1,027
468		434A	4,914	491	491
469		434A	3,371	337	337
470		434A	1,741	174	174
471		434A	818	82	82
472		434A	1,413	141	141
Total current-year credit (total of column E) Enter on line 640 in Part 22.					890,686

A5

\* Other than qualified expenditure incurred, and net of any other government or non-government assistance received or to be received. **Eligible salary and wages**, and **qualified expenditures** are defined under subsection 127(9).



**Part 22 – Current-year credit and account balances – ITC from apprenticeship job creation expenditures**

ITC at the end of the previous tax year		581,903	B5
Credit deemed as a remittance of co-op corporations	<b>612</b>		
Credit expired after 20 tax years	<b>615</b>		
Subtotal (line 612 plus line 615)			C5
ITC at the beginning of the tax year (amount B5 minus amount C5)	<b>625</b>	581,903	
Credit transferred on an amalgamation or the wind-up of a subsidiary	<b>630</b>		
ITC from repayment of assistance	<b>635</b>		
Total current-year credit (amount A5 in Part 21)	<b>640</b>	890,686	
Credit allocated from a partnership	<b>655</b>		
Subtotal (total of lines 630 to 655)		890,686	D5
Total credit available (line 625 plus amount D5)		1,472,589	E5
Credit deducted from Part I tax	<b>660</b>		
Credit carried back to previous years (amount G5 in Part 23)			r
Subtotal (line 660 plus amount r)			F5
<b>ITC closing balance from apprenticeship job creation expenditures</b> (amount E5 minus amount F5)	<b>690</b>	<b>1,472,589</b>	

**Part 23 – Request for carryback of credit from apprenticeship job creation expenditures**

	Year	Month	Day			
1st previous tax year				..... Credit to be applied	<b>931</b>	
2nd previous tax year				..... Credit to be applied	<b>932</b>	
3rd previous tax year				..... Credit to be applied	<b>933</b>	
				Total of lines 931 to 933		G5
				Enter at amount r in Part 22.		

### Child Care Spaces

#### Part 24 – Eligible child care spaces expenditures

Enter the eligible expenditures that you incurred after March 18, 2007 and before March 22, 2017\* to create licensed child care spaces for the children of the employees and, potentially, for other children. You cannot be carrying on a child care services business. The eligible expenditures include:

- the cost of depreciable property (other than specified property); and
- the specified child care start-up expenditures.

Properties should be acquired and expenditures should be incurred only to create new child care spaces at a licensed child care facility.

##### Cost of depreciable property from the current tax year

Capital cost allowance class number	Description of investment	Date available for use	Amount of investment
665	675	685	695
1.			
Total cost of depreciable property from the current tax year (total of column 695)			<b>715</b>

Specified child care start-up expenditures from the current tax year	<b>705</b>	
Total gross eligible expenditures for child care spaces (line 715 plus line 705)		A6
Total of all assistance (including grants, subsidies, rebates, and forgivable loans) or reimbursements that the corporation has received or is entitled to receive in respect of the amounts referred to in amount A6	<b>725</b>	
Excess (amount A6 minus line 725) (if negative, enter "0")		B6
Repayments by the corporation of government and non-government assistance	<b>735</b>	
<b>Total eligible expenditures for child care spaces</b> (amount B6 plus line 735)	<b>745</b>	

\* If you entered into a written agreement before March 22, 2017, eligible expenditures incurred before 2020 will remain eligible for the credit.

#### Part 25 – Current-year credit – ITC from child care spaces expenditures

The credit is equal to 25% of eligible child care spaces expenditures incurred to a maximum of \$10,000 per child care space created in a licensed child care facility.

Eligible expenditures (from line 745 in Part 24)	x	25 %	=		C6
Number of child care spaces		x \$	10,000	=	D6
<b>ITC from child care spaces expenditures</b> (amount C6 or D6, whichever is less)					E6

**Part 26 – Current-year credit and account balances – ITC from child care spaces expenditures**

ITC at the end of the previous tax year			F6
Credit deemed as a remittance of co-op corporations	765		
Credit expired after 20 tax years	770		
	Subtotal (line 765 plus line 770)		G6
ITC at the beginning of the tax year (amount F6 minus amount G6)		775	
Credit transferred on an amalgamation or the wind-up of a subsidiary	777		
Total current-year credit (amount E6 in Part 25)	780		
Credit allocated from a partnership	782		
	Subtotal (total of lines 777 to 782)		H6
Total credit available (line 775 plus amount H6)			I6
Credit deducted from Part I tax	785		
Credit carried back to previous years (amount K6 in Part 27)		s	
	Subtotal (line 785 plus amount s)		J6
ITC closing balance from child care spaces expenditures (amount I6 minus amount J6)		790	

**Part 27 – Request for carryback of credit from child care space expenditures**

	Year	Month	Day			
1st previous tax year	2016	12	31	Credit to be applied	941	
2nd previous tax year	2015	12	31	Credit to be applied	942	
3rd previous tax year	2015	11	04	Credit to be applied	943	
				Total of lines 941 to 943		K6
				Enter at amount s in Part 26.		

### Recapture – Child Care Spaces

#### Part 28 – Recapture of ITC for corporations and partnerships – Child care spaces

The ITC will be recovered against the taxpayer's tax otherwise payable under Part I of the Act if, at any time within 60 months of the day on which the taxpayer acquired the property:

- the new child care space is no longer available; or
- property that was an eligible expenditure for the child care space is:
  - disposed of or leased to a lessee; or
  - converted to another use.

If the property disposed of is a child care space, the amount that can reasonably be considered to have been included in the original ITC (paragraph 127(27.12)(a)) ..... **792** \_\_\_\_\_

In the case of eligible expenditures (paragraph 127(27.12)(b)), the lesser of:

The amount that can reasonably be considered to have been included in the original ITC . . . . **795** \_\_\_\_\_

25% of either the proceeds of disposition (if sold in an arm's length transaction) or the fair market value (in any other case) of the property . . . . . **797** \_\_\_\_\_

Amount from line 795 or line 797, whichever is less . . . . . \_\_\_\_\_ **A7**

#### Partnerships

As a member of the partnership, you will report your share of the child care spaces ITC of the partnership after the child care spaces ITC has been reduced by the amount of the recapture. If this amount is a positive amount, you will report it on line 782 in Part 26. However, if the partnership does not have enough ITC otherwise available to offset the recapture, then the amount by which reductions to ITC exceed additions (the excess) will be determined and reported on line 799 below.

Corporate partner's share of the excess of ITC **799** \_\_\_\_\_

**Total recapture of child care spaces investment tax credit** (total of line 792, amount A7, and line 799) . . . . . \_\_\_\_\_ **B7**

Enter at amount B8 in Part 29.

### Summary of Investment Tax Credits

#### Part 29 – Total recapture of investment tax credit

Recaptured SR&ED ITC (amount F3 in Part 17) . . . . . \_\_\_\_\_ **A8**

Recaptured child care spaces ITC (amount B7 in Part 28) . . . . . \_\_\_\_\_ **B8**

**Total recapture of investment tax credit** (amount A8 plus amount B8) . . . . . \_\_\_\_\_ **C8**

Enter on line 602 of the T2 return.

#### Part 30 – Total ITC deducted from Part I tax

ITC from investments in qualified property deducted from Part I tax (line 260 in Part 5) . . . . . \_\_\_\_\_ **D8**

ITC from SR&ED expenditures deducted from Part I tax (line 560 in Part 12) . . . . . \_\_\_\_\_ **E8**

ITC from pre-production mining expenditures deducted from Part I tax (line 885 in Part 19) . . . . . \_\_\_\_\_ **F8**

ITC from apprenticeship job creation expenditures deducted from Part I tax (line 660 in Part 22) . . . . . \_\_\_\_\_ **G8**

ITC from child care space expenditures deducted from Part I tax (line 785 in Part 26) . . . . . \_\_\_\_\_ **H8**

**Total ITC deducted from Part I tax** (total of amounts D8 to H8) . . . . . \_\_\_\_\_ **I8**

Enter on line 652 of the T2 return.

## Summary of Investment Tax Credit Carryovers

### Continuity of investment tax credit carryovers

CCA class number 97 Apprenticeship job creation ITC

#### Current year

Addition current year (A)	Applied current year (B)	Claimed as a refund (C)	Carried back (D)	ITC end of year (A-B-C-D)
890,686				890,686

#### Prior years

Taxation year	ITC beginning of year (E)	Adjustments (F)	Applied current year (G)	ITC end of year (E-F-G)
2016-12-31	580,013			580,013
2015-12-31	1,890			1,890
2015-11-04				
2015-10-31				
2014-12-31				
2013-12-31				
2012-12-31				
2011-12-31				
2010-12-31				
2009-12-31				*
2008-12-31				
2007-12-31				
2006-12-31				
2005-12-31				
2004-12-31				
2003-12-31				
2002-12-31				
2001-12-31				
2000-12-31				
1999-12-31				*
<b>Total</b>	<b>581,903</b>			<b>581,903</b>

B+C+D+G

**Total ITC utilized**

\* The ITC end of year includes the amount of ITC expired from the 10<sup>th</sup> preceding year if it is before January 1, 1998, or the amount of ITC expired from the 20<sup>th</sup> preceding year if it is after December 31, 1997. Note that this credit expires at the end of the tax year and any expired credit will be posted to line 215, 515, 615, 770 or 845, as applicable, in Schedule 31 the following year.

## Summary of Investment Tax Credit Carryovers

### Continuity of investment tax credit carryovers

CCA class number 99 Cur. or cap. R&D for ITC

#### Current year

Addition current year (A)	Applied current year (B)	Claimed as a refund (C)	Carried back (D)	ITC end of year (A-B-C-D)
235,603				235,603

#### Prior years

Taxation year	ITC beginning of year (E)	Adjustments (F)	Applied current year (G)	ITC end of year (E-F-G)
2016-12-31	1,043,571			1,043,571
2015-12-31	213,699			213,699
2015-11-04				
2015-10-31				
2014-12-31				
2013-12-31				
2012-12-31				
2011-12-31				
2010-12-31				
2009-12-31				*
2008-12-31				
2007-12-31				
2006-12-31				
2005-12-31				
2004-12-31				
2003-12-31				
2002-12-31				
2001-12-31				
2000-12-31				
1999-12-31				*
<b>Total</b>	1,257,270			1,257,270

B+C+D+G

**Total ITC utilized**

\* The **ITC end of year** includes the amount of ITC expired from the 10<sup>th</sup> preceding year if it is before January 1, 1998, or the amount of ITC expired from the 20<sup>th</sup> preceding year if it is after December 31, 1997. Note that this credit expires at the end of the tax year and any expired credit will be posted to line 215, 515, 615, 770 or 845, as applicable, in Schedule 31 the following year.

## Taxable Capital Employed in Canada – Large Corporations

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- Use this schedule in determining if the total taxable capital employed in Canada of the corporation (other than a financial institution or an insurance corporation) and its related corporations is greater than \$10,000,000.
- If the total taxable capital employed in Canada of the corporation and its related corporations is greater than \$10,000,000, file a completed Schedule 33 with your T2 *Corporation Income Tax Return* no later than six months from the end of the tax year.
- Unless otherwise noted, all legislative references are to the *Income Tax Act* and the *Income Tax Regulations*.
- Subsection 181(1) defines the terms **financial institution**, **long-term debt**, and **reserves**.
- Subsection 181(3) provides the basis to determine the carrying value of a corporation's assets or any other amount under Part I.3 for its capital, investment allowance, taxable capital, or taxable capital employed in Canada, or for a partnership in which it has an interest.
- If the corporation was a non-resident of Canada throughout the year and carried on a business through a permanent establishment in Canada, go to Part 4, **Taxable capital employed in Canada**.

### Part 1 – Capital

**Add** the following year-end amounts:

Reserves that have not been deducted in calculating income for the year under Part I	<b>101</b>	1,711,665,237		
Capital stock (or members' contributions if incorporated without share capital)	<b>103</b>	4,687,000,000		
Retained earnings	<b>104</b>	5,128,401,304		
Contributed surplus	<b>105</b>	5,000,000		
Any other surpluses	<b>106</b>			
Deferred unrealized foreign exchange gains	<b>107</b>			
All loans and advances to the corporation	<b>108</b>	10,789,486,321		
All indebtedness of the corporation represented by bonds, debentures, notes, mortgages, hypothecary claims, bankers' acceptances, or similar obligations	<b>109</b>			
Any dividends declared but not paid by the corporation before the end of the year	<b>110</b>			
All other indebtedness of the corporation (other than any indebtedness for a lease) that has been outstanding for more than 365 days before the end of the year	<b>111</b>			
The total of all amounts, each of which is the amount, if any, in respect of a partnership in which the corporation held a membership interest at the end of the year, either directly or indirectly through another partnership (see note below)	<b>112</b>			
Subtotal (add lines 101 to 112)		<b>22,321,552,862</b>	▶	22,321,552,862 A

**Note:**

Line 112 is determined by the formula  $(A - B) \times C/D$  (as per paragraph 181.2(3)(g)) where:

- A is the total of all amounts that would be determined for lines 101, 107, 108, 109, and 111 in respect of the partnership for its last fiscal period that ends at or before the end of the year if
  - a) those lines applied to partnerships in the same manner that they apply to corporations, and
  - b) those amounts were computed without reference to amounts owing by the partnership
    - (i) to any corporation that held a membership interest in the partnership either directly or indirectly through another partnership, or
    - (ii) to any partnership in which a corporation described in subparagraph (i) held a membership interest either directly or indirectly through another partnership.
- B is the partnership's deferred unrealized foreign exchange losses at the end of the period,
- C is the share of the partnership's income or loss for the period to which the corporation is entitled either directly or indirectly through another partnership, and
- D is the partnership's income or loss for the period.

**Part 1 – Capital (continued)**

Subtotal A (from page 1) 22,321,552,862 A

**Deduct** the following amounts:

Deferred tax debit balance at the end of the year	<b>121</b>	944,000,000	
Any deficit deducted in calculating its shareholders' equity (including, for this purpose, the amount of any provision for the redemption of preferred shares) at the end of the year	<b>122</b>		
To the extent that the amount may reasonably be regarded as being included in any of lines 101 to 112 above for the year, any amount deducted under subsection 135(1) in calculating income under Part I for the year.	<b>123</b>		
Deferred unrealized foreign exchange losses at the end of the year	<b>124</b>		
Subtotal (add lines 121 to 124)		<u>944,000,000</u>	<b>▶ 944,000,000</b> B
<b>Capital for the year</b> (amount A minus amount B) (if negative, enter "0")	<b>190</b>		<u><u>21,377,552,862</u></u>

**Part 2 – Investment allowance**

**Add** the carrying value at the end of the year of the following assets of the corporation:

A share of another corporation	<b>401</b>	
A loan or advance to another corporation (other than a financial institution)	<b>402</b>	3,013,162
A bond, debenture, note, mortgage, hypothecary claim, or similar obligation of another corporation (other than a financial institution)	<b>403</b>	
Long-term debt of a financial institution	<b>404</b>	
A dividend payable on a share of the capital stock of another corporation	<b>405</b>	
A loan or advance to, or a bond, debenture, note, mortgage, hypothecary claim or similar obligation of, a partnership each member of which was, throughout the year, another corporation (other than a financial institution) that was not exempt from tax under this Part (otherwise than because of paragraph 181.1(3)(d)), or another partnership described in paragraph 181.2(4)(d.1)	<b>406</b>	
An interest in a partnership (see note 2 below)	<b>407</b>	
<b>Investment allowance for the year</b> (add lines 401 to 407)	<b>490</b>	<u>3,013,162</u>

**Notes:**

1. Lines 401 to 405 should not include the carrying value of a share of the capital stock of, a dividend payable by, or indebtedness of a corporation that is exempt from tax under Part I.3 (other than a non-resident corporation that at no time in the year carried on business in Canada through a permanent establishment).
2. Where the corporation has an interest in a partnership held either directly or indirectly through another partnership, refer to subsection 181.2(5) for additional rules regarding the carrying value of an interest in a partnership.
3. Where a trust is used as a conduit for loaning money from a corporation to another related corporation (other than a financial institution), the loan will be considered to have been made directly from the lending corporation to the borrowing corporation. Refer to subsection 181.2(6) for special rules that may apply.

**Part 3 – Taxable capital**

Capital for the year (line 190)	<u>21,377,552,862</u>	<b>C</b>
<b>Deduct:</b> Investment allowance for the year (line 490)	<u>3,013,162</u>	<b>D</b>
<b>Taxable capital for the year</b> (amount C minus amount D) (if negative, enter "0")	<u><u>21,374,539,700</u></u>	<b>500</b>



**Part 4 – Taxable capital employed in Canada**

To be completed by a corporation that was resident in Canada at any time in the year

Taxable capital for the year (line 500) 21,374,539,700 x  $\frac{\text{Taxable income earned in Canada } \mathbf{610}}{\text{Taxable income } 1,000}$  = **Taxable capital employed in Canada**  $\mathbf{690}$  21,374,539,700

- Notes:**
1. Regulation 8601 gives details on calculating the amount of taxable income earned in Canada.
  2. Where a corporation's taxable income for a tax year is "0," it shall, for the purposes of the above calculation, be deemed to have a taxable income for that year of \$1,000.
  3. In the case of an airline corporation, Regulation 8601 should be considered when completing the above calculation.

To be completed by a corporation that was a non-resident of Canada throughout the year and carried on a business through a permanent establishment in Canada

Total of all amounts each of which is the carrying value at the end of the year of an asset of the corporation used in the year or held in the year, in the course of carrying on any business during the year through a permanent establishment in Canada . . . . . **701** \_\_\_\_\_

**Deduct** the following amounts:

Corporation's indebtedness at the end of the year [other than indebtedness described in any of paragraphs 181.2(3)(c) to (f)] that may reasonably be regarded as relating to a business it carried on during the year through a permanent establishment in Canada . . . . . **711** \_\_\_\_\_

Total of all amounts each of which is the carrying value at the end of year of an asset described in subsection 181.2(4) of the corporation that it used in the year, or held in the year, in the course of carrying on any business during the year through a permanent establishment in Canada . . . . . **712** \_\_\_\_\_

Total of all amounts each of which is the carrying value at the end of year of an asset of the corporation that is a ship or aircraft the corporation operated in international traffic, or personal or movable property used or held by the corporation in carrying on any business during the year through a permanent establishment in Canada (see note below) . . . . . **713** \_\_\_\_\_

Total deductions (add lines 711, 712, and 713) \_\_\_\_\_ **E**

**Taxable capital employed in Canada** (line 701 minus amount E) (if negative, enter "0") . . . . . **790** \_\_\_\_\_

**Note:** Complete line 713 only if the country in which the corporation is resident did not impose a capital tax for the year on similar assets, or a tax for the year on the income from the operation of a ship or aircraft in international traffic, of any corporation resident in Canada during the year.

**Part 5 – Calculation for purposes of the small business deduction**

This part is applicable to corporations that are not associated in the current year, but were associated in the prior year.

Taxable capital employed in Canada (amount from line 690) . . . . . \_\_\_\_\_ **F**

**Deduct:** . . . . . 10,000,000 **G**

Excess (amount F minus amount G) (if negative, enter "0") \_\_\_\_\_ **H**

**Calculation for purposes of the small business deduction** (amount H x 0.225%) . . . . . \_\_\_\_\_ **I**

Enter this amount at line 415 of the T2 return.

## Attached Schedule with Total

Part 1 – All loans and advances to the corporation

Title Schedule 33 - Supplementary Schedule Line 108

Description	Operator (Note)	Amount	
LT Debt payable within a year (FS)		750,000,000	00
Primary Debt (FS)	+	8,585,000,000	00
Intercompany demand facility (FS)	+	1,408,000,000	00
Customer deposit (a/c 390000/391010/392000/392010)	+	40,478,961	00
Banked vacation (a/c 362100)	+	6,007,360	00
<b>Total</b>		<b>10789486321</b>	<b>00</b>

**Note:** The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula 1+2\*3 will not result in the same thing as the formula 1+3\*2.

## Attached Schedule with Total

Part 2 – A loan or advance to another corporation (other than a financial institution)

Title Schedule 33/CT23 - Supplementary Schedule Line 402

Description	Operator (Note)	Amount
Prepaid insurance (a/c 277180)		2,055,066 00
Deposit -Bnft Provider (a/c 277290)	+	958,096 00
	+	
	+	
<b>Total</b>		<b>3,013,162 00</b>

**Note:** The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula 1+2\*3 will not result in the same thing as the formula 1+3\*2.

## Attached Schedule with Total

Part 1 – Reserves that have not been deducted in calculating income for the year under Part I

Title Part 1 – Reserves that have not been deducted in computing income for th

Description	Operator (Note)	Amount
Schedule 13 Reserves		1,711,665,237 00
	+	
	+	
	+	
	<b>Total</b>	<b>1,711,665,237 00</b>

**Note:** The calculations are performed one at a time, from the first to the last line, and not according to the priority rules of the operations. For example, the formula  $1+2*3$  will not result in the same thing as the formula  $1+3*2$ .

**Low Rate Income Pool (LRIP) Calculation**

Corporation's name  HYDRO ONE NETWORKS INC.	Business number  87086 5821 RC0001	Tax year-end Year Month Day 2017-12-31
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On: 2017-12-31

- Use this schedule to calculate the balance of the low rate income pool (LRIP) at any time in the tax year if you are a corporation resident in Canada that is:
  - a corporation **other** than a Canadian-controlled private corporation (CCPC) or a deposit insurance corporation (DIC); or
  - a corporation that elected under subsection 89(11) not to be a CCPC.
- When an eligible dividend was paid or there was a change in the LRIP balance in the tax year, file a completed copy of this schedule with your *T2 Corporation Income Tax Return*. Do not send your worksheets with your return, but keep them in your records in case we ask to see them later.
- All legislative references are to the *Income Tax Act* and the *Income Tax Regulations*.
- Subsection 89(1) defines the terms eligible dividend, excessive eligible dividend designation, general rate income pool, and low rate income pool.

Did the corporation elect not to be a CCPC under subsection 89(11) ITA for the current year or a prior year or did it revoke this election in the current year?  Yes  No

\* If the corporation revoked its election in the current year when filing Form T2002, this election will still be valid for the current year, but will cease to apply as of the end of the year.

**Eligibility for the various additions**

Answer the following questions to determine the corporation's eligibility for the various additions:

**Change in the type of corporation**

1. Was the corporation a CCPC during its preceding taxation year?  Yes  No
2. Corporations that ceased to be a CCPC or a DIC  Yes  No  
**If the answer to question 2 is yes, complete Part 4.**

**Amalgamation (first year of filing after amalgamation)**

3. Corporations that were formed as a result of an amalgamation  Yes  No  
**If the answer to question 3 is yes, answer questions 4 and 5. If the answer is no, go to question 6.**
4. Was one or several of the predecessor corporations a CCPC or a DIC during the taxation year that ended immediately before the amalgamation?  Yes  No  
**If the answer to question 4 is yes, complete Part 5.**
5. Was one or several of the predecessor corporations neither a CCPC nor a DIC?  Yes  No  
**If the answer to question 5 is yes, complete Part 5 (line R).**

**Winding-up**

6. Corporations that wound-up a subsidiary  Yes  No  
**If the answer to question 6 is yes, answer questions 7 and 8. If the answer is no, go to Part 1.**
7. Was the subsidiary a CCPC or a DIC during its last taxation year?  Yes  No  
**If the answer to question 7 is yes, complete Part 6.**
8. Was the subsidiary neither a CCPC nor a DIC during its last taxation year?  Yes  No  
**If the answer to question 8 is yes, complete Part 6 (line R).**

**Part 1 – Low rate income pool (LRIP)**

LRIP at the end of the immediately previous tax year	100		
Income for the credit union deduction (amount F in Part 3 of Schedule 17 of the previous year if the corporation was <b>not</b> a CCPC in the previous tax year for the purpose of paying eligible dividends, otherwise enter "0")	120		
Aggregate investment income of a corporation that has elected under subsection 89(11) not to be a CCPC (line 440 of the T2 return of the previous tax year)	140		
Subtotal (line 120 <b>plus</b> 140)		x 80 % =	150
Investment corporation deduction (line 620 of the T2 return of the previous tax year)		x 4 =	160
Subtotal (add lines 100, 150, and 160)	190		

**Part 2 – LRIP and excessive eligible dividend designations during the tax year**

Complete this part if you paid an eligible dividend in the tax year.

	<b>200</b> Date <sup>1</sup> (yyyy/mm/dd)	<b>210</b> Total dividends <sup>2</sup> receivable in the year before the date on line 200 that are deductible under section 112	<b>220</b> Total adjustments for amalgamations, wind-ups, or on ceasing to be a CCPC <sup>3</sup>	<b>230</b> Subtotal (add lines 190, 210, and 220)	<b>240</b> Total dividends <sup>4</sup> payable in the year before the date on line 200	<b>250</b> Total of excessive eligible dividend designations made before the date on line 200
1.	2017-02-21				1,500,000	
2.						

	<b>260</b> LRIP as of the date on line 200 (line 230 minus the total of line 240 and line 250)	<b>270</b> Total eligible dividends paid on the date on line 200	<b>280</b> Excessive eligible dividend designation (lesser of lines 260 and 270)
1.			
2.			

**Total excessive eligible dividend designations  
 in the tax year** (total of all amounts in column 280)

	A
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Enter amount A at amount G of Schedule 55.

- 1 Enter on line 200 each date where:
  - an eligible dividend was paid in the year; or
  - an adjustment was made as a result of an amalgamation or the wind-up of a subsidiary or on ceasing to be a CCPC (by an election or otherwise).
- 2 Taxable dividends from a corporation resident in Canada (other than eligible dividends).
- 3 Complete the worksheets in Parts 4 to 6 separately for each predecessor, each subsidiary involved in the wind-up, and when the corporation ceases to be a CCPC or DIC. Add up the adjustments for this date and enter on line 220.
- 4 Includes taxable dividends (other than an eligible dividend, a capital gains dividend within the meaning assigned by subsection 130.1(4) or 131(1), or a dividend deductible under subsection 130.1(1))

**Part 3 – LRIP closing balance**

Amount from line 190 in Part 1		B
Dividends <sup>5</sup> receivable in the tax year that are deductible under section 112 (Amount on line 210 in the last row (last date) of the chart in Part 2)		
If an eligible dividend has been paid in the tax year, enter all dividends other than eligible dividends receivable in the year that are deductible under section 112 (hereinafter: "dividends other than eligible dividends receivable") on the date in the last row, or after (last date), from column 200 in Part 2. If no eligible dividend was paid in the tax year, enter all dividends receivable other than eligible dividends receivable.		
Total dividends <sup>5</sup> receivable in the tax year that are deductible under section 112	<b>510</b>	
Adjustments for amalgamations, wind-ups, or ceasing to be a CCPC <sup>6</sup> (Amount on line 220 in the last row (last date) of the chart in Part 2)		
Adjustments for amalgamations, wind-ups, or ceasing to be a CCPC <sup>6</sup> if no eligible dividend has been paid in the tax year		
Total adjustments for amalgamations, wind-ups, or on ceasing to be a CCPC <sup>6</sup>	<b>520</b>	
Subtotal (line 510 plus line 520)		C
Subtotal (amount B plus amount C)		D
Total dividends <sup>7</sup> payable in the tax year (Amount on line 240 in the last row (last date) of the chart in Part 2)		
	1,500,000	
If an eligible dividend has been paid in the tax year, enter all dividends other than eligible dividends payable in the year (hereinafter: "dividends other than eligible dividends payable") on the date in the last row, or after (last date), from column 200 in Part 2. If no eligible dividend was paid in the tax year, enter all dividends paid other than eligible dividends paid.		
Total dividends <sup>7</sup> payable in the tax year	<b>540</b> 1,500,000	
Total excessive eligible dividend designations in the tax year (amount A in Part 2)		E
Subtotal (line 540 plus amount E)		1,500,000      F
LRIP at the end of the tax year (amount D minus amount F) (if negative enter "0")		<b>590</b>

5 Taxable dividends from a corporation resident in Canada (other than eligible dividends)

6 Complete the worksheets in Parts 4 to 6 separately for each predecessor, each subsidiary involved in the wind-up, and when the corporation ceases to be a CCPC or DIC.

7 Includes taxable dividends (other than an eligible dividend, a capital gains dividend within the meaning assigned by subsection 130.1(4) or 131(1), or a dividend deductible under subsection 130.1(1))

**Part 4 – Worksheet for adjustment when a corporation ceases to be a CCPC or DIC**

**Adjustment date** . . . . . \_\_\_\_\_

Complete this part if the corporation is neither a CCPC nor a DIC in this tax year but was a CCPC or a DIC in the previous tax year.  
This adjustment to the LRIP can be made at any time in the tax year.  
Keep a copy of this calculation for your records in case we ask to see it later.

Cost amount to the corporation of all property immediately before the end of the previous tax year . . . . . \_\_\_\_\_ 1  
The corporation's cash on hand immediately before the end of the previous tax year . . . . . \_\_\_\_\_ 2

Total of subsection 111(1) losses that would have been deductible in computing the corporation's taxable income for the previous tax year if the corporation had had unlimited income from each business carried on and each property held and had realized an unlimited amount of capital gains for the previous tax year:

Non-capital losses . . . . . \_\_\_\_\_ 3  
Net capital losses . . . . . \_\_\_\_\_ 4  
Farm losses . . . . . \_\_\_\_\_ 5  
Restricted farm losses . . . . . \_\_\_\_\_ 6  
Limited partnership losses . . . . . \_\_\_\_\_ 7  
Subtotal (add amounts 3 to 7) \_\_\_\_\_ 8

Total of all amounts deducted under subsection 111(1) in computing the corporation's taxable income for the previous tax year:

Non-capital losses . . . . . \_\_\_\_\_ 9  
Net capital losses . . . . . \_\_\_\_\_ 10  
Farm losses . . . . . \_\_\_\_\_ 11  
Restricted farm losses . . . . . \_\_\_\_\_ 12  
Limited partnership losses . . . . . \_\_\_\_\_ 13  
Subtotal (add amounts 9 to 13) \_\_\_\_\_ 14

Unused and unexpired losses at the end of the corporation's previous tax year  
(amount 8 minus amount 14) (if negative, enter "0") . . . . . \_\_\_\_\_ 15  
Subtotal (add amounts 1, 2, and 15) \_\_\_\_\_ 16

All of the corporation's debts and other obligations to pay that were outstanding immediately before the end of its previous tax year . . . . . \_\_\_\_\_ 17  
Paid up capital of all the corporation's issued and outstanding shares of capital stock immediately before the end of its previous tax year . . . . . \_\_\_\_\_ 18  
All of the corporation's reserves deducted in its previous tax year . . . . . \_\_\_\_\_ 19

Is the corporation a private corporation? . . . . .  Yes  No  
The corporation's capital dividend account immediately before the end of its previous tax year if the corporation is **not** a private corporation in the current tax year . . . . . \_\_\_\_\_ 20

The corporation's general rate income pool (GRIP) at the end of its previous tax year . . . . . 1,532,131,967 21  
Eligible dividends paid in the previous tax year . . . . . \_\_\_\_\_ 22  
Excessive eligible dividend designations made in the previous tax year . . . . . \_\_\_\_\_ 23  
Subtotal (amount 22 minus amount 23) (if negative, enter "0") . . . . . \_\_\_\_\_ 24

Subtotal (amount 21 minus amount 24) 1,532,131,967 25

Subtotal (add amounts 17, 18, 19, 20, 25) 1,532,131,967 26

**Adjustment for a corporation that ceases to be a CCPC or DIC** (amount 16 minus amount 26) (if negative, enter "0") . . . . . \_\_\_\_\_ 27



**Part 5 – Worksheet for adjustment when a corporation is formed as a result of an amalgamation**

**nb. 1**

**Adjustment date** . . . . . \_\_\_\_\_

Complete this part if the corporation was formed as a result of an amalgamation or merger of two or more corporations, one or more of which is a taxable Canadian corporation. Complete a separate worksheet for **each** predecessor.

This adjustment to the LRIP can be made at any time in the tax year.

The last tax year was its tax year that ended immediately before the amalgamation.

Keep a copy of this calculation for your records, in case we ask to see it later.

**For a predecessor corporation that was a CCPC or a DIC in its tax year that ended immediately before the amalgamation.**

Cost amount to the predecessor of all property immediately before the end of its last tax year . . . . . \_\_\_\_\_ 1  
The predecessor's cash on hand immediately before the end of its last tax year . . . . . \_\_\_\_\_ 2

Total of subsection 111(1) losses that would have been deductible in computing the predecessor's taxable income for its last tax year if the predecessor had had unlimited income from each business carried on and each property held and had realized an unlimited amount of capital gains for its last tax year:

Non-capital losses . . . . . \_\_\_\_\_ 3  
Net capital losses . . . . . \_\_\_\_\_ 4  
Farm losses . . . . . \_\_\_\_\_ 5  
Restricted farm losses . . . . . \_\_\_\_\_ 6  
Limited partnership losses . . . . . \_\_\_\_\_ 7  
Subtotal (**add** amounts 3 to 7) \_\_\_\_\_ 8

Total of all amounts deducted under subsection 111(1) in computing the predecessor's taxable income for its last tax year:

Non-capital losses . . . . . \_\_\_\_\_ 9  
Net capital losses . . . . . \_\_\_\_\_ 10  
Farm losses . . . . . \_\_\_\_\_ 11  
Restricted farm losses . . . . . \_\_\_\_\_ 12  
Limited partnership losses . . . . . \_\_\_\_\_ 13  
Subtotal (**add** amounts 9 to 13) \_\_\_\_\_ 14

Unused and unexpired losses at the end of the predecessor's last tax year (amount 8 **minus** amount 14) (if negative, enter "0") . . . . . \_\_\_\_\_ 15

Subtotal (**add** amounts 1, 2, and 15) \_\_\_\_\_ 16

All of the predecessor's debts and other obligations to pay that were outstanding immediately before the end of its last tax year . . . . . \_\_\_\_\_ 17

Paid up capital of all the predecessor's issued and outstanding shares of capital stock immediately before the end of its last tax year . . . . . \_\_\_\_\_ 18

All of the predecessor's reserves deducted in its last tax year . . . . . \_\_\_\_\_ 19

The predecessor's capital dividend account immediately before the end of its last tax year if the corporation is **not** a private corporation in its first tax year . . . . . \_\_\_\_\_ 20

The predecessor's general rate income pool (GRIP) at the end of its last tax year . . . . . \_\_\_\_\_ 21

Eligible dividends paid in its last tax year . . . . . \_\_\_\_\_ 22

Excessive eligible dividend designations made in its last tax year . . . . . \_\_\_\_\_ 23

Subtotal (amount 22 **minus** amount 23) (if negative, enter "0") . . . . . \_\_\_\_\_ 24

Subtotal (amount 21 **minus** amount 24) \_\_\_\_\_ 25

Subtotal (**add** amounts 17, 18, 19, 20, 25) \_\_\_\_\_ 26

Adjustment for a predecessor corporation that was a CCPC or a DIC in its last tax year (amount 16 **minus** amount 26) (if negative, enter "0") . . . . . \_\_\_\_\_ 27

**For a predecessor corporation that was neither a CCPC nor a DIC in its tax year that ended immediately before the amalgamation**

LRIP at the end of its last tax year . . . . . \_\_\_\_\_ 28

**Adjustment for a predecessor corporation involved in an amalgamation** (amount 27 **plus** amount 28) . . . . . \_\_\_\_\_ 29

Calculate amount 29 for **each** predecessor.

**Part 6 – Worksheet for adjustment when a corporation has wound-up a subsidiary**

**nb. 1**

**Adjustment date** . . . . . \_\_\_\_\_

Complete this part if the corporation is the parent corporation (parent) that is neither a CCPC nor a DIC in a tax year and has, in the year, received all or substantially all of the assets on dissolution or wind-up of a subsidiary. Complete a separate worksheet for **each** subsidiary involved in the wind-up.

This adjustment to the parent's LRIP can be made at any time in the tax year that is at or after the end of the subsidiary's last tax year.

The last tax year for the subsidiary was its tax year during which its assets were distributed to the parent corporation on the wind-up.

Keep a copy of this calculation for your records in case we ask to see it later.

**For a subsidiary that was a CCPC or a DIC in its last tax year**

Cost amount to the subsidiary of all property immediately before the end of its last tax year . . . . . \_\_\_\_\_ 1  
 The subsidiary's cash on hand immediately before the end of its last tax year . . . . . \_\_\_\_\_ 2

Total of subsection 111(1) losses that would have been deductible in computing the subsidiary's taxable income for its last tax year if the subsidiary had had unlimited income from each business carried on and each property held and had realized an unlimited amount of capital gains for its last tax year:

Non-capital losses . . . . . \_\_\_\_\_ 3  
 Net capital losses . . . . . \_\_\_\_\_ 4  
 Farm losses . . . . . \_\_\_\_\_ 5  
 Restricted farm losses . . . . . \_\_\_\_\_ 6  
 Limited partnership losses . . . . . \_\_\_\_\_ 7  
 Subtotal (**add** amounts 3 to 7) \_\_\_\_\_ 8

Total of all amounts deducted under subsection 111(1) in computing the subsidiary's taxable income for the last tax year:

Non-capital losses . . . . . \_\_\_\_\_ 9  
 Net capital losses . . . . . \_\_\_\_\_ 10  
 Farm losses . . . . . \_\_\_\_\_ 11  
 Restricted farm losses . . . . . \_\_\_\_\_ 12  
 Limited partnership losses . . . . . \_\_\_\_\_ 13  
 Subtotal (**add** amounts 9 to 13) \_\_\_\_\_ 14

Unused and unexpired losses at the end of the subsidiary's last tax year (amount 8 **minus** amount 14) (if negative, enter "0") \_\_\_\_\_ 15

Subtotal (**add** amounts 1, 2, and 15) \_\_\_\_\_ 16

All of the subsidiary's debts and other obligations to pay that were outstanding immediately before the end of its last tax year . . . . . \_\_\_\_\_ 17

Paid up capital of all the subsidiary's issued and outstanding shares of capital stock immediately before the end of its last tax year . . . . . \_\_\_\_\_ 18

All of the subsidiary's reserves deducted in its last tax year . . . . . \_\_\_\_\_ 19

The subsidiary's capital dividend account immediately before the end of its last tax year if the parent is **not** a private corporation in the tax year . . . . . \_\_\_\_\_ 20

The subsidiary's general rate income pool (GRIP) at the end of its last tax year . . . . . \_\_\_\_\_ 21

Eligible dividends paid in its last tax year . . . . . \_\_\_\_\_ 22

Excessive eligible dividend designations made in its last tax year . . . . . \_\_\_\_\_ 23

Subtotal (amount 22 **minus** amount 23) (if negative, enter "0") \_\_\_\_\_ 24

Subtotal (amounts 21 **minus** amounts 24) \_\_\_\_\_ 25

Subtotal (**add** amounts, 17, 18, 19, 20, 25) \_\_\_\_\_ 26

Adjustment for a subsidiary that was a CCPC or a DIC in its last tax year (amount 16 **minus** amount 26) (if negative, enter "0") . . . \_\_\_\_\_ 27

**For a subsidiary that was neither a CCPC nor a DIC in its last tax year**

LRIP at the end of its last tax year . . . . . \_\_\_\_\_ 28

**Adjustment for a subsidiary involved in a wind-up** (amount 27 **plus** amount 28) \_\_\_\_\_ 29

Calculate amount 29 for **each** subsidiary.

**Part III.1 Tax on Excessive Eligible Dividend Designations**

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- Every corporation resident in Canada that pays a taxable dividend (other than a capital gains dividend within the meaning assigned by subsection 130.1(4) or 131(1)) in the tax year must file this schedule.
- Canadian-controlled private corporations (CCPC) and deposit insurance corporations (DIC) must complete Part 1 of this schedule. All other corporations must complete Part 2.
- Every corporation that has paid an eligible dividend must also file Schedule 53, *General Rate Income Pool (GRIP) Calculation*, or Schedule 54, *Low Rate Income Pool (LRIP) Calculation*, whichever is applicable.
- File the completed schedules with your *T2 Corporation Income Tax Return* no later than six months from the end of the tax year.
- All legislative references are to the *Income Tax Act* and the *Income Tax Regulations*.
- Subsection 89(1) defines the terms eligible dividend, excessive eligible dividend designation, general rate income pool (GRIP), and low rate income pool (LRIP).
- The calculations in Part 1 and Part 2 do not apply if the excessive eligible dividend designation arises from the application of paragraph (c) of the definition of excessive eligible dividend designation in subsection 89(1). This paragraph applies when an eligible dividend is paid to artificially maintain or increase the GRIP or to artificially maintain or decrease the LRIP.

**Do not use this area**

**Part 1 – Canadian-controlled private corporations and deposit insurance corporations**

Taxable dividends paid in the tax year <b>not included</b> in Schedule 3	_____	
Taxable dividends paid in the tax year <b>included</b> in Schedule 3	_____	
Total taxable dividends paid in the tax year	<b>100</b>	
Total eligible dividends paid in the tax year	<b>150</b>	A
GRIP at the end of the tax year (line 590 on Schedule 53) (if negative, enter "0")	<b>160</b>	B
Excessive eligible dividend designation (line 150 <b>minus</b> line 160)	_____	C
<b>Deduct:</b>		
Excessive eligible dividend designations elected under subsection 185.1(2) to be treated as ordinary dividends *	<b>180</b>	D
Subtotal (amount C <b>minus</b> amount D)	_____	E
<b>Part III.1 tax on excessive eligible dividend designations – CCPC or DIC</b> (amount E <b>multiplied by</b> 20 %)	<b>190</b>	F

Enter the amount from line 190 on line 710 of the T2 return.

**Part 2 – Other corporations**

Taxable dividends paid in the tax year <b>not included</b> in Schedule 3	_____	
Taxable dividends paid in the tax year <b>included</b> in Schedule 3	<b>1,500,000</b>	
Total taxable dividends paid in the tax year	<b>200</b>	<b>1,500,000</b>
Total excessive eligible dividend designations in the tax year (amount from line A of Schedule 54)	_____	G
<b>Deduct:</b>		
Excessive eligible dividend designations elected under subsection 185.1(2) to be treated as ordinary dividends *	<b>280</b>	H
Subtotal (amount G <b>minus</b> amount H)	_____	I
<b>Part III.1 tax on excessive eligible dividend designations – Other corporations</b> (amount I <b>multiplied by</b> 20 %)	<b>290</b>	J

Enter the amount from line 290 on line 710 of the T2 return.

\* You can elect to treat all or part of your excessive eligible dividend designation as a separate taxable dividend in order to eliminate or reduce the Part III.1 tax otherwise payable. You must file the election on or before the day that is 90 days **after** the day the notice of assessment for Part III.1 tax was sent. We will accept an election before the assessment of the tax. For more information on how to make this election, go to [www.cra.gc.ca/eligibledividends](http://www.cra.gc.ca/eligibledividends).

## Ontario Research and Development Tax Credit

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- Use this schedule to:
  - calculate an Ontario research and development tax credit (ORDTC);
  - claim an ORDTC earned in the tax year or carried forward from any of the 20 previous tax years that are a tax year ending after December 31, 2008, to reduce Ontario corporate income tax payable in the current tax year;
  - carry back an ORDTC earned in the tax year to reduce Ontario corporate income tax payable in any of the three previous tax years;
  - add an ORDTC that was allocated to the corporation by a partnership of which it was a member;
  - add an ORDTC transferred after an amalgamation or windup; or
  - calculate a recapture of the ORDTC.
- The ORDTC is a non-refundable tax credit on eligible expenditures incurred by a corporation in a tax year. The ORDTC rate is:
  - 4.5% for tax years that end before June 1, 2016;
  - 3.5% for tax years that start after May 31, 2016; and
  - prorated for a tax year that ends on or after June 1, 2016, and includes May 31, 2016.
- An eligible expenditure is an expenditure for a permanent establishment in Ontario of a corporation, that is a qualified expenditure for the purposes of section 127 of the federal *Income Tax Act* for scientific research and experimental development (SR&ED) carried on in Ontario.
- Only corporations that are not exempt from Ontario corporate income tax and none of whose income is exempt income can claim the ORDTC.
- Complete and attach this schedule to the *T2 Corporation Income Tax Return* for the tax year.
- To claim this credit, you must also send in completed copies of the Form T661, *Scientific Research and Experimental Development (SR&ED) Expenditures Claim*, and the Schedule 31, *Investment Tax Credit - Corporations*, within 18 months of the tax year end.

### Part 1 – Ontario SR&ED expenditure pool

Total eligible expenditures incurred by the corporation in Ontario in the tax year	<b>100</b>	1,626,884	A
Government assistance, non-government assistance, or a contract payment for eligible expenditures	<b>105</b>	31,100	B
Net eligible expenditures for the tax year (amount A minus amount B) (if negative, enter "0")		1,595,784	C
Eligible expenditures transferred to the corporation by another corporation	<b>110</b>		D
Subtotal (amount C plus amount D)		1,595,784	E
Eligible expenditures the corporation transferred to another corporation	<b>115</b>		F
<b>Ontario SR&amp;ED expenditure pool</b> (amount E minus amount F) (if negative, enter "0")	<b>120</b>	1,595,784	G

Eligible expenditures incurred after March 27, 2018, qualify for an enhanced rate when the following requirements are met:

- The Ontario SR&ED expenditure pool for the taxation year is more than \$1,000,000. If the current taxation year is a short year, this threshold should be prorated.
- The Ontario SR&ED expenditure pool for the current taxation year represents 90% or more of the Ontario SR&ED expenditure pool for the previous taxation year. Eligible expenditures incurred in short taxation years would be increased to the full year equivalent.

If these requirements are met, indicate the portion of the amount on line 120 relating to eligible expenditures incurred after March 27, 2018.

G.1

### Part 2 – Eligible repayments

The repayment of the ORDTC is calculated using the ORDTC rate that you used to determine your tax credit at the time your eligible expenditures were reduced because of the government or non-government assistance, or contract payments. Enter the amount of the repayment on the line that corresponds to the appropriate rate.

Repayments for tax years that end before June 1, 2016 **210** x 4.5 % = **215** H

Repayment for a tax year that ends on or after June 1, 2016 and includes May 31, 2016. Complete the proration calculation below.

Number of days in the tax year before June 1, 2016	<b>240</b>	152	x	4.5 %	=	1.8689 %	1
Number of days in the tax year	<b>241</b>	366					
Number of days in the tax year after May 31, 2016	<b>242</b>	214	x	3.5 %	=	2.0464 %	2
Number of days in the tax year	<b>243</b>	366					
Subtotal (percentage 1 plus percentage 2)						3.9153 %	3

**Part 2 – Eligible repayments (continued)**

Repayments for a tax year that ends on or after June 1, 2016 and includes May 31, 2016	..... <b>211</b>	x	percentage 3	3.9153 %	=	<b>216</b>	I
Repayments for tax years that start after May 31, 2016	..... <b>212</b>	x		3.5 %	=	<b>217</b>	J
Repayments made in the tax year of government or non-government assistance or contract payments that reduced eligible expenditures for first term or second term shared-use equipment acquired before 2014	..... <b>220</b>	x	1 / 4	=		x	4.5 % = <b>225</b> K
<b>Eligible repayments</b> (total of amounts H to K)	.....					<b>229</b>	L

**Part 3 – Calculation of the current part of the ORDTC**

**For tax years that end before June 1, 2016**

Ontario SR&ED expenditure pool (amount G in Part 1)	.....	x	4.5 %	=	<b>200</b>	M
ORDTC allocated to the corporation by a partnership of which it is a member (other than a specified member) for a fiscal period that ends in the corporation's tax year *	.....				<b>205</b>	N
Eligible repayments (amount L in Part 2)	.....					O
<b>Current part of the ORDTC for tax years that end before June 1, 2016</b> (total of amounts M to O)	.....				<b>230</b>	P

**For a tax year that ends on or after June 1, 2016, and includes May 31, 2016**

Number of days in the tax year before June 1, 2016	x	4.5 %	=		%	4
Number of days in the tax year						
Number of days in the tax year after May 31, 2016	x	3.5 %	=		%	5
Number of days in the tax year						
Subtotal (percentage 4 plus percentage 5)					%	6
Ontario SR&ED expenditure pool (amount G in Part 1)	.....	x	percentage 6		%	= <b>201</b> Q
ORDTC allocated to the corporation by a partnership of which it is a member (other than a specified member) for a fiscal period that ends in the corporation's tax year *	.....				<b>206</b>	R
Eligible repayments (amount L in Part 2)	.....					S
<b>Part of the ORDTC for a tax year that ends on or after June 1, 2016, and includes May 31, 2016</b> (total of amounts Q to S)	.....				<b>231</b>	T

**For tax years that start after May 31, 2016**

Ontario SR&ED expenditure pool (amount G in Part 1)	.....	1,595,784	x	3.5 %	=	55,852	U.1
Enhanced tax credit for eligible expenditures incurred after March 27, 2018:							
Amount G.1	x	Enhanced rate	x	Number of days in the tax year after March 27, 2018	=		U.2
		2 %		Number of days in the tax year		365	
						Total (add lines U.1 and U.2)	<b>202</b> 55,852 U
ORDTC allocated to the corporation by a partnership of which it is a member (other than a specified member) for a fiscal period that ends in the corporation's tax year *	.....				<b>207</b>		V
Eligible repayments (amount L in Part 2)	.....						W
<b>The ORDTC for tax years that start after May 31, 2016</b> (total of amounts U to W)	.....				<b>232</b>	55,852	X

\* If there is a disposal or change of use of eligible property, see Part 7 on page 4.

**Part 4 – Calculation of ORDTC available for deduction and ORDTC balance**

ORDTC balance at the end of the previous tax year ..... 350,624 Y

ORDTC expired after 20 tax years ..... **300** Z

ORDTC at the beginning of the tax year (amount Y minus amount Z) ..... **305** 350,624 AA

ORDTC transferred to the corporation on amalgamation or windup ..... **310** BB

**Current part of ORDTC** ..... 55,852 CC  
(amount P, T or X in Part 3 whichever applies)

Are you waiving all or part of the current part of the ORDTC? ..... **315** Yes 1  No 2

If you answered **yes** at line 315, enter the amount of the tax credit waived on line 320.

If you answered **no** at line 315, enter "0" on line 320.

Waiver of the current part of the ORDTC ..... **320** DD

Subtotal (amount CC minus amount DD) 55,852 ▶ 55,852 EE

**ORDTC available for deduction** (total of amounts AA, BB and EE) ..... 406,476 ▶ 406,476 FF

ORDTC claimed \*\* ..... GG  
(Enter amount GG on line 416 on page 5 of Schedule 5, *Tax Calculation Supplementary – Corporations*)

ORDTC carried back to previous tax years (from Part 5) ..... HH

Subtotal (amount GG plus amount HH) ..... ▶ II

**ORDTC balance at the end of the tax year** (amount FF minus amount II) ..... **325** 406,476 JJ

\*\* This amount cannot be more than the lesser of the following amounts:  
 – ORDTC available for deduction (amount FF); or  
 – Ontario corporate income tax payable before the ORDTC and the Ontario corporate minimum tax credit (amount from line E6 on page 5 of Schedule 5).

**Part 5 – Request for carryback of tax credit**

	Year	Month	Day	
1 <sup>st</sup> previous tax year	2016	12	31	..... Credit to be applied <input type="checkbox"/>
2 <sup>nd</sup> previous tax year	2015	12	31	..... Credit to be applied <input type="checkbox"/>
3 <sup>rd</sup> previous tax year	2015	11	04	..... Credit to be applied <input type="checkbox"/>

**Total** (total of amount 901 to 903)(enter at amount HH in Part 4)

**Part 6 – Analysis of tax credit available for carryforward by tax year of origin**

You can complete this part to show all the credits from previous tax years available for carryforward, by year of origin. This will help you determine the amount of credit that could expire in following years.

Tax year of origin (earliest tax year first)			Credit available	Tax year of origin (earliest tax year first)			Credit available	
Year	Month	Day		Year	Month	Day		
1999	12	31		2009	12	31		
2000	12	31		2010	12	31		
2001	12	31		2011	12	31		
2002	12	31		2012	12	31		
2003	12	31		2013	12	31		
2004	12	31		2014	12	31		
2005	12	31		2015	10	31		
2006	12	31		2015	11	04		
2007	12	31		2015	12	31	67,131	
2008	12	31		2016	12	31	283,493	
				Current tax year	2017	12	31	55,852
<b>Total (equals line 325 in Part 4)</b>							<b>406,476</b>	

The amount available from the 20th previous tax year will expire after this year. When you file your return for the next year, you will enter the expired amount on line 300 of Schedule 508 for that year.

**Part 7 – Calculation of a recapture of ORDTC**

You will have a recapture of ORDTC in a tax year when you meet **all** of the following conditions:

- you acquired a particular property in the current year or in any of the 20 previous tax years if the ORDTC was earned in a tax year ending after 2008;
- you claimed the cost of the property as an eligible expenditure for the ORDTC;
- the cost of the property was included in computing your ORDTC or was subject to an agreement made under subsection 127(13) of the federal Act to transfer qualified expenditures and section 42 of the *Taxation Act, 2007* (Ontario) applied; and
- you disposed of the property or converted it to commercial use in a tax year ending after December 31, 2008. You also meet this condition if you disposed of or converted to commercial use a property which incorporates the particular property previously referred to.

**Note:** The recapture **does not apply** if you disposed of the property to a non-arm's length purchaser who intended to use it all or substantially all for SR&ED in Ontario. When the non-arm's length purchaser later sells or converts the property to commercial use, the recapture rules will apply to the purchaser based on the historical federal investment tax credit (ITC) rate \*\*\* of the original user in Calculation 1 below.

You have to report the recapture on Schedule 5 for the year in which you disposed of the property or converted it to commercial use. If the corporation is a member of a partnership, report its share of the recapture.

Complete the columns for each disposition for which a recapture applies, using the calculation formats below.

\*\*\* Federal ITC in calculations 1 and 2 should be determined without reference to paragraph (e) of the definition **investment tax credit** in subsection 127(9) of the federal Act.

**Calculation 1** – Complete this part if you meet all of the above conditions

	KK Amount of federal ITC you originally calculated for the property you acquired, or the original user's federal ITC where you acquired the property from a non-arm's length party, as described in the note above <b>700</b>	LL Amount calculated using the federal ITC rate at the date of acquisition (or the original user's date of acquisition) on either the proceeds of disposition (if sold in an arm's length transaction) or the fair market value of the property (in any other case) <b>710</b>	MM Amount from column 700 or 710, whichever is less
1.			

Total of column MM (enter at amount WW in Part 8) \_\_\_\_\_ **NN**



**Part 7 – Calculation of a recapture of ORDTC (continued)**

**Calculation 2** – If the corporation is deemed by subsection 42(1) of the *Taxation Act, 2007* (Ontario) to have transferred all or part of the eligible expenditure to another corporation as a consequence of an agreement described in subsection 127(13) of the federal Act complete Calculation 2. Otherwise, enter nil on line SS.

OO	PP	QQ
Rate percentage that the transferee used to determine its federal ITC for qualified expenditure that was transferred under an agreement under subsection 127(13) of the federal Act	Proceeds of disposition of the property if you dispose of it to a person at arm's length; or, in any other case, the fair market value of the property at conversion or disposition	Amount, if any, already provided for in Calculation 1 (this allows for the situation where only part of the cost of a property is transferred for an agreement under subsection 127(13) of the federal Act)
<b>720</b>	<b>730</b>	<b>740</b>
1.		

RR	SS	TT
Amount determined by the formula (OO x PP) - QQ (using the columns above)	Federal ITC earned by the transferee for the qualified expenditure that was transferred	Amount from column RR or SS, whichever is less
	<b>750</b>	
1.		

Total of column TT (enter at amount XX in Part 8) \_\_\_\_\_ **UU**

**Calculation 3**

As a member of a partnership, you will report your share of the ORDTC of the partnership after the ORDTC has been reduced by the amount of the recapture. If this is a positive amount, you will report it on line 205, 206, or 207 in Part 3, whichever applies. However, if the partnership does not have enough ORDTC otherwise available to offset the recapture, then the amount by which reductions to the ORDTC exceeds additions (the excess) will be determined and reported on line VV.

Corporate partner's share of the excess of ORDTC (enter at amount ZZ in Part 8) ..... **■■■** \_\_\_\_\_ **VV**

**Part 8 – Total recapture of ORDTC**

Recaptured federal ITC for Calculation 1 (amount NN from Part 7) .....	_____	<b>WW</b>
Recaptured federal ITC for Calculation 2 (amount UU from Part 7) .....	_____	<b>XX</b>
Amount <b>WW plus</b> amount <b>XX</b> .....	=====	x 23.56 % = _____ <b>YY</b>
Corporate partner's share of the excess of ORDTC for Calculation 3 (amount VV from Part 7) .....	_____	<b>ZZ</b>
<b>Recapture of ORDTC</b> (amount <b>YY plus</b> amount <b>ZZ</b> ) (enter amount AAA on line 277 on page 5 of Schedule 5) .....	=====	<b>AAA</b>



### Schedule A - Worksheet for eligible expenditures incurred by the corporation in Ontario for the current taxation year

This worksheet allows you to report the amount of eligible expenditures entered on Form T661, *Scientific Research and Experimental Development (SR&ED) Expenditures Claim* which represents eligible expenditures as defined in section 127 of the *Income Tax Act* (ITA) with regard to scientific research and experimental development (SR&ED) **carried on in Ontario and attributable to a permanent establishment in Ontario of a corporation.**

Data on the worksheet is calculated based on the amounts on Form T661, but will have to be adjusted according to the rules of Ontario, if applicable, in particular when the corporation has had a permanent establishment in more than one jurisdiction. This data will be used when calculating Schedule 508 and Schedule 566.

Enter the breakdown between current and capital expenditures		Current Expenditures	Capital Expenditures
<b>Total expenditures for SR&amp;ED</b>		1,127,439	
<b>Add</b>			
• payment of prior years' unpaid expenses (other than salary or wages)	+		
• prescribed proxy amount (Enter "0" if you use the traditional method)	+	530,545	
• expenditures on shared-use equipment			+
• other additions	+		+
	<b>Subtotal =</b>	<b>1,657,984</b>	<b>=</b>
<b>Less</b>			
• current expenditures (other than salary or wages) not paid within 180 days of the tax year end	-		
• amounts paid in respect of an SR&ED contract to a person or partnership that is not taxable supplier	-		
• 20% of contract expenditures for SR&ED performed on your behalf	-	31,100	
• prescribed expenditures not allowed by regulations	-		-
• other deductions	-		-
• non-arm's length transactions			
- expenditures for non-arm's length SR&ED contracts	-		
- purchases (limited to costs) of goods and services from non-arm's length suppliers	-		-
	<b>Subtotal =</b>	<b>1,626,884</b>	<b>=</b>
Total eligible expenditures incurred by the corporation in Ontario in the tax year (add amount I and II)			<b>1,626,884</b> III
Enter amount III on line 100 of Schedule 508.			

## Ontario Corporate Minimum Tax

Corporation's name  HYDRO ONE NETWORKS INC.	Business number  87086 5821 RC0001	Tax year-end Year Month Day 2017-12-31
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- File this schedule if the corporation is subject to Ontario corporate minimum tax (CMT). CMT is levied under section 55 of the *Taxation Act, 2007* (Ontario), referred to as the "Ontario Act".
- Complete Part 1 to determine if the corporation is subject to CMT for the tax year.
- A corporation not subject to CMT in the tax year is still required to file this schedule if it is deducting a CMT credit, has a CMT credit carryforward, or has a CMT loss carryforward or a current year CMT loss.
- A corporation that has Ontario special additional tax on life insurance corporations (SAT) payable in the tax year must complete Part 4 of this schedule even if it is not subject to CMT for the tax year.
- A corporation is exempt from CMT if, throughout the tax year, it was one of the following:
  - 1) a corporation exempt from income tax under section 149 of the federal *Income Tax Act*;
  - 2) a mortgage investment corporation under subsection 130.1(6) of the federal Act;
  - 3) a deposit insurance corporation under subsection 137.1(5) of the federal Act;
  - 4) a congregation or business agency to which section 143 of the federal Act applies;
  - 5) an investment corporation as referred to in subsection 130(3) of the federal Act; or
  - 6) a mutual fund corporation under subsection 131(8) of the federal Act.
- File this schedule with the *T2 Corporation Income Tax Return*.

### Part 1 – Determination of CMT applicability

Total assets of the corporation at the end of the tax year *	<b>112</b>	23,566,000,000
Share of total assets from partnership(s) and joint venture(s) *	<b>114</b>	
Total assets of associated corporations (amount from line 450 on Schedule 511)	<b>116</b>	
Total assets (total of lines 112 to 116)		23,566,000,000
Total revenue of the corporation for the tax year **	<b>142</b>	5,829,000,000
Share of total revenue from partnership(s) and joint venture(s) **	<b>144</b>	
Total revenue of associated corporations (amount from line 550 on Schedule 511)	<b>146</b>	
Total revenue (total of lines 142 to 146)		5,829,000,000

The corporation is subject to CMT if:

- for tax years ending before July 1, 2010, the total assets at the end of the year of the corporation or the associated group of corporations are more than \$5,000,000, or the total revenue for the year of the corporation or the associated group of corporations is more than \$10,000,000.
- for tax years ending after June 30, 2010, the total assets at the end of the year of the corporation or the associated group of corporations are equal to or more than \$50,000,000, and the total revenue for the year of the corporation or the associated group of corporations is equal to or more than \$100,000,000.

If the corporation is not subject to CMT, do not complete the remaining parts unless the corporation is deducting a CMT credit, or has a CMT credit carryforward, a CMT loss carryforward, a current year CMT loss, or SAT payable in the year.

**\* Rules for total assets**

- Report total assets according to generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- Do not include unrealized gains and losses on assets and foreign currency gains and losses on assets that are included in net income for accounting purposes but not in income for corporate income tax purposes.
- The amount on line 114 is determined at the end of the last fiscal period of the partnership or joint venture that ends in the tax year of the corporation. Add the proportionate share of the assets of the partnership(s) and joint venture(s), and deduct the recorded asset(s) for the investment in partnerships and joint ventures.
- A corporation's share in a partnership or joint venture is determined under paragraph 54(5)(b) of the Ontario Act and, if the partnership or joint venture had no income or loss, is calculated as if the partnership's or joint venture's income were \$1 million. For a corporation with an indirect interest in a partnership or joint venture, determine the corporation's share according to paragraph 54(5)(c) of the Ontario Act.

**\*\* Rules for total revenue**

- Report total revenue in accordance with generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- If the tax year is less than 51 weeks, **multiply** the total revenue of the corporation or the partnership, whichever applies, by 365 and **divide** by the number of days in the tax year.
- The amount on line 144 is determined for the partnership or joint venture fiscal period that ends in the tax year of the corporation. If the partnership or joint venture has 2 or more fiscal periods ending in the filing corporation's tax year, **multiply** the sum of the total revenue for each of the fiscal periods by 365 and **divide** by the total number of days in all the fiscal periods.
- A corporation's share in a partnership or joint venture is determined under paragraph 54(5)(b) of the Ontario Act and, if the partnership or joint venture had no income or loss, is calculated as if the partnership's or joint venture's income were \$1 million. For a corporation with an indirect interest in a partnership or joint venture, determine the corporation's share according to paragraph 54(5)(c) of the Ontario Act.

**Part 2 – Adjusted net income/loss for CMT purposes**

Net income/loss per financial statements *		<b>210</b>	698,784,753	
<b>Add</b> (to the extent reflected in income/loss):				
Provision for current income taxes/cost of current income taxes	220		22,551,447	
Provision for deferred income taxes (debits)/cost of future income taxes	222		95,769,163	
Equity losses from corporations	224			
Financial statement loss from partnerships and joint ventures	226			
Dividends deducted on financial statements (subsection 57(2) of the Ontario Act), excluding dividends paid by credit unions under subsection 137(4.1) of the federal Act	230			
<b>Other additions</b> (see note below):				
Share of adjusted net income of partnerships and joint ventures **	228			
Total patronage dividends received, not already included in net income/loss	232			
<b>281</b> Unrealized mark to market loss	282		338,951	
<b>283</b>	284			
	Subtotal		<u>118,659,561</u>	▶ <u>118,659,561</u> A
<b>Deduct</b> (to the extent reflected in income/loss):				
Provision for recovery of current income taxes/benefit of current income taxes	320			
Provision for deferred income taxes (credits)/benefit of future income taxes	322			
Equity income from corporations	324			
Financial statement income from partnerships and joint ventures	326			
Dividends deductible under section 112, section 113, or subsection 138(6) of the federal Act	330			
Dividends not taxable under section 83 of the federal Act (from Schedule 3)	332			
Gain on donation of listed security or ecological gift	340			
Accounting gain on transfer of property to a corporation under section 85 or 85.1 of the federal Act ***	342			
Accounting gain on transfer of property to/from a partnership under section 85 or 97 of the federal Act ****	344			
Accounting gain on disposition of property under subsection 13(4), subsection 14(6), or section 44 of the federal Act *****	346			
Accounting gain on a windup under subsection 88(1) of the federal Act or an amalgamation under section 87 of the federal Act	348			
<b>Other deductions</b> (see note below):				
Share of adjusted net loss of partnerships and joint ventures **	328			
Tax payable on dividends under subsection 191.1(1) of the federal Act multiplied by 3	334			
Interest deducted/deductible under paragraph 20(1)(c) or (d) of the federal Act, not already included in net income/loss	336		53,766,642	
Patronage dividends paid (from Schedule 16) not already included in net income/loss	338			
<b>381</b>	382			
<b>383</b>	384			
<b>385</b>	386			
<b>387</b>	388			
<b>389</b>	390			
	Subtotal		<u>53,766,642</u>	▶ <u>53,766,642</u> B
Adjusted net income/loss for CMT purposes (line 210 plus amount A minus amount B)		<b>490</b>	<u>763,677,672</u>	

If the amount on line 490 is positive and the corporation is subject to CMT as determined in Part 1, enter the amount on line 515 in Part 3.

If the amount on line 490 is negative, enter the amount on line 760 in Part 7 (enter as a positive amount).

**Note**

In accordance with *Ontario Regulation 37/09*, when calculating net income for CMT purposes, accounting income should be adjusted to:

- exclude unrealized gains and losses due to mark-to-market changes or foreign currency changes on specified mark-to-market property (assets only);
- include realized gains and losses on the disposition of specified mark-to-market property not already included in the accounting income, if the property is not a capital property or is a capital property disposed in the year or in a previous tax year ended after March 22, 2007.

"Specified mark-to-market property" is defined in subsection 54(1) of the Ontario Act.

These rules also apply to partnerships. A corporate partner's share of a partnership's adjusted income flows through on a proportionate basis to the corporate partner.

**\* Rules for net income/loss**

- Banks must report net income/loss as per the report accepted by the Superintendent of Financial Institutions under the federal *Bank Act*, adjusted so consolidation and equity methods are not used.

**Part 2 – Calculation of adjusted net income/loss for CMT purposes (continued)**

- Life insurance corporations must report net income/loss as per the report accepted by the federal Superintendent of Financial Institutions or equivalent provincial insurance regulator, before SAT and adjusted so consolidation and equity methods are not used. If the life insurance corporation is resident in Canada and carries on business in and outside of Canada, **multiply** the net income/loss by the ratio of the Canadian reserve liabilities **divided** by the total reserve liability. The reserve liabilities are calculated in accordance with Regulation 2405(3) of the federal Act.
- Other corporations must report net income/loss in accordance with generally accepted accounting principles, except that consolidation and equity methods must not be used. When the equity method has been used for accounting purposes, equity losses and equity income are removed from book income/loss on lines 224 and 324 respectively.
- Corporations, other than insurance corporations, should report net income from line 9999 of the GIF1 (Schedule 125) on line 210.
- \*\* The share of the adjusted net income of a partnership or joint venture is calculated as if the partnership or joint venture were a corporation and the tax year of the partnership or joint venture were its fiscal period. For a corporation with an indirect interest in a partnership through one or more partnerships, determine the corporation's share according to clause 54(5)(c) of the Ontario Act.
- \*\*\* A joint election will be considered made under subsection 60(1) of the Ontario Act if there is an entry on line 342, and an election has been made for transfer of property to a corporation under subsection 85(1) of the federal Act.
- \*\*\*\* A joint election will be considered made under subsection 60(2) of the Ontario Act if there is an entry on line 344, and an election has been made under subsection 85(2) or 97(2) of the federal Act.
- \*\*\*\*\* A joint election will be considered made under subsection 61(1) of the Ontario Act if there is an entry on line 346, and an election has been made under subsection 13(4) or 14(6) and/or section 44 of the federal Act.

For more information on how to complete this part, see the *T2 Corporation – Income Tax Guide*.

**Part 3 – CMT payable**

Adjusted net income for CMT purposes (line 490 in Part 2, if positive)	<b>515</b>		763,677,672	
<b>Deduct:</b>				
CMT loss available (amount R from Part 7)				
<b>Minus:</b> Adjustment for an acquisition of control *	<b>518</b>			
Adjusted CMT loss available				C
Net income subject to CMT calculation (if negative, enter "0")	<b>520</b>		763,677,672	
Amount from line 520	763,677,672	x	Number of days in the tax year before July 1, 2010	x
			365	x
			Number of days in the tax year	4 % =
				1
Amount from line 520	763,677,672	x	Number of days in the tax year after June 30, 2010	x
			365	x
			Number of days in the tax year	2.7 % =
				20,619,297
				2
				3
Subtotal (amount 1 plus amount 2)			20,619,297	
Gross CMT: amount on line 3 above x OAF **			20,619,297	<b>540</b>
<b>Deduct:</b>				
Foreign tax credit for CMT purposes ***				<b>550</b>
CMT after foreign tax credit deduction (line 540 minus line 550) (if negative, enter "0")			20,619,297	D
<b>Deduct:</b>				
Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5)				
Net CMT payable (if negative, enter "0")			20,619,297	E

Enter amount E on line 278 of Schedule 5, *Tax Calculation Supplementary – Corporations*, and complete Part 4.

\* Enter the portion of CMT loss available that exceeds the adjusted net income for the tax year from carrying on a business before the acquisition of control. See subsection 58(3) of the Ontario Act.

\*\*\* Enter "0" on line 550 for life insurance corporations as they are not eligible for this deduction. For all other corporations, enter the cumulative total of amount J for the province of Ontario from Part 9 of Schedule 21 on line 550.

**\*\* Calculation of the Ontario allocation factor (OAF):**

If the provincial or territorial jurisdiction entered on line 750 of the T2 return is "Ontario," enter "1" on line F.

If the provincial or territorial jurisdiction entered on line 750 of the T2 return is "multiple," complete the following calculation, and enter the result on line F:

Ontario taxable income ****	=		
Taxable income ****		=	1.0000
<b>Ontario allocation factor</b>			F

\*\*\*\* Enter the amount allocated to Ontario from column F in Part 1 of Schedule 5. If the taxable income is nil, calculate the amount in column F as if the taxable income were \$1,000.

\*\*\*\*\* Enter the taxable income amount from line 360 or amount Z of the T2 return, whichever applies. If the taxable income is nil, enter "1,000".

**Part 4 – Calculation of CMT credit carryforward**

CMT credit carryforward at the end of the previous tax year *	24,243,863	G
<b>Deduct:</b>		
CMT credit expired *	600	
CMT credit carryforward at the beginning of the current tax year * (see note below)	24,243,863	620 24,243,863
<b>Add:</b>		
CMT credit carryforward balances transferred on an amalgamation or the windup of a subsidiary (see note below)	650	
CMT credit available for the tax year (amount on line 620 plus amount on line 650)		24,243,863 H
<b>Deduct:</b>		
CMT credit deducted in the current tax year (amount P from Part 5)		I
	Subtotal (amount H minus amount I)	24,243,863 J
<b>Add:</b>		
Net CMT payable (amount E from Part 3)	20,619,297	
SAT payable (amount O from Part 6 of Schedule 512)		
	Subtotal	20,619,297 K
CMT credit carryforward at the end of the tax year (amount J plus amount K)	670	44,863,160 L

\* For the first harmonized T2 return filed with a tax year that includes days in 2009:  
 – do not enter an amount on line G or line 600;  
 – for line 620, enter the amount from line 2336 of Ontario CT23 Schedule 101, *Corporate Minimum Tax (CMT)*, for the last tax year that ended in 2008.  
 For other tax years, enter on line G the amount from line 670 of Schedule 510 from the previous tax year.

**Note:** If you entered an amount on line 620 or line 650, complete Part 6.

**Part 5 – Calculation of CMT credit deducted from Ontario corporate income tax payable**

CMT credit available for the tax year (amount H from Part 4)		24,243,863	M
Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5)			1
For a corporation that is not a life insurance corporation:			
CMT after foreign tax credit deduction (amount D from Part 3)	20,619,297	2	
For a life insurance corporation:			
Gross CMT (line 540 from Part 3)		3	
Gross SAT (line 460 from Part 6 of Schedule 512)		4	
The <b>greater</b> of amounts 3 and 4		5	
	<b>Deduct:</b> line 2 or line 5, whichever applies:	20,619,297	6
	Subtotal (if negative, enter "0")		N
Ontario corporate income tax payable before CMT credit (amount F6 from Schedule 5)			
<b>Deduct:</b>			
Total refundable tax credits excluding Ontario qualifying environmental trust tax credit (amount J6 minus line 450 from Schedule 5)	5,238,581		O
	Subtotal (if negative, enter "0")		
CMT credit deducted in the current tax year (least of amounts M, N, and O)			P

Enter amount P on line 418 of Schedule 5 and on line I in Part 4 of this schedule.

Is the corporation claiming a CMT credit earned before an acquisition of control? 675 1 Yes  2 No

If you answered **yes** to the question at line 675, the CMT credit deducted in the current tax year may be restricted. For information on how the deduction may be restricted, see subsections 53(6) and (7) of the Ontario Act.

**Part 6 – Analysis of CMT credit available for carryforward by year of origin**

Complete this part if:

- the tax year includes January 1, 2009; or
- the previous tax year-end is deemed to be December 31, 2008, under subsection 249(3) of the federal Act.

Year of origin	CMT credit balance *
10th previous tax year	680
9th previous tax year	681
8th previous tax year	682
7th previous tax year	683
6th previous tax year	684
5th previous tax year	685
4th previous tax year	686
3rd previous tax year	687
2nd previous tax year	688
1st previous tax year	689
Total **	

\* CMT credit that was earned (by the corporation, predecessors of the corporation, and subsidiaries wound up into the corporation) in each of the previous 10 tax years and has not been deducted.

\*\* Must equal the total of the amounts entered on lines 620 and 650 in Part 4.

**Part 7 – Calculation of CMT loss carryforward**

CMT loss carryforward at the end of the previous tax year \* ..... Q

**Deduct:**

CMT loss expired \* ..... **720**

CMT loss carryforward at the beginning of the tax year \* (see note below) ..... **720**

**Add:**

CMT loss transferred on an amalgamation under section 87 of the federal Act \*\* (see note below) ..... **750**

CMT loss available (line 720 plus line 750) ..... R

**Deduct:**

CMT loss deducted against adjusted net income for the tax year (lesser of line 490 (if positive) and line C in Part 3) ..... S

Subtotal (if negative, enter "0")

**Add:**

Adjusted net loss for CMT purposes (amount from line 490 in Part 2, if **negative**) (enter as a positive amount) ..... **760**

CMT loss carryforward balance at the end of the tax year (amount S plus line 760) ..... **770** T

- \* For the first harmonized T2 return filed with a tax year that includes days in 2009:
  - do not enter an amount on line Q or line 700;
  - for line 720, enter the amount from line 2214 of Ontario CT23 Schedule 101, *Corporate Minimum Tax (CMT)*, for the last tax year that ended in 2008.

For other tax years, enter on line Q the amount from line 770 of Schedule 510 from the previous tax year.

\*\* Do not include an amount from a predecessor corporation if it was controlled at any time before the amalgamation by any of the other predecessor corporations.

**Note:** If you entered an amount on line 720 or line 750, complete Part 8.

**Part 8 – Analysis of CMT loss available for carryforward by year of origin**

Complete this part if:

- the tax year includes January 1, 2009; or
- the previous tax year-end is deemed to be December 31, 2008, under subsection 249(3) of the federal Act.

Year of origin	Balance earned in a tax year ending before March 23, 2007 *	Balance earned in a tax year ending after March 22, 2007 **
10th previous tax year	<b>810</b>	<b>820</b>
9th previous tax year	<b>811</b>	<b>821</b>
8th previous tax year	<b>812</b>	<b>822</b>
7th previous tax year	<b>813</b>	<b>823</b>
6th previous tax year	<b>814</b>	<b>824</b>
5th previous tax year	<b>815</b>	<b>825</b>
4th previous tax year	<b>816</b>	<b>826</b>
3rd previous tax year	<b>817</b>	<b>827</b>
2nd previous tax year	<b>818</b>	<b>828</b>
1st previous tax year		<b>829</b>
Total ***		

\* Adjusted net loss for CMT purposes that was earned (by the corporation, by subsidiaries wound up into or amalgamated with the corporation before March 22, 2007, and by other predecessors of the corporation) in each of the previous 10 tax years that ended before March 23, 2007, and has not been deducted.

\*\* Adjusted net loss for CMT purposes that was earned (by the corporation and its predecessors, but not by a subsidiary predecessor) in each of the previous 20 tax years that ended after March 22, 2007, and has not been deducted.

\*\*\* The total of these two columns must equal the total of the amounts entered on lines 720 and 750.



**ONTARIO CORPORATE MINIMUM TAX – TOTAL ASSETS  
AND REVENUE FOR ASSOCIATED CORPORATIONS**

Name of corporation <b>HYDRO ONE NETWORKS INC.</b>	Business Number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- For use by corporations to report the total assets and total revenue of all the Canadian or foreign corporations with which the filing corporation was associated at any time during the tax year. These amounts are required to determine if the filing corporation is subject to corporate minimum tax.
- Total assets and total revenue include the associated corporation's share of any partnership(s)/joint venture(s) total assets and total revenue.
- Attach additional schedules if more space is required.
- File this schedule with the *T2 Corporation Income Tax Return*.

	Names of associated corporations	Business number (Canadian corporation only) (see Note 1)	Total assets* (see Note 2)	Total revenue** (see Note 2)
	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>
1	Hydro One Limited		0	0
2	Hydro One Inc.		0	0
3	2486267 Ontario Inc.		0	0
4	2486268 Ontario Inc.		0	0
5	Hydro One Remote Communities Inc.		0	0
6	Hydro One Telecom Inc.		0	0
7	Hydro One Telecom Link Limited		0	0
8	Municipal Billing Services Inc.		0	0
9	Hydro One Lake Erie Link Management Inc.		0	0
10	1938454 Ontario Inc.		0	0
11	1943404 Ontario Inc.		0	0
12	B2M GP Inc.		0	0
13	Hydro One B2M Holdings Inc.		0	0
14	Hydro One B2M LP Inc.		0	0
15	Norfolk Energy Inc.		0	0
16	Norfolk Power Distribution Inc.		0	0
17	Haldimand County Energy Inc.		0	0
18	Haldimand County Hydro Inc.		0	0
19	Woodstock Hydro Services Inc.		0	0
20	1937672 Ontario Inc.		0	0
21	Hydro One Sault Ste. Marie Holdings Inc.		0	0
22	Hydro One Sault Ste. Marie Inc.		0	0
23	Hydro One Sault Ste. Marie Holding Corp.		0	0
24	1228185 Ontario Inc.		0	0
25	Hydro One East-West Tie Inc.		0	0
26	1937680 Ontario Inc.		0	0
27	1937681 Ontario Inc.		0	0
28	2587264 Ontario Inc.		0	0



	Names of associated corporations	Business number (Canadian corporation only) (see Note 1)	Total assets* (see Note 2)	Total revenue** (see Note 2)
	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>
29	2593958 Ontario Inc.		0	0
30	2587265 Ontario Inc.		0	0
31	Olympus Holding Corp.		0	0
32	Olympus Corp.		0	0
		<b>Total</b>	<b>450</b>	<b>550</b>

Enter the total assets from line 450 on line 116 in Part 1 of Schedule 510, *Ontario Corporate Minimum Tax*.

Enter the total revenue from line 550 on line 146 in Part 1 of Schedule 510.

Note 1: Enter "NR" if a corporation is not registered.

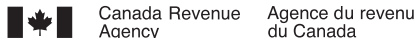
Note 2: If the associated corporation does not have a tax year that ends in the filing corporation's current tax year but was associated with the filing corporation in the previous tax year of the filing corporation, enter the total revenue and total assets from the tax year of the associated corporation that ends in the previous tax year of the filing corporation.

**\* Rules for total assets**

- Report total assets in accordance with generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- Include the associated corporation's share of the total assets of partnership(s) and joint venture(s) but exclude the recorded asset(s) for the investment in partnerships and joint ventures.
- Exclude unrealized gains and losses on assets that are included in net income for accounting purposes but not in income for corporate income tax purposes.

**\*\* Rules for total revenue**

- Report total revenue in accordance with generally accepted accounting principles, adjusted so that consolidation and equity methods are not used.
- If the associated corporation has 2 or more tax years ending in the filing corporation's tax year, **multiply** the sum of the total revenue for each of those tax years by 365 and **divide** by the total number of days in all of those tax years.
- If the associated corporation's tax year is less than 51 weeks and is the only tax year of the associated corporation that ends in the filing corporation's tax year, **multiply** the associated corporation's total revenue by 365 and **divide** by the number of days in the associated corporation's tax year.
- Include the associated corporation's share of the total revenue of partnerships and joint ventures.
- If the partnership or joint venture has 2 or more fiscal periods ending in the associated corporation's tax year, **multiply** the sum of the total revenue for each of the fiscal periods by 365 and **divide** by the total number of days in all the fiscal periods.



**SCHEDULE 550**

**ONTARIO CO-OPERATIVE EDUCATION TAX CREDIT**

Name of corporation HYDRO ONE NETWORKS INC.	Business Number 87086 5821 RC0001	Tax year-end Year Month Day 2017-12-31
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- Use this schedule to claim an Ontario co-operative education tax credit (CETC) under section 88 of the *Taxation Act, 2007* (Ontario).
- The CETC is a refundable tax credit that is equal to an eligible percentage (10% to 30%) of the eligible expenditures incurred by a corporation for a qualifying work placement. The maximum credit amount is \$1,000 for each qualifying work placement ending before March 27, 2009, and \$3,000 for each qualifying work placement beginning after March 26, 2009. For a qualifying work placement that straddles March 26, 2009, the maximum credit amount is prorated.
- Eligible expenditures are salaries and wages (including taxable benefits) paid or payable to a student in a qualifying work placement, or fees paid or payable to an employment agency for services performed by the student in a qualifying work placement. These expenditures must be paid on account of employment or services, as applicable, at a permanent establishment of the corporation in Ontario. Expenditures for a work placement (WP) are not eligible expenditures if they are greater than the amounts that would be paid to an arm's length employee.
- A WP must meet all of the following conditions to be a qualifying work placement:
  - the student performs employment duties for a corporation under a qualifying co-operative education program (QCEP);
  - the WP has been developed or approved by an eligible educational institution as a suitable learning situation;
  - the terms of the WP require the student to engage in productive work;
  - the WP is for a period of at least 10 consecutive weeks or, in the case of an internship program, not less than 8 consecutive months and not more than 16 consecutive months;
  - the student is paid for the work performed in the WP;
  - the corporation is required to supervise and evaluate the job performance of the student in the WP;
  - the institution monitors the student's performance in the WP; and
  - the institution has certified the WP as a qualifying work placement.
- Make sure you keep a copy of the letter of certification from the Ontario eligible educational institution containing the name of the student, the employer, the institution, the term of the WP, and the name/discipline of the QCEP to support the claim. Do not submit the letter of certification with the *T2 Corporation Income Tax Return*.
- File this schedule with the *T2 Corporation Income Tax Return*.

**Part 1 – Corporate information**

<b>110</b> Name of person to contact for more information Nancy Tran	<b>120</b> Telephone number including area code (416) 345-6778
Is the claim filed for a CETC earned through a partnership?*	<b>150</b> 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>
If you answered <b>yes</b> to the question at line 150, what is the name of the partnership?	<b>160</b>
Enter the percentage of the partnership's CETC allocated to the corporation	<b>170</b> _____ %

\* When a corporate member of a partnership is claiming an amount for eligible expenditures incurred by a partnership, complete a Schedule 550 for the partnership as if the partnership were a corporation. Each corporate partner, other than a limited partner, should file a separate Schedule 550 to claim the partner's share of the partnership's CETC. The allocated amounts can not exceed the amount of the partnership's CETC.

**Part 2 – Eligibility**

1. Did the corporation have a permanent establishment in Ontario in the tax year?	<b>200</b> 1 Yes <input checked="" type="checkbox"/> 2 No <input type="checkbox"/>
2. Was the corporation exempt from tax under Part III of the <i>Taxation Act, 2007</i> (Ontario)?	<b>210</b> 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>

If you answered **no** to question 1 or **yes** to question 2, then the corporation is **not eligible** for the CETC.

**Part 3 – Eligible percentage for determining the eligible amount**

Corporation's salaries and wages paid in the previous tax year \* ..... **300** 893,294,302

For eligible expenditures incurred before March 27, 2009:

- If line 300 is \$400,000 or less, enter 15% on line 310.
- If line 300 is \$600,000 or more, enter 10% on line 310.
- If line 300 is more than \$400,000 and less than \$600,000, enter the percentage on line 310 using the following formula:

$$\text{Eligible percentage} = 15\% - \left[ 5\% \times \left( \frac{\text{amount on line 300} - \text{minus } \$ 400,000}{\$ 200,000} \right) \right]$$

**Eligible percentage for determining the eligible amount** ..... **310** 10.000 %

For eligible expenditures incurred after March 26, 2009:

- If line 300 is \$400,000 or less, enter 30% on line 312.
- If line 300 is \$600,000 or more, enter 25% on line 312.
- If line 300 is more than \$400,000 and less than \$600,000, enter the percentage on line 312 using the following formula:

$$\text{Eligible percentage} = 30\% - \left[ 5\% \times \left( \frac{\text{amount on line 300} - \text{minus } \$ 400,000}{\$ 200,000} \right) \right]$$

**Eligible percentage for determining the eligible amount** ..... **312** 25.000 %

\* If this is the first tax year of an amalgamated corporation and subsection 88(9) of the *Taxation Act, 2007* (Ontario) applies, enter the salaries and wages paid in the previous tax year by the predecessor corporations.

**Part 4 – Calculation of the Ontario co-operative education tax credit**

Complete a separate entry for each student for each qualifying work placement that ended in the corporation's tax year. If a qualifying work placement would otherwise exceed four consecutive months, divide the WP into periods of four consecutive months and enter each full period of four consecutive months as a separate WP. If the WP does not divide equally into four-month periods and if the period that is less than 4 months is 10 or more consecutive weeks, then enter that period as a separate WP. If that period is less than 10 consecutive weeks, then include it with the WP for the last period of 4 consecutive months. Consecutive WPs with two or more associated corporations are deemed to be with only one corporation, as designated by the corporations.

	<b>A</b> Name of university, college, or other eligible educational institution  <b>400</b>	<b>B</b> Name of qualifying co-operative education program  <b>405</b>
1.		Accounting
2.		Computer Programming
3.		Electrical Engineering
4.		Business Technology Management
5.		Finance
6.		Electrical Engineering
7.		Electrical Engineering
8.		Powerline Technician
9.		Powerline Technician
10.		Biomedical Engineering
11.		Computer Science
12.		Electrical Engineering Technology
13.		Electrical Engineering Technician
14.		Electrical Engineering Technician
15.		Electrical Engineering Technician
16.		Electrical Engineering Technician
17.		Electrical Engineering Technologist
18.		Electrical Engineering Technology
19.		Electrical Engineering Technology
20.		Electrical Engineering Technology
21.		Electrical Engineering Technology
22.		Electrical Engineering Technology
23.		Electrical Engineering Technology

<p style="text-align: center;"><b>A</b>                      Name of university, college,                      or other eligible educational institution</p> <p style="text-align: center;"><b>400</b></p>	<p style="text-align: center;"><b>B</b>                      Name of qualifying                      co-operative education program</p> <p style="text-align: center;"><b>405</b></p>
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technician
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Energy Systems Engineering Technology Management
	Engineering, Electrical
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	BASc. Electrical Engineering
	Electrical Engineering Technology
	Electrical Engineering Technology
	Accounting
	Electrical Engineering
	Business Administration and Management Management
	Finance
	Accounting & Finance
	Electrical Engineering
	Electrical Engineering
	Civil Engineering Technician
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Civil Engineering Technology
	Civil Engineering Technology
	Electrical Engineering Technician
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Energy Systems Engineering Technology
	Energy Systems Engineering Technology
	Financial Economics
	Electrical Engineering Technician
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Business Administration
	Finance
	Electrical Engineering Technology

A Name of university, college, or other eligible educational institution <b>400</b>	B Name of qualifying co-operative education program <b>405</b>
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering
	Real Estate Management
	Economics
	Electrical Engineering
	Economics
	Business Administration
	Electrical Engineering
	Business Administration
	Powerline Technician
	Real Estate and Housing
	Electrical and Biomedical Engineering
	Environmental Biology
	Environmental and Urban Sustainability
	Electrical Engineering
	Accounting
	Electrical Engineering
	Human Resources
	Electrical Engineering
	Computer Science
	Electrical Engineering
	Electrical Engineering Technology
	Business
	Business Administration
	Electrical Engineering Technologist
	Commerce
	Honours Commerce
	Environment and Business
	Electrical Engineering Technology
	Law & Business
	Electrical Engineering
	Commerce
	Commerce/Finance
	Electrical Engineering
	electrical engineering
	Electrical and Biomedical Engineering
	Electrical Engineering
	Business Technology Management
	Engineering Science
	Power Engineering
	Power Engineering
	Electrical Engineering
	Supply Chain Management
	Supply Chain Management
	Finance
	Finance
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Engineering Science
	Engineering Science

<p style="text-align: center;"><b>A</b>                      Name of university, college,                      or other eligible educational institution</p> <p style="text-align: center;"><b>400</b></p>	<p style="text-align: center;"><b>B</b>                      Name of qualifying                      co-operative education program</p> <p style="text-align: center;"><b>405</b></p>
134.	Electrical Engineering
135.	Electrical Engineering
136.	Accounting
137.	Accounting
138.	Finance
139.	Finance
140.	Mechanical Engineering
141.	Mechanical Engineering
142.	Electrical Engineering
143.	Electrical Engineering
144.	Real Estate and Housing
145.	Real Estate and Housing
146.	Electrical Engineering
147.	Electrical Engineering
148.	Chemical Engineering
149.	Chemical Engineering
150.	Electrical and Biomedical Engineering
151.	Electrical and Biomedical Engineering
152.	Electrical Engineering
153.	Electrical Engineering
154.	Electrical Engineering
155.	Electrical Engineering
156.	Business Management
157.	Electrical Engineering
158.	Electrical Engineering
159.	Electrical Engineering
160.	Electrical Engineering
161.	Electrical Engineering
162.	Electrical Engineering
163.	Electrical Engineering
164.	Electrical Engineering
165.	Process Automation
166.	Process Automation
167.	Earth and Environmental Science
168.	Earth and Environmental Science
169.	Speech Communication and Business
170.	Speech Communication and Business
171.	Electrical Engineering Technology
172.	Electrical Engineering Technology
173.	Electrical Engineering
174.	Electrical Engineering
175.	Computer Engineering
176.	Computer Engineering
177.	Electrical and Computer Engineering
178.	Electrical and Computer Engineering
179.	Electrical Engineering
180.	Electrical Engineering
181.	Electrical Engineering
182.	Electrical Engineering
183.	Electrical Engineering
184.	Electrical Engineering
185.	Electrical Engineering
186.	Electrical Engineering
187.	Electrical Engineering
188.	Electrical Engineering

<p style="text-align: center;"><b>A</b>                      Name of university, college,                      or other eligible educational institution</p> <p style="text-align: center;"><b>400</b></p>	<p style="text-align: center;"><b>B</b>                      Name of qualifying                      co-operative education program</p> <p style="text-align: center;"><b>405</b></p>
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical and Biomedical Engineering
	Electrical and Biomedical Engineering
	Finance
	Finance
	Urban Planning
	Urban Planning
	Accounting
	Accounting
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Computer Science
	Computer Science
	Finance
	Finance
	Electrical Engineering
	Electrical Engineering
	Engineering Sciences
	Engineering Sciences
	Computer Engineering
	Computer Engineering
	Accounting
	Accounting
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering Technology
	Electrical Engineering Technology
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	Business Administration
	Business Administration
	MBA
	MBA
	Mathematics
	Mathematics
	Finance and Economics
	Finance and Economics
	Electrical and Computer Engineering
	Electrical and Computer Engineering
	Electrical Engineering
	Electrical Engineering
	Environmental Science

<b>A</b> Name of university, college, or other eligible educational institution <b>400</b>	<b>B</b> Name of qualifying co-operative education program <b>405</b>
244.	Environmental Science
245.	Computer Engineering
246.	Computer Engineering
247.	Environmental Geoscience and Bioarchaeological Anth
248.	Environmental Geoscience and Bioarchaeological Anth
249.	Electrical Engineering
250.	Electrical Engineering
251.	Computer Engineering
252.	Computer Engineering
253.	Accounting
254.	Accounting
255.	Civil Engineering
256.	Civil Engineering
257.	Software Engineering
258.	Software Engineering
259.	Electrical Engineering
260.	Electrical Engineering
261.	Electrical Engineering
262.	Electrical Engineering
263.	Electrical Engineering
264.	Electrical Engineering
265.	Electrical Engineering
266.	Electrical Engineering
267.	Electrical Engineering
268.	Electrical Engineering
269.	Electrical Engineering
270.	Electrical Engineering
271.	Electrical Engineering
272.	Electrical Engineering
273.	Electrical Engineering
274.	Electrical Engineering
275.	Electrical Engineering
276.	Electrical Engineering
277.	Electrical Engineering
278.	Electrical Engineering
279.	Electrical Engineering
280.	Electrical Engineering
281.	Computer Science
282.	Computer Science
283.	Electrical Engineering
284.	Electrical Engineering
285.	Electrical Engineering
286.	Electrical Engineering
287.	Electrical Engineering Technology
288.	Electrical Engineering Technology
289.	Electrical Engineering
290.	Electrical Engineering
291.	Electrical Engineering
292.	Electrical Engineering
293.	Human Resources
294.	Human Resources
295.	Electrical Engineering Technician
296.	Electrical Engineering Technician
297.	Mechanical Engineering
298.	Mechanical Engineering



	<b>A</b> Name of university, college, or other eligible educational institution  <b>400</b>	<b>B</b> Name of qualifying co-operative education program  <b>405</b>
299.		Electrical Engineering
300.		Electrical Engineering
301.		International Business Management
302.		International Business Management
303.		Electrical Engineering Technology
304.		Electrical Engineering Technology
305.		Electrical Engineering
306.		Electrical Engineering
307.		Computer Science
308.		Computer Science
309.		Energy Systems Engineering
310.		Energy Systems Engineering
311.		Engineering Sciences
312.		Engineering Sciences
313.		Accounting
314.		Electrical Engineering Technology
315.		Electrical and Computer Engineering
316.		Electrical and Computer Engineering
317.		Electrical Engineering
318.		Electrical Engineering
319.		Electrical Engineering
320.		Electrical Engineering
321.		Management and Finance
322.		Electrical Engineering
323.		Electrical Engineering
324.		Electrical and Biomedical Engineering
325.		Computer Engineering
326.		Computer Engineering
327.		Computer Science
328.		Electrical Engineering
329.		Forestry
330.		Chemical Engineering
331.		Chemical Engineering
332.		Commerce
333.		Commerce
334.	Electrical Engineering	
335.	Electrical Engineering	
336.	Electrical Engineering	
337.	Electrical Engineering Technology	
338.	Electrical Engineering Technology	
339.	Electrical Engineering Technology	
340.	Electrical Engineering Technology	
341.	Electrical Engineering Technology	
342.	Civil Engineering	
343.	Civil Engineering	
344.	Civil Engineering	
345.	Electrical Engineering	
346.	Electrical Engineering	
347.	Electrical Engineering	
348.	Electrical Engineering	
349.	Electrical Engineering	
350.	Electrical Engineering	
351.	Electrical Engineering	
352.	Electrical Engineering	
353.	Electrical Engineering	

<b>A</b>	<b>B</b>
Name of university, college, or other eligible educational institution	Name of qualifying co-operative education program
<b>400</b>	<b>405</b>
354.	Computer Science
355.	Computer Science
356.	Computer Science
357.	Business Administration
358.	Business Administration
359.	Business Administration
360.	Bachelor of applied Science
361.	Bachelor of applied Science
362.	Bachelor of applied Science
363.	Management
364.	Management
365.	Management
366.	Occupational Health and Safety
367.	Occupational Health and Safety
368.	Occupational Health and Safety
369.	Engineering Physics
370.	Engineering Physics
371.	Engineering Physics
372.	Civil Engineering
373.	Electrical Engineering
374.	Computer Science
375.	Forestry
376.	Electrical Engineering
377.	Electrical Engineering
378.	Business Management

<b>C</b>	<b>D</b>	<b>E</b>
Name of student	Start date of WP (see note 1 below)	End date of WP (see note 2 below)
<b>410</b>	<b>430</b>	<b>435</b>
1.	2017-10-02	2017-12-29
2.	2017-09-12	2017-12-12
3.	2017-09-05	2017-12-12
4.	2017-09-11	2017-12-20
5.	2017-05-01	2017-08-11
6.	2017-01-01	2017-04-29
7.	2017-09-18	2017-12-29
8.	2017-01-09	2017-04-26
9.	2017-01-09	2017-04-26
10.	2017-05-15	2017-08-30
11.	2017-09-13	2017-12-29
12.	2017-09-05	2017-12-22
13.	2017-09-05	2017-12-22
14.	2017-09-05	2017-12-22
15.	2017-09-05	2017-12-22
16.	2017-09-05	2017-12-22
17.	2017-09-05	2017-12-22
18.	2017-09-05	2017-12-22
19.	2017-09-05	2017-12-22
20.	2017-09-05	2017-12-22
21.	2017-09-05	2017-12-22
22.	2017-09-05	2017-12-22
23.	2017-09-05	2017-12-22

	C Name of student	D Start date of WP (see note 1 below)	E End date of WP (see note 2 below)
	<b>410</b>		
24.		2017-09-05	2017-12-22
25.		2017-09-05	2017-12-22
26.		2017-09-05	2017-12-22
27.		2017-01-05	2017-04-27
28.		2017-01-05	2017-04-28
29.		2017-01-05	2017-04-28
30.		2017-01-05	2017-04-28
31.		2017-01-05	2017-04-28
32.		2017-01-05	2017-04-28
33.		2017-01-05	2017-04-28
34.		2017-01-05	2017-04-28
35.		2017-01-05	2017-04-28
36.		2017-01-05	2017-04-28
37.		2017-01-05	2017-04-28
38.		2017-01-05	2017-04-28
39.		2017-09-05	2017-12-27
40.		2017-09-07	2017-12-29
41.		2017-09-07	2017-12-29
42.		2017-09-07	2017-12-29
43.		2017-09-07	2017-12-29
44.		2017-09-07	2017-12-29
45.		2017-09-07	2017-12-29
46.		2017-09-07	2017-12-29
47.		2017-01-03	2017-04-28
48.		2017-01-03	2017-04-28
49.		2017-01-03	2017-04-28
50.		2017-09-05	2017-12-29
51.		2017-09-05	2017-12-29
52.		2017-09-05	2017-12-29
53.		2017-09-05	2017-12-29
54.		2017-09-05	2017-12-29
55.		2017-09-05	2017-12-29
56.		2017-09-05	2017-12-29
57.		2017-05-08	2017-09-01
58.		2017-05-08	2017-09-01
59.		2017-05-08	2017-09-01
60.		2017-05-08	2017-09-01
61.		2017-05-08	2017-09-01
62.		2017-05-08	2017-09-01
63.		2017-05-08	2017-09-01
64.		2017-05-08	2017-09-01
65.		2017-05-08	2017-09-01
66.		2017-05-08	2017-09-01
67.		2017-05-08	2017-09-01
68.		2017-05-08	2017-09-01
69.		2017-05-08	2017-09-01
70.		2017-01-01	2017-04-28
71.		2017-01-01	2017-04-28
72.		2017-01-01	2017-04-28
73.		2017-01-01	2017-04-28
74.		2017-01-01	2017-04-28
75.		2017-01-01	2017-04-28
76.		2017-01-01	2017-04-28
77.		2017-01-01	2017-04-28

	C Name of student	D Start date of WP (see note 1 below)	E End date of WP (see note 2 below)
78.		2017-01-01	2017-04-28
79.		2017-01-01	2017-04-28
80.		2017-01-01	2017-04-28
81.		2017-01-01	2017-04-28
82.		2017-01-01	2017-04-28
83.		2017-05-04	2017-08-30
84.		2017-08-25	2017-12-22
85.		2017-09-01	2017-12-29
86.		2017-08-21	2017-12-29
87.		2017-09-11	2017-12-29
88.		2017-01-01	2017-05-02
89.		2017-05-01	2017-08-30
90.		2017-05-01	2017-08-31
91.		2017-05-01	2017-08-31
92.		2017-05-01	2017-08-31
93.		2017-08-29	2017-12-29
94.		2017-01-01	2017-05-04
95.		2017-01-01	2017-05-04
96.		2017-05-01	2017-09-01
97.		2017-01-01	2017-05-05
98.		2017-01-01	2017-05-05
99.		2017-01-01	2017-05-05
100.		2017-05-01	2017-09-02
101.		2017-08-24	2017-12-29
102.		2017-05-02	2017-09-08
103.		2017-04-24	2017-09-01
104.		2017-04-24	2017-09-01
105.		2017-08-21	2017-12-29
106.		2017-08-21	2017-12-29
107.		2017-08-21	2017-12-29
108.		2017-08-21	2017-12-29
109.		2017-08-21	2017-12-29
110.		2017-04-24	2017-09-02
111.		2017-01-01	2017-05-14
112.		2017-04-26	2017-09-08
113.		2017-08-16	2017-12-29
114.		2017-08-14	2017-12-29
115.		2017-08-14	2017-12-29
116.		2017-08-14	2017-12-29
117.		2017-08-08	2017-12-29
118.		2017-08-08	2017-12-29
119.		2017-08-08	2017-12-29
120.		2017-08-01	2017-12-29
121.		2017-05-25	2017-09-21
122.		2017-09-22	2017-12-29
123.		2017-01-01	2017-04-30
124.		2017-01-01	2017-04-30
125.		2017-05-01	2017-08-11
126.		2017-05-15	2017-09-11
127.		2017-09-12	2017-12-29
128.		2017-05-11	2017-09-07
129.		2017-09-08	2017-12-29
130.		2017-05-11	2017-09-07
131.		2017-09-08	2017-12-29

	<b>C</b> Name of student	<b>D</b> Start date of WP (see note 1 below)	<b>E</b> End date of WP (see note 2 below)
	<b>410</b>	<b>430</b>	<b>435</b>
132.		2017-05-11	2017-09-07
133.		2017-09-08	2017-12-29
134.		2017-05-11	2017-09-07
135.		2017-09-08	2017-12-29
136.		2017-01-01	2017-04-30
137.		2017-05-01	2017-08-23
138.		2017-01-01	2017-04-30
139.		2017-05-01	2017-08-23
140.		2017-01-01	2017-04-30
141.		2017-05-01	2017-08-23
142.		2017-01-01	2017-04-30
143.		2017-05-01	2017-08-23
144.		2017-01-10	2017-05-09
145.		2017-05-10	2017-09-01
146.		2017-01-01	2017-04-30
147.		2017-05-01	2017-08-24
148.		2017-01-03	2017-05-02
149.		2017-05-03	2017-08-26
150.		2017-05-08	2017-09-04
151.		2017-09-05	2017-12-29
152.		2017-05-08	2017-09-04
153.		2017-09-05	2017-12-29
154.		2017-05-08	2017-09-04
155.		2017-09-05	2017-12-29
156.		2017-05-08	2017-09-04
157.		2017-05-08	2017-09-04
158.		2017-09-05	2017-12-29
159.		2017-01-01	2017-04-30
160.		2017-05-01	2017-08-25
161.		2017-01-01	2017-04-30
162.		2017-05-01	2017-08-25
163.		2017-01-01	2017-04-30
164.		2017-05-01	2017-08-26
165.		2017-01-05	2017-05-04
166.		2017-05-05	2017-08-31
167.		2017-01-05	2017-05-04
168.		2017-05-05	2017-08-31
169.		2017-01-05	2017-05-04
170.		2017-05-05	2017-08-31
171.		2017-01-05	2017-05-04
172.		2017-05-05	2017-09-01
173.		2017-05-04	2017-08-31
174.		2017-09-01	2017-12-29
175.		2017-05-04	2017-08-31
176.		2017-09-01	2017-12-29
177.		2017-05-04	2017-08-31
178.		2017-09-01	2017-12-29
179.		2017-05-04	2017-08-31
180.		2017-09-01	2017-12-29
181.		2017-05-04	2017-08-31
182.		2017-09-01	2017-12-29
183.		2017-05-04	2017-08-31
184.		2017-09-01	2017-12-29
185.		2017-05-04	2017-08-31

	<b>C</b> Name of student	<b>D</b> Start date of WP (see note 1 below)	<b>E</b> End date of WP (see note 2 below)
	<b>410</b>	<b>430</b>	<b>435</b>
186.		2017-09-01	2017-12-29
187.		2017-05-04	2017-08-31
188.		2017-09-01	2017-12-29
189.		2017-05-04	2017-08-31
190.		2017-09-01	2017-12-29
191.		2017-05-04	2017-08-31
192.		2017-09-01	2017-12-29
193.		2017-01-01	2017-04-30
194.		2017-05-01	2017-09-01
195.		2017-01-01	2017-04-30
196.		2017-05-01	2017-08-29
197.		2017-05-01	2017-08-28
198.		2017-08-29	2017-12-27
199.		2017-01-01	2017-04-30
200.		2017-05-01	2017-08-30
201.		2017-01-01	2017-04-30
202.		2017-05-01	2017-08-30
203.		2017-01-01	2017-04-30
204.		2017-05-01	2017-08-30
205.		2017-01-01	2017-04-30
206.		2017-05-01	2017-08-30
207.		2017-01-01	2017-04-30
208.		2017-05-01	2017-08-30
209.		2017-01-01	2017-04-30
210.		2017-05-01	2017-08-30
211.		2017-01-01	2017-04-30
212.		2017-05-01	2017-08-31
213.		2017-01-01	2017-04-30
214.		2017-05-01	2017-08-31
215.		2017-01-01	2017-04-30
216.		2017-05-01	2017-08-31
217.		2017-01-01	2017-04-30
218.		2017-05-01	2017-08-31
219.		2017-01-01	2017-04-30
220.		2017-05-01	2017-08-31
221.		2017-01-01	2017-04-30
222.		2017-05-01	2017-08-31
223.		2017-01-01	2017-04-30
224.		2017-05-01	2017-08-31
225.		2017-01-01	2017-04-30
226.		2017-05-01	2017-08-31
227.		2017-01-01	2017-04-30
228.		2017-05-01	2017-08-31
229.		2017-01-01	2017-04-30
230.		2017-05-01	2017-08-31
231.		2017-05-01	2017-08-28
232.		2017-08-29	2017-12-29
233.		2017-05-01	2017-08-28
234.		2017-08-29	2017-12-29
235.		2017-05-01	2017-08-28
236.		2017-08-29	2017-12-29
237.		2017-05-01	2017-08-28
238.		2017-08-29	2017-12-29
239.		2017-05-01	2017-08-28

	<b>C</b> Name of student	<b>D</b> Start date of WP (see note 1 below)	<b>E</b> End date of WP (see note 2 below)
	<b>410</b>	<b>430</b>	<b>435</b>
240.		2017-08-29	2017-12-29
241.		2017-05-01	2017-08-28
242.		2017-08-29	2017-12-29
243.		2017-05-01	2017-08-28
244.		2017-08-29	2017-12-29
245.		2017-05-01	2017-08-28
246.		2017-08-29	2017-12-29
247.		2017-05-01	2017-08-28
248.		2017-08-29	2017-12-29
249.		2017-05-01	2017-08-28
250.		2017-08-29	2017-12-29
251.		2017-05-01	2017-08-28
252.		2017-08-29	2017-12-29
253.		2017-05-01	2017-08-28
254.		2017-08-29	2017-12-29
255.		2017-05-01	2017-08-28
256.		2017-08-29	2017-12-29
257.		2017-01-01	2017-04-30
258.		2017-05-01	2017-09-01
259.		2017-01-01	2017-04-30
260.		2017-05-01	2017-09-01
261.		2017-01-01	2017-04-30
262.		2017-05-01	2017-09-01
263.		2017-01-01	2017-04-30
264.		2017-05-01	2017-09-01
265.		2017-01-01	2017-04-30
266.		2017-05-01	2017-09-01
267.		2017-01-01	2017-04-30
268.		2017-05-01	2017-09-01
269.		2017-01-01	2017-04-30
270.		2017-05-01	2017-09-01
271.		2017-01-01	2017-04-30
272.		2017-05-01	2017-09-01
273.		2017-01-01	2017-04-30
274.		2017-05-01	2017-09-01
275.		2017-01-01	2017-04-30
276.		2017-05-01	2017-09-01
277.		2017-01-01	2017-04-30
278.		2017-05-01	2017-09-01
279.		2017-01-01	2017-04-30
280.		2017-05-01	2017-09-01
281.		2017-01-01	2017-04-30
282.		2017-05-01	2017-09-01
283.		2017-01-01	2017-04-30
284.		2017-05-01	2017-09-01
285.		2017-01-01	2017-04-30
286.		2017-05-01	2017-09-01
287.		2017-01-01	2017-04-30
288.		2017-05-01	2017-09-01
289.		2017-01-01	2017-04-30
290.		2017-05-01	2017-09-01
291.		2017-01-01	2017-04-30
292.		2017-05-01	2017-09-02
293.		2017-01-01	2017-04-30

	<b>C</b> Name of student	<b>D</b> Start date of WP (see note 1 below)	<b>E</b> End date of WP (see note 2 below)
	<b>410</b>	<b>430</b>	<b>435</b>
294.		2017-05-01	2017-09-02
295.		2017-01-01	2017-04-30
296.		2017-05-01	2017-09-02
297.		2017-01-01	2017-04-30
298.		2017-05-01	2017-09-05
299.		2017-04-24	2017-08-21
300.		2017-08-22	2017-12-29
301.		2017-01-01	2017-04-30
302.		2017-05-01	2017-08-31
303.		2017-01-05	2017-05-04
304.		2017-05-05	2017-08-31
305.		2017-01-01	2017-04-30
306.		2017-05-01	2017-08-31
307.		2017-01-01	2017-04-30
308.		2017-05-01	2017-08-31
309.		2017-01-01	2017-04-30
310.		2017-05-01	2017-08-31
311.		2017-05-04	2017-08-31
312.		2017-09-01	2017-12-29
313.		2017-01-01	2017-04-30
314.		2017-05-08	2017-09-04
315.		2017-01-01	2017-04-30
316.		2017-05-01	2017-09-02
317.		2017-01-01	2017-04-30
318.		2017-05-01	2017-09-01
319.		2017-01-01	2017-04-30
320.		2017-05-01	2017-07-22
321.		2017-01-01	2017-04-30
322.		2017-01-01	2017-04-30
323.		2017-05-01	2017-08-31
324.		2017-01-01	2017-04-30
325.		2017-01-01	2017-04-30
326.		2017-05-01	2017-09-01
327.		2017-01-01	2017-04-30
328.		2017-01-01	2017-04-30
329.		2017-04-24	2017-08-21
330.		2017-01-01	2017-04-30
331.		2017-05-01	2017-08-12
332.		2017-01-01	2017-04-30
333.		2017-05-01	2017-08-05
334.		2017-01-05	2017-05-04
335.		2017-05-05	2017-09-01
336.		2017-09-02	2017-12-20
337.		2017-01-05	2017-05-04
338.		2017-05-05	2017-09-01
339.		2017-09-02	2017-12-22
340.		2017-01-03	2017-05-02
341.		2017-09-01	2017-12-22
342.		2017-01-09	2017-05-08
343.		2017-05-09	2017-09-05
344.		2017-09-06	2017-12-29
345.		2017-01-09	2017-05-08
346.		2017-05-09	2017-09-05
347.		2017-09-06	2017-12-29



	<b>C</b> Name of student	<b>D</b> Start date of WP (see note 1 below)	<b>E</b> End date of WP (see note 2 below)
	<b>410</b>	<b>430</b>	<b>435</b>
348.		2017-01-01	2017-04-30
349.		2017-05-01	2017-08-28
350.		2017-08-29	2017-12-22
351.		2017-01-05	2017-05-04
352.		2017-05-05	2017-09-01
353.		2017-09-02	2017-12-29
354.		2017-01-03	2017-05-02
355.		2017-05-03	2017-08-30
356.		2017-08-31	2017-12-29
357.		2017-01-01	2017-04-30
358.		2017-05-01	2017-08-28
359.		2017-08-29	2017-12-29
360.		2017-01-01	2017-04-30
361.		2017-05-01	2017-08-28
362.		2017-08-29	2017-12-29
363.		2017-01-03	2017-05-02
364.		2017-05-03	2017-08-30
365.		2017-08-31	2017-12-29
366.		2017-01-09	2017-05-08
367.		2017-05-09	2017-09-05
368.		2017-09-06	2017-12-29
369.		2017-01-01	2017-04-30
370.		2017-05-01	2017-08-28
371.		2017-08-29	2017-12-01
372.		2017-01-01	2017-06-30
373.		2017-05-01	2017-09-01
374.		2017-05-01	2017-09-01
375.		2017-08-22	2017-12-29
376.		2017-01-01	2017-06-14
377.		2017-05-01	2017-08-31
378.		2017-09-05	2017-12-29

Note 1: When the WP has been divided into separate periods because it exceeds four consecutive months, enter the start date for the separate WP.

Note 2: When the WP has been divided into separate periods because it exceeds four consecutive months, enter the end date for the separate WP.

**Part 4 – Calculation of the Ontario co-operative education tax credit (continued)**

	<b>F1</b> Eligible expenditures before March 27, 2009 (see note 1 below)	Eligible percentage before March 27, 2009 (from line 310 in Part 3)	<b>F2</b> Eligible expenditures after March 26, 2009 (see note 1 below)	Eligible percentage after March 26, 2009 (from line 310a in Part 3)	<b>X</b> Number of consecutive weeks of the WP completed by the student before March 27, 2009 (see note 3 below)	<b>Y</b> Total number of consecutive weeks of the student's WP (see note 3 below)
	<b>450</b>		<b>452</b>			
1.		10.000 %	11,649	25.000 %		13
2.		10.000 %	12,336	25.000 %		12
3.		10.000 %	18,219	25.000 %		13
4.		10.000 %	19,548	25.000 %		14
5.		10.000 %	17,322	25.000 %		15
6.		10.000 %	41,778	25.000 %		17
7.		10.000 %	14,924	25.000 %		15
8.		10.000 %	14,494	25.000 %		15
9.		10.000 %	14,494	25.000 %		15
10.		10.000 %	16,382	25.000 %		15
11.		10.000 %	15,674	25.000 %		15
12.		10.000 %	11,749	25.000 %		15
13.		10.000 %	13,790	25.000 %		15
14.		10.000 %	13,272	25.000 %		15
15.		10.000 %	11,288	25.000 %		15
16.		10.000 %	11,288	25.000 %		15
17.		10.000 %	13,272	25.000 %		15
18.		10.000 %	13,249	25.000 %		15
19.		10.000 %	11,288	25.000 %		15
20.		10.000 %	13,272	25.000 %		15
21.		10.000 %	11,288	25.000 %		15
22.		10.000 %	13,272	25.000 %		15
23.		10.000 %	14,216	25.000 %		15
24.		10.000 %	11,230	25.000 %		15
25.		10.000 %	13,272	25.000 %		15
26.		10.000 %	13,289	25.000 %		15
27.		10.000 %	14,709	25.000 %		15
28.		10.000 %	13,281	25.000 %		16
29.		10.000 %	14,371	25.000 %		16
30.		10.000 %	16,177	25.000 %		16
31.		10.000 %	14,193	25.000 %		16
32.		10.000 %	15,786	25.000 %		16
33.		10.000 %	29,059	25.000 %		16
34.		10.000 %	15,411	25.000 %		16
35.		10.000 %	14,364	25.000 %		16
36.		10.000 %	14,685	25.000 %		16
37.		10.000 %	17,658	25.000 %		16
38.		10.000 %	16,363	25.000 %		16
39.		10.000 %	16,083	25.000 %		15
40.		10.000 %	16,675	25.000 %		16
41.		10.000 %	16,675	25.000 %		16
42.		10.000 %	16,550	25.000 %		16
43.		10.000 %	16,556	25.000 %		16
44.		10.000 %	16,675	25.000 %		16
45.		10.000 %	16,431	25.000 %		16
46.		10.000 %	18,191	25.000 %		16
47.		10.000 %	17,365	25.000 %		16
48.		10.000 %	27,646	25.000 %		16
49.		10.000 %	19,358	25.000 %		16
50.		10.000 %	18,797	25.000 %		16
51.		10.000 %	12,857	25.000 %		16

	<b>F1</b> Eligible expenditures before March 27, 2009 (see note 1 below)		<b>F2</b> Eligible expenditures after March 26, 2009 (see note 1 below)		<b>X</b> Number of consecutive weeks of the WP completed by the student before March 27, 2009 (see note 3 below)	<b>Y</b> Total number of consecutive weeks of the student's WP (see note 3 below)
	█		█			
52.		10.000 %	18,219	25.000 %		16
53.		10.000 %	18,725	25.000 %		16
54.		10.000 %	16,083	25.000 %		16
55.		10.000 %	17,610	25.000 %		16
56.		10.000 %	17,151	25.000 %		16
57.		10.000 %	17,256	25.000 %		17
58.		10.000 %	15,561	25.000 %		17
59.		10.000 %	15,183	25.000 %		17
60.		10.000 %	16,966	25.000 %		17
61.		10.000 %	13,569	25.000 %		17
62.		10.000 %	16,348	25.000 %		17
63.		10.000 %	13,190	25.000 %		17
64.		10.000 %	14,881	25.000 %		17
65.		10.000 %	12,096	25.000 %		17
66.		10.000 %	13,590	25.000 %		17
67.		10.000 %	16,538	25.000 %		17
68.		10.000 %	15,686	25.000 %		17
69.		10.000 %	16,261	25.000 %		17
70.		10.000 %	24,848	25.000 %		17
71.		10.000 %	14,891	25.000 %		17
72.		10.000 %	24,839	25.000 %		17
73.		10.000 %	24,948	25.000 %		17
74.		10.000 %	24,716	25.000 %		17
75.		10.000 %	24,450	25.000 %		17
76.		10.000 %	18,912	25.000 %		17
77.		10.000 %	27,403	25.000 %		17
78.		10.000 %	19,902	25.000 %		17
79.		10.000 %	17,429	25.000 %		17
80.		10.000 %	18,070	25.000 %		17
81.		10.000 %	15,841	25.000 %		17
82.		10.000 %	17,605	25.000 %		17
83.		10.000 %	17,446	25.000 %		16
84.		10.000 %	18,628	25.000 %		17
85.		10.000 %	18,472	25.000 %		17
86.		10.000 %	15,189	25.000 %		19
87.		10.000 %	17,206	25.000 %		16
88.		10.000 %	14,278	25.000 %		17
89.		10.000 %	18,769	25.000 %		17
90.		10.000 %	20,662	25.000 %		17
91.		10.000 %	14,176	25.000 %		17
92.		10.000 %	20,365	25.000 %		17
93.		10.000 %	18,128	25.000 %		17
94.		10.000 %	25,805	25.000 %		17
95.		10.000 %	25,830	25.000 %		17
96.		10.000 %	21,234	25.000 %		18
97.		10.000 %	29,377	25.000 %		18
98.		10.000 %	27,353	25.000 %		18
99.		10.000 %	14,809	25.000 %		18
100.		10.000 %	25,803	25.000 %		18
101.		10.000 %	18,878	25.000 %		18
102.		10.000 %	19,202	25.000 %		18
103.		10.000 %	16,345	25.000 %		19
104.		10.000 %	20,566	25.000 %		19

	<b>F1</b> Eligible expenditures before March 27, 2009 (see note 1 below)		<b>F2</b> Eligible expenditures after March 26, 2009 (see note 1 below)		<b>X</b> Number of consecutive weeks of the WP completed by the student before March 27, 2009 (see note 3 below)	<b>Y</b> Total number of consecutive weeks of the student's WP (see note 3 below)
	█		█			
105.		10.000 %	14,680	25.000 %		19
106.		10.000 %	15,189	25.000 %		19
107.		10.000 %	19,629	25.000 %		19
108.		10.000 %	19,629	25.000 %		19
109.		10.000 %	17,184	25.000 %		19
110.		10.000 %	16,357	25.000 %		19
111.		10.000 %	14,474	25.000 %		19
112.		10.000 %	27,898	25.000 %		19
113.		10.000 %	20,379	25.000 %		19
114.		10.000 %	20,879	25.000 %		20
115.		10.000 %	20,879	25.000 %		20
116.		10.000 %	20,879	25.000 %		20
117.		10.000 %	21,880	25.000 %		20
118.		10.000 %	22,339	25.000 %		20
119.		10.000 %	20,868	25.000 %		20
120.		10.000 %	23,077	25.000 %		21
121.		10.000 %	17,918	25.000 %		16
122.		10.000 %	17,918	25.000 %		14
123.		10.000 %	22,574	25.000 %		17
124.		10.000 %	16,801	25.000 %		17
125.		10.000 %	16,801	25.000 %		15
126.		10.000 %	18,904	25.000 %		17
127.		10.000 %	18,904	25.000 %		15
128.		10.000 %	18,424	25.000 %		16
129.		10.000 %	18,424	25.000 %		16
130.		10.000 %	18,424	25.000 %		16
131.		10.000 %	18,424	25.000 %		16
132.		10.000 %	18,424	25.000 %		16
133.		10.000 %	18,424	25.000 %		16
134.		10.000 %	18,305	25.000 %		16
135.		10.000 %	18,305	25.000 %		16
136.		10.000 %	23,528	25.000 %		17
137.		10.000 %	23,528	25.000 %		16
138.		10.000 %	22,755	25.000 %		17
139.		10.000 %	22,755	25.000 %		16
140.		10.000 %	21,752	25.000 %		17
141.		10.000 %	21,752	25.000 %		16
142.		10.000 %	22,754	25.000 %		17
143.		10.000 %	22,754	25.000 %		16
144.		10.000 %	24,441	25.000 %		16
145.		10.000 %	24,441	25.000 %		16
146.		10.000 %	22,866	25.000 %		17
147.		10.000 %	22,866	25.000 %		16
148.		10.000 %	20,984	25.000 %		16
149.		10.000 %	20,984	25.000 %		16
150.		10.000 %	18,933	25.000 %		17
151.		10.000 %	18,933	25.000 %		16
152.		10.000 %	18,218	25.000 %		17
153.		10.000 %	18,218	25.000 %		16
154.		10.000 %	18,933	25.000 %		17
155.		10.000 %	18,933	25.000 %		16
156.		10.000 %	20,111	25.000 %		17
157.		10.000 %	18,933	25.000 %		17

	<b>F1</b> Eligible expenditures before March 27, 2009 (see note 1 below)		<b>F2</b> Eligible expenditures after March 26, 2009 (see note 1 below)		<b>X</b> Number of consecutive weeks of the WP completed by the student before March 27, 2009 (see note 3 below)	<b>Y</b> Total number of consecutive weeks of the student's WP (see note 3 below)
	█		█			
158.		10.000 %	18,933	25.000 %		16
159.		10.000 %	23,002	25.000 %		17
160.		10.000 %	23,002	25.000 %		17
161.		10.000 %	24,686	25.000 %		17
162.		10.000 %	24,686	25.000 %		17
163.		10.000 %	23,047	25.000 %		17
164.		10.000 %	23,047	25.000 %		17
165.		10.000 %	19,089	25.000 %		16
166.		10.000 %	19,089	25.000 %		16
167.		10.000 %	19,322	25.000 %		16
168.		10.000 %	19,322	25.000 %		16
169.		10.000 %	21,110	25.000 %		16
170.		10.000 %	21,110	25.000 %		16
171.		10.000 %	17,472	25.000 %		16
172.		10.000 %	17,472	25.000 %		17
173.		10.000 %	20,349	25.000 %		16
174.		10.000 %	20,349	25.000 %		17
175.		10.000 %	19,193	25.000 %		16
176.		10.000 %	19,193	25.000 %		17
177.		10.000 %	19,405	25.000 %		16
178.		10.000 %	19,405	25.000 %		17
179.		10.000 %	18,632	25.000 %		16
180.		10.000 %	18,632	25.000 %		17
181.		10.000 %	19,380	25.000 %		16
182.		10.000 %	19,380	25.000 %		17
183.		10.000 %	16,986	25.000 %		16
184.		10.000 %	16,986	25.000 %		17
185.		10.000 %	19,193	25.000 %		16
186.		10.000 %	19,193	25.000 %		17
187.		10.000 %	17,874	25.000 %		16
188.		10.000 %	17,874	25.000 %		17
189.		10.000 %	18,813	25.000 %		16
190.		10.000 %	18,813	25.000 %		17
191.		10.000 %	19,358	25.000 %		16
192.		10.000 %	19,358	25.000 %		17
193.		10.000 %	22,109	25.000 %		17
194.		10.000 %	22,109	25.000 %		18
195.		10.000 %	23,056	25.000 %		17
196.		10.000 %	23,056	25.000 %		17
197.		10.000 %	20,387	25.000 %		17
198.		10.000 %	20,387	25.000 %		16
199.		10.000 %	22,639	25.000 %		17
200.		10.000 %	22,639	25.000 %		17
201.		10.000 %	22,371	25.000 %		17
202.		10.000 %	22,371	25.000 %		17
203.		10.000 %	21,310	25.000 %		17
204.		10.000 %	21,310	25.000 %		17
205.		10.000 %	23,189	25.000 %		17
206.		10.000 %	23,189	25.000 %		17
207.		10.000 %	23,198	25.000 %		17
208.		10.000 %	23,198	25.000 %		17
209.		10.000 %	23,294	25.000 %		17
210.		10.000 %	23,294	25.000 %		17

	<b>F1</b> Eligible expenditures before March 27, 2009 (see note 1 below)		<b>F2</b> Eligible expenditures after March 26, 2009 (see note 1 below)		<b>X</b> Number of consecutive weeks of the WP completed by the student before March 27, 2009 (see note 3 below)	<b>Y</b> Total number of consecutive weeks of the student's WP (see note 3 below)
	█		█			
211.		10.000 %	23,884	25.000 %		17
212.		10.000 %	23,884	25.000 %		17
213.		10.000 %	22,586	25.000 %		17
214.		10.000 %	22,586	25.000 %		17
215.		10.000 %	23,731	25.000 %		17
216.		10.000 %	23,731	25.000 %		17
217.		10.000 %	23,616	25.000 %		17
218.		10.000 %	23,616	25.000 %		17
219.		10.000 %	23,060	25.000 %		17
220.		10.000 %	23,060	25.000 %		17
221.		10.000 %	18,299	25.000 %		17
222.		10.000 %	18,299	25.000 %		17
223.		10.000 %	23,647	25.000 %		17
224.		10.000 %	23,647	25.000 %		17
225.		10.000 %	22,357	25.000 %		17
226.		10.000 %	22,357	25.000 %		17
227.		10.000 %	23,934	25.000 %		17
228.		10.000 %	23,934	25.000 %		17
229.		10.000 %	23,155	25.000 %		17
230.		10.000 %	23,155	25.000 %		17
231.		10.000 %	17,143	25.000 %		17
232.		10.000 %	17,143	25.000 %		17
233.		10.000 %	20,801	25.000 %		17
234.		10.000 %	20,801	25.000 %		17
235.		10.000 %	19,372	25.000 %		17
236.		10.000 %	19,372	25.000 %		17
237.		10.000 %	19,582	25.000 %		17
238.		10.000 %	19,582	25.000 %		17
239.		10.000 %	18,629	25.000 %		17
240.		10.000 %	18,629	25.000 %		17
241.		10.000 %	19,582	25.000 %		17
242.		10.000 %	19,582	25.000 %		17
243.		10.000 %	20,801	25.000 %		17
244.		10.000 %	20,801	25.000 %		17
245.		10.000 %	19,463	25.000 %		17
246.		10.000 %	19,463	25.000 %		17
247.		10.000 %	21,235	25.000 %		17
248.		10.000 %	21,235	25.000 %		17
249.		10.000 %	19,463	25.000 %		17
250.		10.000 %	19,463	25.000 %		17
251.		10.000 %	20,548	25.000 %		17
252.		10.000 %	20,548	25.000 %		17
253.		10.000 %	20,801	25.000 %		17
254.		10.000 %	20,801	25.000 %		17
255.		10.000 %	19,582	25.000 %		17
256.		10.000 %	19,582	25.000 %		17
257.		10.000 %	23,857	25.000 %		17
258.		10.000 %	23,857	25.000 %		18
259.		10.000 %	17,062	25.000 %		17
260.		10.000 %	17,062	25.000 %		18
261.		10.000 %	26,135	25.000 %		17
262.		10.000 %	26,135	25.000 %		18
263.		10.000 %	24,115	25.000 %		17

	<b>F1</b> Eligible expenditures before March 27, 2009 (see note 1 below)		<b>F2</b> Eligible expenditures after March 26, 2009 (see note 1 below)		<b>X</b> Number of consecutive weeks of the WP completed by the student before March 27, 2009 (see note 3 below)	<b>Y</b> Total number of consecutive weeks of the student's WP (see note 3 below)
	█		█			
264.		10.000 %	24,115	25.000 %		18
265.		10.000 %	23,650	25.000 %		17
266.		10.000 %	23,650	25.000 %		18
267.		10.000 %	22,514	25.000 %		17
268.		10.000 %	22,514	25.000 %		18
269.		10.000 %	22,390	25.000 %		17
270.		10.000 %	22,390	25.000 %		18
271.		10.000 %	24,881	25.000 %		17
272.		10.000 %	24,881	25.000 %		18
273.		10.000 %	19,915	25.000 %		17
274.		10.000 %	19,915	25.000 %		18
275.		10.000 %	22,868	25.000 %		17
276.		10.000 %	22,868	25.000 %		18
277.		10.000 %	23,808	25.000 %		17
278.		10.000 %	23,808	25.000 %		18
279.		10.000 %	23,021	25.000 %		17
280.		10.000 %	23,021	25.000 %		18
281.		10.000 %	22,815	25.000 %		17
282.		10.000 %	22,815	25.000 %		18
283.		10.000 %	23,647	25.000 %		17
284.		10.000 %	23,647	25.000 %		18
285.		10.000 %	23,401	25.000 %		17
286.		10.000 %	23,401	25.000 %		18
287.		10.000 %	18,833	25.000 %		17
288.		10.000 %	18,833	25.000 %		18
289.		10.000 %	23,992	25.000 %		17
290.		10.000 %	23,992	25.000 %		18
291.		10.000 %	23,438	25.000 %		17
292.		10.000 %	23,438	25.000 %		18
293.		10.000 %	15,932	25.000 %		17
294.		10.000 %	15,932	25.000 %		18
295.		10.000 %	15,465	25.000 %		17
296.		10.000 %	15,465	25.000 %		18
297.		10.000 %	24,725	25.000 %		17
298.		10.000 %	24,725	25.000 %		18
299.		10.000 %	21,490	25.000 %		17
300.		10.000 %	21,490	25.000 %		18
301.		10.000 %	20,023	25.000 %		17
302.		10.000 %	20,023	25.000 %		17
303.		10.000 %	17,319	25.000 %		16
304.		10.000 %	17,319	25.000 %		16
305.		10.000 %	23,240	25.000 %		17
306.		10.000 %	23,240	25.000 %		17
307.		10.000 %	23,130	25.000 %		17
308.		10.000 %	23,130	25.000 %		17
309.		10.000 %	11,560	25.000 %		17
310.		10.000 %	11,560	25.000 %		17
311.		10.000 %	19,346	25.000 %		16
312.		10.000 %	19,346	25.000 %		17
313.		10.000 %	23,997	25.000 %		17
314.		10.000 %	20,374	25.000 %		17
315.		10.000 %	23,624	25.000 %		17
316.		10.000 %	23,624	25.000 %		18



	<b>F1</b> Eligible expenditures before March 27, 2009 (see note 1 below)		<b>F2</b> Eligible expenditures after March 26, 2009 (see note 1 below)		<b>X</b> Number of consecutive weeks of the WP completed by the student before March 27, 2009 (see note 3 below)	<b>Y</b> Total number of consecutive weeks of the student's WP (see note 3 below)
	█		█			
317.		10.000 %	22,921	25.000 %		17
318.		10.000 %	22,921	25.000 %		18
319.		10.000 %	20,271	25.000 %		17
320.		10.000 %	20,271	25.000 %		12
321.		10.000 %	23,747	25.000 %		17
322.		10.000 %	23,359	25.000 %		17
323.		10.000 %	23,359	25.000 %		17
324.		10.000 %	23,038	25.000 %		17
325.		10.000 %	22,306	25.000 %		17
326.		10.000 %	22,306	25.000 %		18
327.		10.000 %	24,950	25.000 %		17
328.		10.000 %	24,249	25.000 %		17
329.		10.000 %	20,236	25.000 %		17
330.		10.000 %	22,005	25.000 %		17
331.		10.000 %	22,005	25.000 %		15
332.		10.000 %	21,144	25.000 %		17
333.		10.000 %	21,144	25.000 %		14
334.		10.000 %	19,114	25.000 %		16
335.		10.000 %	19,114	25.000 %		17
336.		10.000 %	19,114	25.000 %		15
337.		10.000 %	16,295	25.000 %		16
338.		10.000 %	16,295	25.000 %		17
339.		10.000 %	16,295	25.000 %		16
340.		10.000 %	13,823	25.000 %		16
341.		10.000 %	13,823	25.000 %		16
342.		10.000 %	18,267	25.000 %		17
343.		10.000 %	18,267	25.000 %		16
344.		10.000 %	18,267	25.000 %		16
345.		10.000 %	19,428	25.000 %		17
346.		10.000 %	19,428	25.000 %		16
347.		10.000 %	19,428	25.000 %		16
348.		10.000 %	20,848	25.000 %		17
349.		10.000 %	20,848	25.000 %		17
350.		10.000 %	20,848	25.000 %		16
351.		10.000 %	20,203	25.000 %		16
352.		10.000 %	20,203	25.000 %		17
353.		10.000 %	20,203	25.000 %		17
354.		10.000 %	14,846	25.000 %		16
355.		10.000 %	14,846	25.000 %		16
356.		10.000 %	14,846	25.000 %		17
357.		10.000 %	18,021	25.000 %		17
358.		10.000 %	18,021	25.000 %		17
359.		10.000 %	18,021	25.000 %		17
360.		10.000 %	18,908	25.000 %		17
361.		10.000 %	18,908	25.000 %		17
362.		10.000 %	18,908	25.000 %		17
363.		10.000 %	21,210	25.000 %		16
364.		10.000 %	21,210	25.000 %		16
365.		10.000 %	21,210	25.000 %		17
366.		10.000 %	18,416	25.000 %		17
367.		10.000 %	18,416	25.000 %		16
368.		10.000 %	18,416	25.000 %		16
369.		10.000 %	19,400	25.000 %		17



	<b>F1</b> Eligible expenditures before March 27, 2009 (see note 1 below)	Eligible percentage before March 27, 2009 (from line 310 in Part 3)	<b>F2</b> Eligible expenditures after March 26, 2009 (see note 1 below)	Eligible percentage after March 26, 2009 (from line 310a in Part 3)	<b>X</b> Number of consecutive weeks of the WP completed by the student before March 27, 2009 (see note 3 below)	<b>Y</b> Total number of consecutive weeks of the student's WP (see note 3 below)
	<b>450</b>		<b>452</b>			
370.		10.000 %	19,400	25.000 %		17
371.		10.000 %	19,400	25.000 %		13
372.		10.000 %	17,684	25.000 %		26
373.		10.000 %	24,249	25.000 %		18
374.		10.000 %	24,950	25.000 %		18
375.		10.000 %	20,236	25.000 %		18
376.		10.000 %	16,766	25.000 %		23
377.		10.000 %	22,574	25.000 %		17
378.		10.000 %	20,112	25.000 %		16

	<b>G</b> Eligible amount (eligible expenditures <b>multiplied</b> by eligible percentage) (see note 2 below)	<b>H</b> Maximum CETC per WP (see note 3 below)	<b>I</b> CETC on eligible expenditures (column G or H, whichever is less)	<b>J</b> CETC on repayment of government assistance (see note 4 below)	<b>K</b> CETC for each WP (column I or column J)
	<b>460</b>	<b>462</b>	<b>470</b>	<b>480</b>	<b>490</b>
1.	2,912	3,000	2,912		2,912
2.	3,084	3,000	3,000		3,000
3.	4,555	3,000	3,000		3,000
4.	4,887	3,000	3,000		3,000
5.	4,331	3,000	3,000		3,000
6.	10,445	3,000	3,000		3,000
7.	3,731	3,000	3,000		3,000
8.	3,624	3,000	3,000		3,000
9.	3,624	3,000	3,000		3,000
10.	4,096	3,000	3,000		3,000
11.	3,919	3,000	3,000		3,000
12.	2,937	3,000	2,937		2,937
13.	3,448	3,000	3,000		3,000
14.	3,318	3,000	3,000		3,000
15.	2,822	3,000	2,822		2,822
16.	2,822	3,000	2,822		2,822
17.	3,318	3,000	3,000		3,000
18.	3,312	3,000	3,000		3,000
19.	2,822	3,000	2,822		2,822
20.	3,318	3,000	3,000		3,000
21.	2,822	3,000	2,822		2,822
22.	3,318	3,000	3,000		3,000
23.	3,554	3,000	3,000		3,000
24.	2,808	3,000	2,808		2,808
25.	3,318	3,000	3,000		3,000
26.	3,322	3,000	3,000		3,000
27.	3,677	3,000	3,000		3,000
28.	3,320	3,000	3,000		3,000
29.	3,593	3,000	3,000		3,000
30.	4,044	3,000	3,000		3,000
31.	3,548	3,000	3,000		3,000
32.	3,947	3,000	3,000		3,000
33.	7,265	3,000	3,000		3,000
34.	3,853	3,000	3,000		3,000
35.	3,591	3,000	3,000		3,000
36.	3,671	3,000	3,000		3,000
37.	4,415	3,000	3,000		3,000

	<b>G</b> Eligible amount (eligible expenditures <b>multiplied</b> by eligible percentage) (see note 2 below)	<b>H</b> Maximum CETC per WP (see note 3 below)	<b>I</b> CETC on eligible expenditures (column G or H, whichever is less)	<b>J</b> CETC on repayment of government assistance (see note 4 below)	<b>K</b> CETC for each WP (column I or column J)
	<b>460</b>	<b>462</b>	<b>470</b>	<b>480</b>	<b>490</b>
38.	4,091	3,000	3,000		3,000
39.	4,021	3,000	3,000		3,000
40.	4,169	3,000	3,000		3,000
41.	4,169	3,000	3,000		3,000
42.	4,138	3,000	3,000		3,000
43.	4,139	3,000	3,000		3,000
44.	4,169	3,000	3,000		3,000
45.	4,108	3,000	3,000		3,000
46.	4,548	3,000	3,000		3,000
47.	4,341	3,000	3,000		3,000
48.	6,912	3,000	3,000		3,000
49.	4,840	3,000	3,000		3,000
50.	4,699	3,000	3,000		3,000
51.	3,214	3,000	3,000		3,000
52.	4,555	3,000	3,000		3,000
53.	4,681	3,000	3,000		3,000
54.	4,021	3,000	3,000		3,000
55.	4,403	3,000	3,000		3,000
56.	4,288	3,000	3,000		3,000
57.	4,314	3,000	3,000		3,000
58.	3,890	3,000	3,000		3,000
59.	3,796	3,000	3,000		3,000
60.	4,242	3,000	3,000		3,000
61.	3,392	3,000	3,000		3,000
62.	4,087	3,000	3,000		3,000
63.	3,298	3,000	3,000		3,000
64.	3,720	3,000	3,000		3,000
65.	3,024	3,000	3,000		3,000
66.	3,398	3,000	3,000		3,000
67.	4,135	3,000	3,000		3,000
68.	3,922	3,000	3,000		3,000
69.	4,065	3,000	3,000		3,000
70.	6,212	3,000	3,000		3,000
71.	3,723	3,000	3,000		3,000
72.	6,210	3,000	3,000		3,000
73.	6,237	3,000	3,000		3,000
74.	6,179	3,000	3,000		3,000
75.	6,113	3,000	3,000		3,000
76.	4,728	3,000	3,000		3,000
77.	6,851	3,000	3,000		3,000
78.	4,976	3,000	3,000		3,000
79.	4,357	3,000	3,000		3,000
80.	4,518	3,000	3,000		3,000
81.	3,960	3,000	3,000		3,000
82.	4,401	3,000	3,000		3,000
83.	4,362	3,000	3,000		3,000
84.	4,657	3,000	3,000		3,000
85.	4,618	3,000	3,000		3,000
86.	3,797	3,000	3,000		3,000
87.	4,302	3,000	3,000		3,000
88.	3,570	3,000	3,000		3,000
89.	4,692	3,000	3,000		3,000
90.	5,166	3,000	3,000		3,000

	<b>G</b> Eligible amount (eligible expenditures <b>multiplied</b> by eligible percentage) (see note 2 below)	<b>H</b> Maximum CETC per WP (see note 3 below)	<b>I</b> CETC on eligible expenditures (column G or H, whichever is less)	<b>J</b> CETC on repayment of government assistance (see note 4 below)	<b>K</b> CETC for each WP (column I or column J)
	<b>460</b>	<b>462</b>	<b>470</b>	<b>480</b>	<b>490</b>
91.	3,544	3,000	3,000		3,000
92.	5,091	3,000	3,000		3,000
93.	4,532	3,000	3,000		3,000
94.	6,451	3,000	3,000		3,000
95.	6,458	3,000	3,000		3,000
96.	5,309	3,000	3,000		3,000
97.	7,344	3,000	3,000		3,000
98.	6,838	3,000	3,000		3,000
99.	3,702	3,000	3,000		3,000
100.	6,451	3,000	3,000		3,000
101.	4,720	3,000	3,000		3,000
102.	4,801	3,000	3,000		3,000
103.	4,086	3,000	3,000		3,000
104.	5,142	3,000	3,000		3,000
105.	3,670	3,000	3,000		3,000
106.	3,797	3,000	3,000		3,000
107.	4,907	3,000	3,000		3,000
108.	4,907	3,000	3,000		3,000
109.	4,296	3,000	3,000		3,000
110.	4,089	3,000	3,000		3,000
111.	3,619	3,000	3,000		3,000
112.	6,975	3,000	3,000		3,000
113.	5,095	3,000	3,000		3,000
114.	5,220	3,000	3,000		3,000
115.	5,220	3,000	3,000		3,000
116.	5,220	3,000	3,000		3,000
117.	5,470	3,000	3,000		3,000
118.	5,585	3,000	3,000		3,000
119.	5,217	3,000	3,000		3,000
120.	5,769	3,000	3,000		3,000
121.	4,480	3,000	3,000		3,000
122.	4,480	3,000	3,000		3,000
123.	5,644	3,000	3,000		3,000
124.	4,200	3,000	3,000		3,000
125.	4,200	3,000	3,000		3,000
126.	4,726	3,000	3,000		3,000
127.	4,726	3,000	3,000		3,000
128.	4,606	3,000	3,000		3,000
129.	4,606	3,000	3,000		3,000
130.	4,606	3,000	3,000		3,000
131.	4,606	3,000	3,000		3,000
132.	4,606	3,000	3,000		3,000
133.	4,606	3,000	3,000		3,000
134.	4,576	3,000	3,000		3,000
135.	4,576	3,000	3,000		3,000
136.	5,882	3,000	3,000		3,000
137.	5,882	3,000	3,000		3,000
138.	5,689	3,000	3,000		3,000
139.	5,689	3,000	3,000		3,000
140.	5,438	3,000	3,000		3,000
141.	5,438	3,000	3,000		3,000
142.	5,689	3,000	3,000		3,000
143.	5,689	3,000	3,000		3,000

	<b>G</b> Eligible amount (eligible expenditures <b>multiplied</b> by eligible percentage) (see note 2 below)  <b>460</b>	<b>H</b> Maximum CETC per WP (see note 3 below)  <b>462</b>	<b>I</b> CETC on eligible expenditures (column G or H, whichever is less)  <b>470</b>	<b>J</b> CETC on repayment of government assistance (see note 4 below)  <b>480</b>	<b>K</b> CETC for each WP (column I or column J)  <b>490</b>
144.	6,110	3,000	3,000		3,000
145.	6,110	3,000	3,000		3,000
146.	5,717	3,000	3,000		3,000
147.	5,717	3,000	3,000		3,000
148.	5,246	3,000	3,000		3,000
149.	5,246	3,000	3,000		3,000
150.	4,733	3,000	3,000		3,000
151.	4,733	3,000	3,000		3,000
152.	4,555	3,000	3,000		3,000
153.	4,555	3,000	3,000		3,000
154.	4,733	3,000	3,000		3,000
155.	4,733	3,000	3,000		3,000
156.	5,028	3,000	3,000		3,000
157.	4,733	3,000	3,000		3,000
158.	4,733	3,000	3,000		3,000
159.	5,751	3,000	3,000		3,000
160.	5,751	3,000	3,000		3,000
161.	6,172	3,000	3,000		3,000
162.	6,172	3,000	3,000		3,000
163.	5,762	3,000	3,000		3,000
164.	5,762	3,000	3,000		3,000
165.	4,772	3,000	3,000		3,000
166.	4,772	3,000	3,000		3,000
167.	4,831	3,000	3,000		3,000
168.	4,831	3,000	3,000		3,000
169.	5,278	3,000	3,000		3,000
170.	5,278	3,000	3,000		3,000
171.	4,368	3,000	3,000		3,000
172.	4,368	3,000	3,000		3,000
173.	5,087	3,000	3,000		3,000
174.	5,087	3,000	3,000		3,000
175.	4,798	3,000	3,000		3,000
176.	4,798	3,000	3,000		3,000
177.	4,851	3,000	3,000		3,000
178.	4,851	3,000	3,000		3,000
179.	4,658	3,000	3,000		3,000
180.	4,658	3,000	3,000		3,000
181.	4,845	3,000	3,000		3,000
182.	4,845	3,000	3,000		3,000
183.	4,247	3,000	3,000		3,000
184.	4,247	3,000	3,000		3,000
185.	4,798	3,000	3,000		3,000
186.	4,798	3,000	3,000		3,000
187.	4,469	3,000	3,000		3,000
188.	4,469	3,000	3,000		3,000
189.	4,703	3,000	3,000		3,000
190.	4,703	3,000	3,000		3,000
191.	4,840	3,000	3,000		3,000
192.	4,840	3,000	3,000		3,000
193.	5,527	3,000	3,000		3,000
194.	5,527	3,000	3,000		3,000
195.	5,764	3,000	3,000		3,000
196.	5,764	3,000	3,000		3,000

	<b>G</b> Eligible amount (eligible expenditures <b>multiplied</b> by eligible percentage) (see note 2 below)  <b>460</b>	<b>H</b> Maximum CETC per WP (see note 3 below)  <b>462</b>	<b>I</b> CETC on eligible expenditures (column G or H, whichever is less)  <b>470</b>	<b>J</b> CETC on repayment of government assistance (see note 4 below)  <b>480</b>	<b>K</b> CETC for each WP (column I or column J)  <b>490</b>
197.	5,097	3,000	3,000		3,000
198.	5,097	3,000	3,000		3,000
199.	5,660	3,000	3,000		3,000
200.	5,660	3,000	3,000		3,000
201.	5,593	3,000	3,000		3,000
202.	5,593	3,000	3,000		3,000
203.	5,328	3,000	3,000		3,000
204.	5,328	3,000	3,000		3,000
205.	5,797	3,000	3,000		3,000
206.	5,797	3,000	3,000		3,000
207.	5,800	3,000	3,000		3,000
208.	5,800	3,000	3,000		3,000
209.	5,824	3,000	3,000		3,000
210.	5,824	3,000	3,000		3,000
211.	5,971	3,000	3,000		3,000
212.	5,971	3,000	3,000		3,000
213.	5,647	3,000	3,000		3,000
214.	5,647	3,000	3,000		3,000
215.	5,933	3,000	3,000		3,000
216.	5,933	3,000	3,000		3,000
217.	5,904	3,000	3,000		3,000
218.	5,904	3,000	3,000		3,000
219.	5,765	3,000	3,000		3,000
220.	5,765	3,000	3,000		3,000
221.	4,575	3,000	3,000		3,000
222.	4,575	3,000	3,000		3,000
223.	5,912	3,000	3,000		3,000
224.	5,912	3,000	3,000		3,000
225.	5,589	3,000	3,000		3,000
226.	5,589	3,000	3,000		3,000
227.	5,984	3,000	3,000		3,000
228.	5,984	3,000	3,000		3,000
229.	5,789	3,000	3,000		3,000
230.	5,789	3,000	3,000		3,000
231.	4,286	3,000	3,000		3,000
232.	4,286	3,000	3,000		3,000
233.	5,200	3,000	3,000		3,000
234.	5,200	3,000	3,000		3,000
235.	4,843	3,000	3,000		3,000
236.	4,843	3,000	3,000		3,000
237.	4,896	3,000	3,000		3,000
238.	4,896	3,000	3,000		3,000
239.	4,657	3,000	3,000		3,000
240.	4,657	3,000	3,000		3,000
241.	4,896	3,000	3,000		3,000
242.	4,896	3,000	3,000		3,000
243.	5,200	3,000	3,000		3,000
244.	5,200	3,000	3,000		3,000
245.	4,866	3,000	3,000		3,000
246.	4,866	3,000	3,000		3,000
247.	5,309	3,000	3,000		3,000
248.	5,309	3,000	3,000		3,000
249.	4,866	3,000	3,000		3,000

	<b>G</b> Eligible amount (eligible expenditures <b>multiplied</b> by eligible percentage) (see note 2 below)	<b>H</b> Maximum CETC per WP (see note 3 below)	<b>I</b> CETC on eligible expenditures (column G or H, whichever is less)	<b>J</b> CETC on repayment of government assistance (see note 4 below)	<b>K</b> CETC for each WP (column I or column J)
	<b>460</b>	<b>462</b>	<b>470</b>	<b>480</b>	<b>490</b>
250.	4,866	3,000	3,000		3,000
251.	5,137	3,000	3,000		3,000
252.	5,137	3,000	3,000		3,000
253.	5,200	3,000	3,000		3,000
254.	5,200	3,000	3,000		3,000
255.	4,896	3,000	3,000		3,000
256.	4,896	3,000	3,000		3,000
257.	5,964	3,000	3,000		3,000
258.	5,964	3,000	3,000		3,000
259.	4,266	3,000	3,000		3,000
260.	4,266	3,000	3,000		3,000
261.	6,534	3,000	3,000		3,000
262.	6,534	3,000	3,000		3,000
263.	6,029	3,000	3,000		3,000
264.	6,029	3,000	3,000		3,000
265.	5,913	3,000	3,000		3,000
266.	5,913	3,000	3,000		3,000
267.	5,629	3,000	3,000		3,000
268.	5,629	3,000	3,000		3,000
269.	5,598	3,000	3,000		3,000
270.	5,598	3,000	3,000		3,000
271.	6,220	3,000	3,000		3,000
272.	6,220	3,000	3,000		3,000
273.	4,979	3,000	3,000		3,000
274.	4,979	3,000	3,000		3,000
275.	5,717	3,000	3,000		3,000
276.	5,717	3,000	3,000		3,000
277.	5,952	3,000	3,000		3,000
278.	5,952	3,000	3,000		3,000
279.	5,755	3,000	3,000		3,000
280.	5,755	3,000	3,000		3,000
281.	5,704	3,000	3,000		3,000
282.	5,704	3,000	3,000		3,000
283.	5,912	3,000	3,000		3,000
284.	5,912	3,000	3,000		3,000
285.	5,850	3,000	3,000		3,000
286.	5,850	3,000	3,000		3,000
287.	4,708	3,000	3,000		3,000
288.	4,708	3,000	3,000		3,000
289.	5,998	3,000	3,000		3,000
290.	5,998	3,000	3,000		3,000
291.	5,860	3,000	3,000		3,000
292.	5,860	3,000	3,000		3,000
293.	3,983	3,000	3,000		3,000
294.	3,983	3,000	3,000		3,000
295.	3,866	3,000	3,000		3,000
296.	3,866	3,000	3,000		3,000
297.	6,181	3,000	3,000		3,000
298.	6,181	3,000	3,000		3,000
299.	5,373	3,000	3,000		3,000
300.	5,373	3,000	3,000		3,000
301.	5,006	3,000	3,000		3,000
302.	5,006	3,000	3,000		3,000

	<b>G</b> Eligible amount (eligible expenditures <b>multiplied</b> by eligible percentage) (see note 2 below)  <b>460</b>	<b>H</b> Maximum CETC per WP (see note 3 below)  <b>462</b>	<b>I</b> CETC on eligible expenditures (column G or H, whichever is less)  <b>470</b>	<b>J</b> CETC on repayment of government assistance (see note 4 below)  <b>480</b>	<b>K</b> CETC for each WP (column I or column J)  <b>490</b>
303.	4,330	3,000	3,000		3,000
304.	4,330	3,000	3,000		3,000
305.	5,810	3,000	3,000		3,000
306.	5,810	3,000	3,000		3,000
307.	5,783	3,000	3,000		3,000
308.	5,783	3,000	3,000		3,000
309.	2,890	3,000	2,890		2,890
310.	2,890	3,000	2,890		2,890
311.	4,837	3,000	3,000		3,000
312.	4,837	3,000	3,000		3,000
313.	5,999	3,000	3,000		3,000
314.	5,094	3,000	3,000		3,000
315.	5,906	3,000	3,000		3,000
316.	5,906	3,000	3,000		3,000
317.	5,730	3,000	3,000		3,000
318.	5,730	3,000	3,000		3,000
319.	5,068	3,000	3,000		3,000
320.	5,068	3,000	3,000		3,000
321.	5,937	3,000	3,000		3,000
322.	5,840	3,000	3,000		3,000
323.	5,840	3,000	3,000		3,000
324.	5,760	3,000	3,000		3,000
325.	5,577	3,000	3,000		3,000
326.	5,577	3,000	3,000		3,000
327.	6,238	3,000	3,000		3,000
328.	6,062	3,000	3,000		3,000
329.	5,059	3,000	3,000		3,000
330.	5,501	3,000	3,000		3,000
331.	5,501	3,000	3,000		3,000
332.	5,286	3,000	3,000		3,000
333.	5,286	3,000	3,000		3,000
334.	4,779	3,000	3,000		3,000
335.	4,779	3,000	3,000		3,000
336.	4,779	3,000	3,000		3,000
337.	4,074	3,000	3,000		3,000
338.	4,074	3,000	3,000		3,000
339.	4,074	3,000	3,000		3,000
340.	3,456	3,000	3,000		3,000
341.	3,456	3,000	3,000		3,000
342.	4,567	3,000	3,000		3,000
343.	4,567	3,000	3,000		3,000
344.	4,567	3,000	3,000		3,000
345.	4,857	3,000	3,000		3,000
346.	4,857	3,000	3,000		3,000
347.	4,857	3,000	3,000		3,000
348.	5,212	3,000	3,000		3,000
349.	5,212	3,000	3,000		3,000
350.	5,212	3,000	3,000		3,000
351.	5,051	3,000	3,000		3,000
352.	5,051	3,000	3,000		3,000
353.	5,051	3,000	3,000		3,000
354.	3,712	3,000	3,000		3,000
355.	3,712	3,000	3,000		3,000

	<b>G</b> Eligible amount (eligible expenditures <b>multiplied</b> by eligible percentage) (see note 2 below)  <b>460</b>	<b>H</b> Maximum CETC per WP (see note 3 below)  <b>462</b>	<b>I</b> CETC on eligible expenditures (column G or H, whichever is less)  <b>470</b>	<b>J</b> CETC on repayment of government assistance (see note 4 below)  <b>480</b>	<b>K</b> CETC for each WP (column I or column J)  <b>490</b>
356.	3,712	3,000	3,000		3,000
357.	4,505	3,000	3,000		3,000
358.	4,505	3,000	3,000		3,000
359.	4,505	3,000	3,000		3,000
360.	4,727	3,000	3,000		3,000
361.	4,727	3,000	3,000		3,000
362.	4,727	3,000	3,000		3,000
363.	5,303	3,000	3,000		3,000
364.	5,303	3,000	3,000		3,000
365.	5,303	3,000	3,000		3,000
366.	4,604	3,000	3,000		3,000
367.	4,604	3,000	3,000		3,000
368.	4,604	3,000	3,000		3,000
369.	4,850	3,000	3,000		3,000
370.	4,850	3,000	3,000		3,000
371.	4,850	3,000	3,000		3,000
372.	4,421	3,000	3,000		3,000
373.	6,062	3,000	3,000		3,000
374.	6,238	3,000	3,000		3,000
375.	5,059	3,000	3,000		3,000
376.	4,192	3,000	3,000		3,000
377.	5,644	3,000	3,000		3,000
378.	5,028	3,000	3,000		3,000

**Ontario co-operative education tax credit** (total of amounts in column K) **500** 1,132,725 L

or, if the corporation answered **yes** at line 150 in Part 1, determine the partner's share of amount L:

Amount L \_\_\_\_\_ x percentage on line 170 in Part 1 \_\_\_\_\_ % = \_\_\_\_\_ **M**

Enter amount L or M, whichever applies, on line 452 of Schedule 5, *Tax Calculation Supplementary – Corporations*. If you are filing more than one Schedule 550, add the amounts from line L or M, whichever applies, on all the schedules and enter the total amount on line 452 of Schedule 5.

Note 1: Reduce eligible expenditures by all government assistance, as defined under subsection 88(21) of the *Taxation Act, 2007* (Ontario), that the corporation has received, is entitled to receive, or may reasonably expect to receive, for the eligible expenditures, on or before the filing due date of the *T2 Corporation Income Tax Return* for the tax year.

Note 2: Calculate the eligible amount (Column G) using the following formula:

$$\text{Column G} = (\text{column F1} \times \text{percentage on line 310}) + (\text{column F2} \times \text{percentage on line 312})$$

Note 3: If the WP ends before March 27, 2009, the maximum credit amount for the WP is \$1,000.

If the WP begins after March 26, 2009, the maximum credit amount for the WP is \$3,000.

If the WP begins before March 27, 2009, and ends after March 26, 2009, calculate the maximum credit amount using the following formula:

$$(\$1,000 \times X/Y) + [\$3,000 \times (Y - X)/Y]$$

where "X" is the number of consecutive weeks of the WP completed by the student before March 27, 2009, and "Y" is the total number of consecutive weeks of the student's WP.

Note 4: When claiming a CETC for repayment of government assistance, complete a **separate entry** for each repayment and complete columns A to E and J and K with the details for the previous year WP in which the government assistance was received.

Include the amount of government assistance repaid in the tax year multiplied by the eligible percentage for the tax year in which the government assistance was received, to the extent that the government assistance reduced the CETC in that tax year.



## Ontario Apprenticeship Training Tax Credit

Corporation's name <b>HYDRO ONE NETWORKS INC.</b>	Business number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- Use this schedule to claim an Ontario apprenticeship training tax credit (ATTC) under section 89 of the *Taxation Act, 2007* (Ontario).
- The ATTC is a refundable tax credit that is equal to a specified percentage (25% to 45%) of the eligible expenditures incurred by a corporation for a qualifying apprenticeship. For eligible expenditures incurred after March 26, 2009 for an apprenticeship program that began before April 24, 2015, the maximum credit for each qualifying apprenticeship is \$10,000 per year to a maximum credit of \$40,000 over the first 48-month period of the qualifying apprenticeship. For an apprenticeship program that began after April 23, 2015, the maximum credit for each qualifying apprenticeship is \$5,000 per year to a maximum credit of \$15,000 over the first 36-month period of the qualifying apprenticeship.
- Eligible expenditures are salaries and wages (including taxable benefits) paid to an apprentice in a qualifying apprenticeship or fees paid to an employment agency for the provision of services performed by the apprentice in a qualifying apprenticeship. These expenditures must be:
  - paid on account of employment or services, as applicable, at a permanent establishment of the corporation in Ontario;
  - for services provided by the apprentice during the first 48 months of the apprenticeship program, if an apprenticeship program began before April 24, 2015; and
  - for services provided by the apprentice during the first 36 months of the apprenticeship program, if an apprenticeship program began after April 23, 2015.
- An expenditure is not eligible for an ATTC if:
  - the same expenditure was used, or will be used, to claim a co-operative education tax credit; or
  - it is more than an amount that would be paid to an arm's length apprentice.
- An apprenticeship must meet the following conditions to be a qualifying apprenticeship:
  - the apprenticeship is in a qualifying skilled trade approved by the Ministry of Training, Colleges and Universities (Ontario) or a person designated by him or her; and
  - the corporation and the apprentice must be participating in an apprenticeship program in which the training agreement has been registered under the *Ontario College of Trades and Apprenticeship Act, 2009*, or the *Apprenticeship and Certification Act, 1998*, or in which the contract of apprenticeship has been registered under the *Trades Qualification and Apprenticeship Act*.
- Do not submit the training agreement or contract of apprenticeship with your *T2 Corporation Income Tax Return*. Keep a copy of the training agreement or contract of apprenticeship to support your claim.
- File this schedule with your *T2 Corporation Income Tax Return*.

### Part 1 – Corporate information

<b>110</b> Name of person to contact for more information Nancy Tran	<b>120</b> Telephone number (416) 345-6778
Is the claim filed for an ATTC earned through a partnership? *	<b>150</b> 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>
If you answered <b>yes</b> to the question at line 150, what is the name of the partnership?	<b>160</b> _____
Enter the percentage of the partnership's ATTC allocated to the corporation	<b>170</b> _____ %

\* When a corporate member of a partnership is claiming an amount for eligible expenditures incurred by a partnership, complete a Schedule 552 for the partnership as if the partnership were a corporation. Each corporate partner, other than a limited partner, should file a separate Schedule 552 to claim the partner's share of the partnership's ATTC. The total of the partners' allocated amounts can never exceed the amount of the partnership's ATTC.

### Part 2 – Eligibility

1. Did the corporation have a permanent establishment in Ontario in the tax year?	<b>200</b> 1 Yes <input checked="" type="checkbox"/> 2 No <input type="checkbox"/>
2. Was the corporation exempt from tax under Part III of the <i>Taxation Act, 2007</i> (Ontario)?	<b>210</b> 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>

If you answered **no** to question 1 or **yes** to question 2, then you are **not eligible** for the ATTC.

**Part 3 – Specified percentage**

Corporation's salaries and wages paid in the previous tax year\* ..... **300** 893,294,302

**For eligible expenditures incurred after March 26, 2009 for an apprenticeship program that began before April 24, 2015:**

- If line 300 is \$400,000 or less, enter 45% on line 312.
- If line 300 is \$600,000 or more, enter 35% on line 312.
- If line 300 is more than \$400,000 and less than \$600,000, enter the percentage on line 312 using the following formula:

$$\text{Specified percentage} = 45\% - \left[ 10\% \times \left( \frac{\text{amount on line 300} - 400,000}{200,000} \right) \right]$$

**Specified percentage** ..... **312** 35.000 %

**For eligible expenditures incurred for an apprenticeship program that began after April 23, 2015:**

- If line 300 is \$400,000 or less, enter 30% on line 314.
- If line 300 is \$600,000 or more, enter 25% on line 314.
- If line 300 is more than \$400,000 and less than \$600,000, enter the percentage on line 314 using the following formula:

$$\text{Specified percentage} = 30\% - \left[ 5\% \times \left( \frac{\text{amount on line 300} - 400,000}{200,000} \right) \right]$$

**Specified percentage** ..... **314** 25.000 %

\* If this is the first tax year of an amalgamated corporation and subsection 89(6) of the *Taxation Act, 2007* (Ontario) applies, enter salaries and wages paid in the previous tax year by the predecessor corporations.

**Part 4 – Ontario apprenticeship training tax credit**

Complete a **separate entry** for each apprentice for each qualifying apprenticeship with the corporation. When claiming an ATTC for repayment of government assistance, complete a **separate entry** for each repayment, and complete columns A to G and M and N with the details for the employment period in the previous tax year in which the government assistance was received.

	A Trade code	B Apprenticeship program/trade name	C Name of apprentice
	<b>400</b>	<b>405</b>	<b>410</b>
1.	434a	Powerline Technician	
2.	434a	Powerline Technician	
3.	434a	Powerline Technician	
4.	434a	Powerline Technician	
5.	434a	Powerline Technician	
6.	434a	Powerline Technician	
7.	434a	Powerline Technician	
8.	434a	Powerline Technician	
9.	434a	Powerline Technician	
10.	434a	Powerline Technician	
11.	434a	Powerline Technician	
12.	434a	Powerline Technician	
13.	434a	Powerline Technician	
14.	434a	Powerline Technician	
15.	434a	Powerline Technician	
16.	434a	Powerline Technician	
17.	434a	Powerline Technician	
18.	434a	Powerline Technician	
19.	434a	Powerline Technician	
20.	434a	Powerline Technician	
21.	434a	Powerline Technician	
22.	434a	Powerline Technician	
23.	434a	Powerline Technician	
24.	434a	Powerline Technician	
25.	434a	Powerline Technician	
26.	434a	Powerline Technician	
27.	434a	Powerline Technician	

A Trade code  <b>400</b>	B Apprenticeship program/trade name  <b>405</b>	C Name of apprentice  <b>410</b>
28.	434a	Powerline Technician
29.	434a	Powerline Technician
30.	309a	Electrician-Construction and Maintenance
31.	434a	Powerline Technician
32.	434a	Powerline Technician
33.	434a	Powerline Technician
34.	434a	Powerline Technician
35.	434a	Powerline Technician
36.	434a	Powerline Technician
37.	434a	Powerline Technician
38.	434a	Powerline Technician
39.	434a	Powerline Technician
40.	434a	Powerline Technician
41.	434a	Powerline Technician
42.	434a	Powerline Technician
43.	434a	Powerline Technician
44.	434a	Powerline Technician
45.	434a	Powerline Technician
46.	434a	Powerline Technician
47.	434a	Powerline Technician
48.	434a	Powerline Technician
49.	434a	Powerline Technician
50.	434a	Powerline Technician
51.	434a	Powerline Technician
52.	434a	Powerline Technician
53.	434a	Powerline Technician
54.	434a	Powerline Technician
55.	434a	Powerline Technician
56.	434a	Powerline Technician
57.	434a	Powerline Technician
58.	434a	Powerline Technician
59.	434a	Powerline Technician
60.	434a	Powerline Technician
61.	434a	Powerline Technician
62.	433a	Industrial Mechanic (Millwright)
63.	433a	Industrial Mechanic (Millwright)
64.	433a	Industrial Mechanic (Millwright)
65.	309a	Electrician-Construction and Maintenance
66.	309a	Electrician-Construction and Maintenance
67.	309a	Electrician-Construction and Maintenance
68.	309a	Electrician-Construction and Maintenance
69.	309a	Electrician-Construction and Maintenance
70.	309a	Electrician-Construction and Maintenance
71.	309a	Electrician-Construction and Maintenance
72.	309a	Electrician-Construction and Maintenance
73.	309a	Electrician-Construction and Maintenance
74.	309a	Electrician-Construction and Maintenance
75.	309a	Electrician-Construction and Maintenance
76.	309a	Electrician-Construction and Maintenance
77.	309a	Electrician-Construction and Maintenance
78.	309a	Electrician-Construction and Maintenance
79.	309a	Electrician-Construction and Maintenance
80.	309a	Electrician-Construction and Maintenance
81.	309a	Electrician-Construction and Maintenance
82.	309a	Electrician-Construction and Maintenance

A Trade code  <b>400</b>	B Apprenticeship program/trade name  <b>405</b>	C Name of apprentice  <b>410</b>
83.	309a	Electrician-Construction and Maintenance
84.	309a	Electrician-Construction and Maintenance
85.	309a	Electrician-Construction and Maintenance
86.	309a	Electrician-Construction and Maintenance
87.	309a	Electrician-Construction and Maintenance
88.	309a	Electrician-Construction and Maintenance
89.	309a	Electrician-Construction and Maintenance
90.	309a	Electrician-Construction and Maintenance
91.	309a	Electrician-Construction and Maintenance
92.	434a	Powerline Technician
93.	434a	Powerline Technician
94.	434a	Powerline Technician
95.	309a	Electrician-Construction and Maintenance
96.	434a	Powerline Technician
97.	403a	General Carpenter
98.	434a	Powerline Technician
99.	434a	Powerline Technician
100.	434a	Powerline Technician
101.	434a	Powerline Technician
102.	434a	Powerline Technician
103.	434a	Powerline Technician
104.	434a	Powerline Technician
105.	434a	Powerline Technician
106.	434a	Powerline Technician
107.	434a	Powerline Technician
108.	434a	Powerline Technician
109.	309a	Electrician-Construction and Maintenance
110.	309a	Electrician-Construction and Maintenance
111.	309a	Electrician-Construction and Maintenance
112.	309a	Electrician-Construction and Maintenance
113.	309a	Electrician-Construction and Maintenance
114.	309a	Electrician-Construction and Maintenance
115.	309a	Electrician-Construction and Maintenance
116.	309a	Electrician-Construction and Maintenance
117.	309a	Electrician-Construction and Maintenance
118.	309a	Electrician-Construction and Maintenance
119.	309a	Electrician-Construction and Maintenance
120.	434a	Powerline Technician
121.	434a	Powerline Technician
122.	434a	Powerline Technician
123.	434a	Powerline Technician
124.	434a	Powerline Technician
125.	309a	Electrician-Construction and Maintenance
126.	309a	Electrician-Construction and Maintenance
127.	309a	Electrician-Construction and Maintenance
128.	309a	Electrician-Construction and Maintenance
129.	309a	Electrician-Construction and Maintenance
130.	434a	Powerline Technician
131.	310t	Truck And Coach Technician
132.	403a	General Carpenter
133.	403a	General Carpenter
134.	434a	Powerline Technician
135.	434a	Powerline Technician
136.	434a	Powerline Technician
137.	434a	Powerline Technician

	<b>A</b> Trade code	<b>B</b> Apprenticeship program/trade name	<b>C</b> Name of apprentice
	<b>400</b>	<b>405</b>	<b>410</b>
138.	434a	Powerline Technician	
139.	434a	Powerline Technician	
140.	434a	Powerline Technician	
141.	434a	Powerline Technician	
142.	434a	Powerline Technician	
143.	434a	Powerline Technician	
144.	434a	Powerline Technician	
145.	434a	Powerline Technician	
146.	434a	Powerline Technician	
147.	434a	Powerline Technician	
148.	309a	Electrician-Construction and Maintenance	
149.	434a	Powerline Technician	
150.	434a	Powerline Technician	
151.	434a	Powerline Technician	
152.	434a	Powerline Technician	
153.	434a	Powerline Technician	
154.	434a	Powerline Technician	
155.	434a	Powerline Technician	
156.	434a	Powerline Technician	
157.	434a	Powerline Technician	
158.	434a	Powerline Technician	
159.	434a	Powerline Technician	
160.	434a	Powerline Technician	
161.	434a	Powerline Technician	
162.	434a	Powerline Technician	
163.	434a	Powerline Technician	
164.	434a	Powerline Technician	
165.	434a	Powerline Technician	
166.	309a	Electrician-Construction and Maintenance	
167.	309a	Electrician-Construction and Maintenance	
168.	309a	Electrician-Construction and Maintenance	
169.	434a	Powerline Technician	
170.	434a	Powerline Technician	
171.	434a	Powerline Technician	
172.	434a	Powerline Technician	
173.	434a	Powerline Technician	
174.	434a	Powerline Technician	
175.	434a	Powerline Technician	
176.	434a	Powerline Technician	
177.	434a	Powerline Technician	
178.	434a	Powerline Technician	
179.	434a	Powerline Technician	
180.	434a	Powerline Technician	
181.	434a	Powerline Technician	
182.	434a	Powerline Technician	
183.	434a	Powerline Technician	
184.	309a	Electrician-Construction and Maintenance	
185.	309a	Electrician-Construction and Maintenance	
186.	309a	Electrician-Construction and Maintenance	
187.	434a	Powerline Technician	
188.	434a	Powerline Technician	
189.	434a	Powerline Technician	
190.	434a	Powerline Technician	
191.	434a	Powerline Technician	
192.	434a	Powerline Technician	



	A Trade code	B Apprenticeship program/trade name	C Name of apprentice
	█	405	410
193.	434a	Powerline Technician	
194.	434a	Powerline Technician	
195.	434a	Powerline Technician	
196.	434a	Powerline Technician	
197.	434a	Powerline Technician	
198.	434a	Powerline Technician	
199.	309a	Electrician-Construction and Maintenance	
200.	309a	Electrician-Construction and Maintenance	
201.	434a	Powerline Technician	
202.	434a	Powerline Technician	
203.	434a	Powerline Technician	
204.	434a	Powerline Technician	
205.	434a	Powerline Technician	
206.	434a	Powerline Technician	
207.	434a	Powerline Technician	
208.	434a	Powerline Technician	
209.	434a	Powerline Technician	
210.	434a	Powerline Technician	
211.	434a	Powerline Technician	
212.	434a	Powerline Technician	
213.	434a	Powerline Technician	
214.	434a	Powerline Technician	
215.	434a	Powerline Technician	
216.	434a	Powerline Technician	
217.	434a	Powerline Technician	
218.	434a	Powerline Technician	
219.	434a	Powerline Technician	
220.	434a	Powerline Technician	
221.	434a	Powerline Technician	
222.	434a	Powerline Technician	
223.	434a	Powerline Technician	
224.	434a	Powerline Technician	
225.	434a	Powerline Technician	
226.	434a	Powerline Technician	
227.	434a	Powerline Technician	
228.	434a	Powerline Technician	
229.	434a	Powerline Technician	
230.	434a	Powerline Technician	
231.	434a	Powerline Technician	
232.	434a	Powerline Technician	
233.	434a	Powerline Technician	
234.	434a	Powerline Technician	
235.	434a	Powerline Technician	
236.	434a	Powerline Technician	
237.	434a	Powerline Technician	
238.	434a	Powerline Technician	
239.	434a	Powerline Technician	
240.	434a	Powerline Technician	
241.	434a	Powerline Technician	
242.	434a	Powerline Technician	
243.	434a	Powerline Technician	
244.	434a	Powerline Technician	
245.	309a	Electrician-Construction and Maintenance	
246.	309a	Electrician-Construction and Maintenance	
247.	309a	Electrician-Construction and Maintenance	

A Trade code  <b>400</b>	B Apprenticeship program/trade name  <b>405</b>	C Name of apprentice  <b>410</b>
248.	309a	Electrician-Construction and Maintenance
249.	309a	Electrician-Construction and Maintenance
250.	309a	Electrician-Construction and Maintenance
251.	309a	Electrician-Construction and Maintenance
252.	309a	Electrician-Construction and Maintenance
253.	309a	Electrician-Construction and Maintenance
254.	309a	Electrician-Construction and Maintenance
255.	309a	Electrician-Construction and Maintenance
256.	309a	Electrician-Construction and Maintenance
257.	309a	Electrician-Construction and Maintenance
258.	309a	Electrician-Construction and Maintenance
259.	309a	Electrician-Construction and Maintenance
260.	309a	Electrician-Construction and Maintenance
261.	309a	Electrician-Construction and Maintenance
262.	309a	Electrician-Construction and Maintenance
263.	309a	Electrician-Construction and Maintenance
264.	309a	Electrician-Construction and Maintenance
265.	434a	Powerline Technician
266.	309a	Electrician-Construction and Maintenance
267.	309a	Electrician-Construction and Maintenance
268.	309a	Electrician-Construction and Maintenance
269.	309a	Electrician-Construction and Maintenance
270.	309a	Electrician-Construction and Maintenance
271.	309a	Electrician-Construction and Maintenance
272.	309a	Electrician-Construction and Maintenance
273.	309a	Electrician-Construction and Maintenance
274.	309a	Electrician-Construction and Maintenance
275.	309a	Electrician-Construction and Maintenance
276.	309a	Electrician-Construction and Maintenance
277.	309a	Electrician-Construction and Maintenance
278.	309a	Electrician-Construction and Maintenance
279.	309a	Electrician-Construction and Maintenance
280.	309a	Electrician-Construction and Maintenance
281.	309a	Electrician-Construction and Maintenance
282.	309a	Electrician-Construction and Maintenance
283.	309a	Electrician-Construction and Maintenance
284.	434a	Powerline Technician
285.	434a	Powerline Technician
286.	434a	Powerline Technician
287.	310t	Truck And Coach Technician
288.	310t	Truck And Coach Technician
289.	310t	Truck And Coach Technician
290.	434a	Powerline Technician
291.	434a	Powerline Technician
292.	434a	Powerline Technician
293.	434a	Powerline Technician
294.	434a	Powerline Technician
295.	434a	Powerline Technician
296.	434a	Powerline Technician
297.	434a	Powerline Technician
298.	434a	Powerline Technician
299.	434a	Powerline Technician
300.	434a	Powerline Technician
301.	434a	Powerline Technician
302.	434a	Powerline Technician

	<b>A</b> Trade code	<b>B</b> Apprenticeship program/trade name	<b>C</b> Name of apprentice
	<b>400</b>	<b>405</b>	<b>410</b>
303.	434a	Powerline Technician	
304.	434a	Powerline Technician	
305.	434a	Powerline Technician	
306.	434a	Powerline Technician	
307.	434a	Powerline Technician	
308.	434a	Powerline Technician	
309.	434a	Powerline Technician	
310.	434a	Powerline Technician	
311.	434a	Powerline Technician	
312.	434a	Powerline Technician	
313.	434a	Powerline Technician	
314.	434a	Powerline Technician	
315.	434a	Powerline Technician	
316.	434a	Powerline Technician	
317.	434a	Powerline Technician	
318.	434a	Powerline Technician	
319.	434a	Powerline Technician	
320.	434a	Powerline Technician	
321.	434a	Powerline Technician	
322.	434a	Powerline Technician	
323.	434a	Powerline Technician	
324.	434a	Powerline Technician	
325.	434a	Powerline Technician	
326.	434a	Powerline Technician	
327.	434a	Powerline Technician	
328.	434a	Powerline Technician	
329.	434a	Powerline Technician	
330.	434a	Powerline Technician	
331.	434a	Powerline Technician	
332.	434a	Powerline Technician	
333.	434a	Powerline Technician	
334.	434a	Powerline Technician	
335.	434a	Powerline Technician	
336.	434a	Powerline Technician	
337.	434a	Powerline Technician	
338.	434a	Powerline Technician	
339.	434a	Powerline Technician	
340.	434a	Powerline Technician	
341.	434a	Powerline Technician	
342.	434a	Powerline Technician	
343.	434a	Powerline Technician	
344.	434a	Powerline Technician	
345.	309a	Electrician-Construction and Maintenance	
346.	309a	Electrician-Construction and Maintenance	
347.	433a	Industrial Mechanic (Millwright)	
348.	433a	Industrial Mechanic (Millwright)	
349.	434a	Powerline Technician	
350.	434a	Powerline Technician	
351.	434a	Powerline Technician	
352.	434a	Powerline Technician	
353.	434a	Powerline Technician	
354.	434a	Powerline Technician	
355.	434a	Powerline Technician	
356.	434a	Powerline Technician	
357.	434a	Powerline Technician	



A Trade code  <b>400</b>	B Apprenticeship program/trade name  <b>405</b>	C Name of apprentice  <b>410</b>
358.	434a Powerline Technician	
359.	434a Powerline Technician	
360.	434a Powerline Technician	
361.	434a Powerline Technician	
362.	434a Powerline Technician	
363.	434a Powerline Technician	
364.	434a Powerline Technician	
365.	434a Powerline Technician	
366.	434a Powerline Technician	
367.	434a Powerline Technician	
368.	434a Powerline Technician	
369.	434a Powerline Technician	
370.	434a Powerline Technician	
371.	434a Powerline Technician	
372.	434a Powerline Technician	
373.	434a Powerline Technician	
374.	434a Powerline Technician	
375.	434a Powerline Technician	
376.	434a Powerline Technician	
377.	434a Powerline Technician	
378.	434a Powerline Technician	
379.	434a Powerline Technician	
380.	434a Powerline Technician	
381.	309a Electrician-Construction and Maintenance	
382.	309a Electrician-Construction and Maintenance	
383.	309a Electrician-Construction and Maintenance	
384.	309a Electrician-Construction and Maintenance	
385.	309a Electrician-Construction and Maintenance	
386.	309a Electrician-Construction and Maintenance	
387.	309a Electrician-Construction and Maintenance	
388.	309a Electrician-Construction and Maintenance	
389.	309a Electrician-Construction and Maintenance	
390.	434a Powerline Technician	
391.	434a Powerline Technician	
392.	309a Electrician-Construction and Maintenance	
393.	309a Electrician-Construction and Maintenance	
394.	434a Powerline Technician	
395.	434a Powerline Technician	
396.	434a Powerline Technician	
397.	434a Powerline Technician	
398.	434a Powerline Technician	
399.	434a Powerline Technician	
400.	434a Powerline Technician	
401.	434a Powerline Technician	
402.	434a Powerline Technician	
403.	434a Powerline Technician	
404.	434a Powerline Technician	
405.	434a Powerline Technician	
406.	434a Powerline Technician	
407.	434a Powerline Technician	
408.	434a Powerline Technician	
409.	309a Electrician-Construction and Maintenance	
410.	309a Electrician-Construction and Maintenance	
411.	309a Electrician-Construction and Maintenance	
412.	309a Electrician-Construction and Maintenance	

	<b>A</b> Trade code	<b>B</b> Apprenticeship program/trade name	<b>C</b> Name of apprentice
	<b>400</b>	<b>405</b>	<b>410</b>
413.	434a	Powerline Technician	
414.	310t	Truck And Coach Technician	
415.	310t	Truck And Coach Technician	
416.	310t	Truck And Coach Technician	
417.	310t	Truck And Coach Technician	
418.	434a	Powerline Technician	
419.	434a	Powerline Technician	
420.	434a	Powerline Technician	
421.	434a	Powerline Technician	
422.	434a	Powerline Technician	
423.	434a	Powerline Technician	
424.	434a	Powerline Technician	
425.	434a	Powerline Technician	
426.	434a	Powerline Technician	
427.	434a	Powerline Technician	
428.	434a	Powerline Technician	
429.	434a	Powerline Technician	
430.	434a	Powerline Technician	
431.	434a	Powerline Technician	
432.	434a	Powerline Technician	
433.	434a	Powerline Technician	
434.	309a	Electrician-Construction and Maintenance	
435.	309a	Electrician-Construction and Maintenance	
436.	309a	Electrician-Construction and Maintenance	
437.	309a	Electrician-Construction and Maintenance	
438.	309a	Electrician-Construction and Maintenance	
439.	309a	Electrician-Construction and Maintenance	
440.	309a	Electrician-Construction and Maintenance	
441.	309a	Electrician-Construction and Maintenance	
442.	309a	Electrician-Construction and Maintenance	
443.	309a	Electrician-Construction and Maintenance	
444.	434a	Powerline Technician	
445.	434a	Powerline Technician	
446.	434a	Powerline Technician	
447.	434a	Powerline Technician	
448.	434a	Powerline Technician	
449.	434a	Powerline Technician	
450.	434a	Powerline Technician	
451.	434a	Powerline Technician	
452.	434a	Powerline Technician	
453.	434a	Powerline Technician	
454.	434a	Powerline Technician	
455.	434a	Powerline Technician	
456.	434a	Powerline Technician	
457.	434a	Powerline Technician	
458.	434a	Powerline Technician	
459.	434a	Powerline Technician	
460.	434a	Powerline Technician	
461.	434a	Powerline Technician	
462.	434a	Powerline Technician	
463.	434a	Powerline Technician	
464.	434a	Powerline Technician	
465.	434a	Powerline Technician	
466.	434a	Powerline Technician	
467.	434a	Powerline Technician	

	<b>A</b> Trade code	<b>B</b> Apprenticeship program/trade name	<b>C</b> Name of apprentice
	<b>400</b>	<b>405</b>	<b>410</b>
468.	434a	Powerline Technician	
469.	434a	Powerline Technician	
470.	434a	Powerline Technician	
471.	434a	Powerline Technician	
472.	434a	Powerline Technician	
473.	434a	Powerline Technician	
474.	434a	Powerline Technician	
475.	434a	Powerline Technician	
476.	434a	Powerline Technician	
477.	434a	Powerline Technician	
478.	434a	Powerline Technician	
479.	434a	Powerline Technician	
480.	434a	Powerline Technician	
481.	434a	Powerline Technician	
482.	434a	Powerline Technician	
483.	434a	Powerline Technician	
484.	434a	Powerline Technician	
485.	434a	Powerline Technician	
486.	309a	Electrician-Construction and Maintenance	
487.	309a	Electrician-Construction and Maintenance	
488.	434a	Powerline Technician	
489.	434a	Powerline Technician	
490.	434a	Powerline Technician	
491.	434a	Powerline Technician	
492.	434a	Powerline Technician	
493.	434a	Powerline Technician	
494.	434a	Powerline Technician	
495.	434a	Powerline Technician	
496.	434a	Powerline Technician	
497.	434a	Powerline Technician	
498.	434a	Powerline Technician	
499.	434a	Powerline Technician	
500.	434a	Powerline Technician	
501.	434a	Powerline Technician	
502.	434a	Powerline Technician	
503.	309a	Electrician-Construction and Maintenance	
504.	309a	Electrician-Construction and Maintenance	
505.	434a	Powerline Technician	
506.	434a	Powerline Technician	
507.	434a	Powerline Technician	
508.	434a	Powerline Technician	
509.	434a	Powerline Technician	
510.	434a	Powerline Technician	
511.	434a	Powerline Technician	
512.	434a	Powerline Technician	
513.	434a	Powerline Technician	
514.	434a	Powerline Technician	
515.	434a	Powerline Technician	
516.	434a	Powerline Technician	
517.	434a	Powerline Technician	
518.	434a	Powerline Technician	
519.	434a	Powerline Technician	
520.	434a	Powerline Technician	
521.	434a	Powerline Technician	
522.	434a	Powerline Technician	

A Trade code  <b>400</b>	B Apprenticeship program/trade name  <b>405</b>	C Name of apprentice  <b>410</b>
523.	434a Powerline Technician	
524.	434a Powerline Technician	
525.	434a Powerline Technician	
526.	434a Powerline Technician	
527.	309a Electrician-Construction and Maintenance	
528.	309a Electrician-Construction and Maintenance	
529.	309a Electrician-Construction and Maintenance	
530.	309a Electrician-Construction and Maintenance	
531.	309a Electrician-Construction and Maintenance	
532.	309a Electrician-Construction and Maintenance	
533.	309a Electrician-Construction and Maintenance	
534.	309a Electrician-Construction and Maintenance	
535.	309a Electrician-Construction and Maintenance	
536.	309a Electrician-Construction and Maintenance	
537.	309a Electrician-Construction and Maintenance	
538.	309a Electrician-Construction and Maintenance	
539.	309a Electrician-Construction and Maintenance	
540.	309a Electrician-Construction and Maintenance	
541.	309a Electrician-Construction and Maintenance	
542.	309a Electrician-Construction and Maintenance	
543.	309a Electrician-Construction and Maintenance	
544.	309a Electrician-Construction and Maintenance	
545.	309a Electrician-Construction and Maintenance	
546.	309a Electrician-Construction and Maintenance	
547.	309a Electrician-Construction and Maintenance	
548.	309a Electrician-Construction and Maintenance	
549.	309a Electrician-Construction and Maintenance	
550.	309a Electrician-Construction and Maintenance	
551.	434a Powerline Technician	
552.	434a Powerline Technician	
553.	434a Powerline Technician	
554.	434a Powerline Technician	
555.	434a Powerline Technician	
556.	434a Powerline Technician	
557.	434a Powerline Technician	
558.	434a Powerline Technician	
559.	434a Powerline Technician	
560.	434a Powerline Technician	
561.	434a Powerline Technician	
562.	434a Powerline Technician	
563.	434a Powerline Technician	
564.	434a Powerline Technician	
565.	434a Powerline Technician	
566.	434a Powerline Technician	
567.	434a Powerline Technician	
568.	434a Powerline Technician	
569.	309a Electrician-Construction and Maintenance	
570.	434a Powerline Technician	
571.	434a Powerline Technician	
572.	434a Powerline Technician	
573.	434a Powerline Technician	
574.	434a Powerline Technician	
575.	434a Powerline Technician	
576.	434a Powerline Technician	
577.	434a Powerline Technician	

	<b>A</b> Trade code	<b>B</b> Apprenticeship program/trade name	<b>C</b> Name of apprentice
	<b>400</b>	<b>405</b>	<b>410</b>
578.	434a	Powerline Technician	
579.	434a	Powerline Technician	
580.	434a	Powerline Technician	
581.	434a	Powerline Technician	
582.	434a	Powerline Technician	
583.	434a	Powerline Technician	
584.	434a	Powerline Technician	
585.	403a	General Carpenter	
586.	310t	Truck And Coach Technician	
587.	310t	Truck And Coach Technician	
588.	310t	Truck And Coach Technician	
589.	310t	Truck And Coach Technician	
590.	310t	Truck And Coach Technician	
591.	310t	Truck And Coach Technician	
592.	309a	Electrician-Construction and Maintenance	
593.	434a	Powerline Technician	
594.	434a	Powerline Technician	
595.	434a	Powerline Technician	
596.	434a	Powerline Technician	
597.	434a	Powerline Technician	
598.	434a	Powerline Technician	
599.	434a	Powerline Technician	
600.	434a	Powerline Technician	
601.	434a	Powerline Technician	
602.	434a	Powerline Technician	
603.	434a	Powerline Technician	
604.	434a	Powerline Technician	
605.	434a	Powerline Technician	
606.	434a	Powerline Technician	
607.	434a	Powerline Technician	
608.	434a	Powerline Technician	
609.	309a	Electrician-Construction and Maintenance	
610.	434a	Powerline Technician	
611.	309a	Electrician-Construction and Maintenance	
612.	309a	Electrician-Construction and Maintenance	
613.	309a	Electrician-Construction and Maintenance	
614.	309a	Electrician-Construction and Maintenance	
615.	309a	Electrician-Construction and Maintenance	
616.	434a	Powerline Technician	
617.	434a	Powerline Technician	
618.	434a	Powerline Technician	
619.	434a	Powerline Technician	
620.	434a	Powerline Technician	
621.	434a	Powerline Technician	
622.	434a	Powerline Technician	
623.	434a	Powerline Technician	
624.	434a	Powerline Technician	
625.	434a	Powerline Technician	
626.	434a	Powerline Technician	
627.	434a	Powerline Technician	
628.	434a	Powerline Technician	
629.	434a	Powerline Technician	
630.	434a	Powerline Technician	
631.	434a	Powerline Technician	
632.	434a	Powerline Technician	

A Trade code  <b>400</b>	B Apprenticeship program/trade name  <b>405</b>	C Name of apprentice  <b>410</b>
633.	434a	Powerline Technician
634.	434a	Powerline Technician
635.	434a	Powerline Technician
636.	434a	Powerline Technician
637.	434a	Powerline Technician
638.	434a	Powerline Technician
639.	434a	Powerline Technician
640.	434a	Powerline Technician
641.	434a	Powerline Technician
642.	434a	Powerline Technician
643.	434a	Powerline Technician
644.	434a	Powerline Technician
645.	434a	Powerline Technician
646.	434a	Powerline Technician
647.	434a	Powerline Technician
648.	434a	Powerline Technician
649.	434a	Powerline Technician
650.	434a	Powerline Technician
651.	434a	Powerline Technician
652.	434a	Powerline Technician
653.	434a	Powerline Technician
654.	434a	Powerline Technician
655.	434a	Powerline Technician
656.	434a	Powerline Technician
657.	434a	Powerline Technician
658.	434a	Powerline Technician
659.	434a	Powerline Technician
660.	434a	Powerline Technician
661.	434a	Powerline Technician
662.	434a	Powerline Technician
663.	403a	General Carpenter
664.	403a	General Carpenter
665.	309a	Electrician-Construction and Maintenance
666.	309a	Electrician-Construction and Maintenance
667.	309a	Electrician-Construction and Maintenance
668.	309a	Electrician-Construction and Maintenance
669.	309a	Electrician-Construction and Maintenance
670.	309a	Electrician-Construction and Maintenance
671.	309a	Electrician-Construction and Maintenance
672.	309a	Electrician-Construction and Maintenance
673.	309a	Electrician-Construction and Maintenance
674.	309a	Electrician-Construction and Maintenance
675.	309a	Electrician-Construction and Maintenance
676.	309a	Electrician-Construction and Maintenance
677.	309a	Electrician-Construction and Maintenance
678.	309a	Electrician-Construction and Maintenance
679.	309a	Electrician-Construction and Maintenance
680.	309a	Electrician-Construction and Maintenance
681.	434a	Powerline Technician
682.	434a	Powerline Technician
683.	434a	Powerline Technician
684.	434a	Powerline Technician
685.	434a	Powerline Technician
686.	434a	Powerline Technician
687.	434a	Powerline Technician

A Trade code  <b>400</b>	B Apprenticeship program/trade name  <b>405</b>	C Name of apprentice  <b>410</b>
688.	434a Powerline Technician	
689.	434a Powerline Technician	
690.	434a Powerline Technician	
691.	434a Powerline Technician	
692.	434a Powerline Technician	
693.	434a Powerline Technician	
694.	309a Electrician-Construction and Maintenance	
695.	434a Powerline Technician	
696.	434a Powerline Technician	
697.	434a Powerline Technician	
698.	434a Powerline Technician	
699.	434a Powerline Technician	
700.	434a Powerline Technician	
701.	434a Powerline Technician	
702.	434a Powerline Technician	
703.	434a Powerline Technician	
704.	434a Powerline Technician	
705.	434a Powerline Technician	
706.	434a Powerline Technician	
707.	434a Powerline Technician	
708.	434a Powerline Technician	
709.	434a Powerline Technician	
710.	434a Powerline Technician	
711.	403a General Carpenter	
712.	309a Electrician-Construction and Maintenance	
713.	434a Powerline Technician	
714.	434a Powerline Technician	
715.	434a Powerline Technician	
716.	434a Powerline Technician	
717.	434a Powerline Technician	
718.	434a Powerline Technician	
719.	434a Powerline Technician	
720.	434a Powerline Technician	
721.	434a Powerline Technician	
722.	434a Powerline Technician	
723.	434a Powerline Technician	
724.	434a Powerline Technician	
725.	434a Powerline Technician	
726.	434a Powerline Technician	
727.	434a Powerline Technician	
728.	434a Powerline Technician	
729.	309a Electrician-Construction and Maintenance	
730.	309a Electrician-Construction and Maintenance	
731.	309a Electrician-Construction and Maintenance	
732.	309a Electrician-Construction and Maintenance	
733.	309a Electrician-Construction and Maintenance	
734.	309a Electrician-Construction and Maintenance	
735.	309a Electrician-Construction and Maintenance	
736.	309a Electrician-Construction and Maintenance	
737.	309a Electrician-Construction and Maintenance	
738.	309a Electrician-Construction and Maintenance	
739.	309a Electrician-Construction and Maintenance	
740.	434a Powerline Technician	
741.	309a Electrician-Construction and Maintenance	
742.	309a Electrician-Construction and Maintenance	

	<b>A</b> Trade code	<b>B</b> Apprenticeship program/trade name	<b>C</b> Name of apprentice
	<b>400</b>	<b>405</b>	<b>410</b>
743.	309a	Electrician-Construction and Maintenance	
744.	309a	Electrician-Construction and Maintenance	
745.	309a	Electrician-Construction and Maintenance	
746.	309a	Electrician-Construction and Maintenance	
747.	309a	Electrician-Construction and Maintenance	
748.	309a	Electrician-Construction and Maintenance	
749.	434a	Powerline Technician	

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
1.		2013-01-28	2017-01-01	2017-01-28
2.		2013-01-28	2017-01-01	2017-01-28
3.		2013-01-28	2017-01-01	2017-01-28
4.		2013-01-28	2017-01-01	2017-01-28
5.		2013-01-28	2017-01-01	2017-01-28
6.		2013-01-28	2017-01-01	2017-01-28
7.		2013-01-28	2017-01-01	2017-01-28
8.		2013-01-28	2017-01-01	2017-01-28
9.		2013-01-28	2017-01-01	2017-01-28
10.		2013-01-28	2017-01-01	2017-01-28
11.		2013-01-28	2017-01-01	2017-01-28
12.		2013-01-28	2017-01-01	2017-01-28
13.		2013-01-28	2017-01-01	2017-01-28
14.		2013-01-28	2017-01-01	2017-01-28
15.		2013-02-25	2017-01-01	2017-02-25
16.		2013-02-25	2017-01-01	2017-02-23
17.		2013-02-25	2017-01-01	2017-02-25
18.		2013-02-25	2017-01-01	2017-01-24
19.		2013-02-25	2017-01-01	2017-02-25
20.		2013-02-25	2017-01-01	2017-02-25
21.		2013-02-25	2017-01-01	2017-02-25
22.		2013-02-25	2017-01-01	2017-02-25
23.		2013-02-25	2017-01-01	2017-02-25
24.		2013-02-25	2017-01-01	2017-02-25
25.		2013-02-25	2017-01-01	2017-02-25
26.		2013-02-25	2017-01-01	2017-02-25
27.		2013-02-25	2017-01-01	2017-02-25
28.		2013-02-25	2017-01-01	2017-02-25
29.		2013-02-25	2017-01-01	2017-02-25
30.		2013-03-13	2017-01-01	2017-03-13
31.		2013-04-15	2017-01-01	2017-04-15
32.		2013-04-15	2017-01-01	2017-04-15
33.		2013-04-15	2017-01-01	2017-01-23
34.		2013-04-15	2017-01-01	2017-04-15
35.		2013-04-15	2017-01-01	2017-04-15
36.		2013-04-15	2017-01-01	2017-04-15
37.		2013-04-15	2017-01-01	2017-04-15
38.		2013-04-15	2017-01-01	2017-04-15
39.		2013-04-15	2017-01-01	2017-04-15
40.		2013-04-15	2017-01-01	2017-04-15
41.		2013-04-15	2017-01-01	2017-04-15



	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
42.		2013-04-15	2017-01-01	2017-04-07
43.		2013-04-15	2017-01-01	2017-04-07
44.		2013-04-15	2017-01-01	2017-04-15
45.		2013-04-15	2017-01-01	2017-01-24
46.		2013-04-29	2017-01-01	2017-04-29
47.		2013-04-29	2017-01-01	2017-04-29
48.		2013-04-29	2017-01-01	2017-04-29
49.		2013-04-29	2017-01-01	2017-04-29
50.		2013-04-29	2017-01-01	2017-04-29
51.		2013-04-29	2017-01-01	2017-04-29
52.		2013-04-29	2017-01-01	2017-04-29
53.		2013-04-29	2017-01-01	2017-04-29
54.		2013-04-29	2017-01-01	2017-04-29
55.		2013-04-29	2017-01-01	2017-04-29
56.		2013-04-29	2017-01-01	2017-04-29
57.		2013-04-29	2017-01-01	2017-04-29
58.		2013-04-29	2017-01-01	2017-04-29
59.		2013-04-29	2017-01-01	2017-04-29
60.		2013-04-29	2017-01-01	2017-04-29
61.		2013-04-29	2017-01-01	2017-04-29
62.		2013-06-03	2017-01-01	2017-06-03
63.		2016-04-05	2017-01-01	2017-12-31
64.		2013-06-03	2017-01-01	2017-06-03
65.		2013-06-03	2017-01-01	2017-06-03
66.		2013-06-03	2017-01-01	2017-01-19
67.		2013-06-03	2017-01-01	2017-06-03
68.		2013-06-03	2017-01-01	2017-06-03
69.		2013-06-03	2017-01-01	2017-06-03
70.		2013-06-03	2017-01-01	2017-06-03
71.		2013-06-03	2017-01-01	2017-06-03
72.		2013-06-03	2017-01-01	2017-06-03
73.		2013-06-03	2017-01-01	2017-06-03
74.		2013-06-03	2017-01-01	2017-06-03
75.		2013-06-03	2017-01-01	2017-06-03
76.		2013-06-03	2017-01-01	2017-06-03
77.		2013-06-03	2017-01-01	2017-06-03
78.		2013-06-03	2017-01-01	2017-06-03
79.		2013-06-03	2017-01-01	2017-06-03
80.		2013-06-03	2017-01-01	2017-06-03
81.		2013-06-20	2017-01-01	2017-05-16
82.		2013-06-20	2017-01-01	2017-05-31
83.		2013-06-20	2017-01-01	2017-06-05
84.		2013-06-20	2017-01-01	2017-06-20
85.		2013-06-20	2017-01-01	2017-06-20
86.		2013-06-20	2017-01-01	2017-06-20
87.		2013-06-20	2017-01-01	2017-06-20
88.		2013-06-20	2017-01-01	2017-06-20
89.		2013-06-20	2017-01-01	2017-06-20
90.		2013-06-29	2017-01-01	2017-06-29
91.		2013-06-29	2017-01-01	2017-06-29
92.		2013-07-23	2017-01-01	2017-03-08
93.		2013-07-23	2017-01-01	2017-06-05
94.		2013-07-23	2017-01-01	2017-06-26

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
95.		2013-09-17	2017-01-01	2017-09-17
96.		2013-10-11	2017-01-01	2017-01-12
97.		2013-10-15	2017-08-17	2017-10-15
98.		2013-10-16	2017-01-01	2017-02-23
99.		2013-10-16	2017-01-01	2017-03-20
100.		2013-10-16	2017-01-01	2017-04-12
101.		2013-10-16	2017-01-01	2017-06-07
102.		2013-10-16	2017-01-01	2017-07-22
103.		2013-10-16	2017-01-01	2017-10-16
104.		2013-10-17	2017-01-01	2017-02-23
105.		2013-10-17	2017-01-01	2017-04-05
106.		2013-10-17	2017-01-01	2017-04-11
107.		2013-10-17	2017-01-01	2017-10-17
108.		2013-10-18	2017-01-01	2017-07-29
109.		2013-10-21	2017-01-01	2017-10-21
110.		2013-10-21	2017-01-01	2017-10-21
111.		2013-10-21	2017-01-01	2017-10-21
112.		2013-10-21	2017-01-01	2017-10-21
113.		2013-10-21	2017-01-01	2017-10-21
114.		2013-10-21	2017-01-01	2017-10-21
115.		2013-10-21	2017-01-01	2017-10-21
116.		2013-10-21	2017-01-01	2017-10-21
117.		2013-10-21	2017-01-01	2017-10-21
118.		2013-10-21	2017-01-01	2017-10-21
119.		2013-10-21	2017-01-01	2017-10-21
120.		2013-10-21	2017-01-01	2017-04-11
121.		2013-10-21	2017-01-01	2017-10-21
122.		2013-10-31	2017-01-01	2017-04-01
123.		2013-11-07	2017-01-01	2017-05-11
124.		2013-11-11	2017-01-01	2017-07-06
125.		2013-11-19	2017-01-01	2017-11-19
126.		2013-11-19	2017-01-01	2017-11-19
127.		2013-11-19	2017-01-01	2017-11-19
128.		2013-11-19	2017-01-01	2017-11-19
129.		2013-11-19	2017-01-01	2017-11-19
130.		2013-11-21	2017-01-01	2017-04-12
131.		2014-01-13	2017-01-01	2017-12-31
132.		2014-01-15	2017-01-01	2017-05-19
133.		2014-01-27	2017-01-01	2017-10-03
134.		2014-01-27	2017-01-01	2017-12-31
135.		2014-01-27	2017-01-01	2017-12-31
136.		2014-01-27	2017-01-01	2017-12-31
137.		2014-01-27	2017-01-01	2017-12-31
138.		2014-01-27	2017-01-01	2017-12-31
139.		2014-01-27	2017-01-01	2017-12-31
140.		2014-01-27	2017-01-01	2017-12-31
141.		2014-01-27	2017-01-01	2017-12-31
142.		2014-01-27	2017-01-01	2017-12-31
143.		2014-01-27	2017-01-01	2017-12-31
144.		2014-01-27	2017-01-01	2017-12-31
145.		2014-01-27	2017-01-01	2017-12-31
146.		2014-01-27	2017-01-01	2017-12-31
147.		2014-01-27	2017-01-01	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
148.		2014-02-05	2017-01-01	2017-12-31
149.		2014-02-05	2017-01-01	2017-06-08
150.		2014-02-24	2017-01-01	2017-12-31
151.		2014-02-24	2017-01-01	2017-12-31
152.		2014-02-24	2017-01-01	2017-12-31
153.		2014-02-24	2017-01-01	2017-12-31
154.		2014-02-24	2017-01-01	2017-12-31
155.		2014-02-24	2017-01-01	2017-12-31
156.		2014-02-24	2017-01-01	2017-12-31
157.		2014-02-24	2017-01-01	2017-12-31
158.		2014-02-24	2017-01-01	2017-12-31
159.		2014-02-24	2017-01-01	2017-12-19
160.		2014-02-24	2017-01-01	2017-12-31
161.		2014-02-24	2017-01-01	2017-12-31
162.		2014-02-24	2017-01-01	2017-12-31
163.		2014-02-24	2017-01-01	2017-12-31
164.		2014-02-24	2017-01-01	2017-12-31
165.		2014-02-24	2017-01-01	2017-12-31
166.		2014-03-11	2017-01-01	2017-12-31
167.		2014-03-11	2017-01-01	2017-12-31
168.		2014-03-11	2017-01-01	2017-12-31
169.		2014-03-17	2017-01-01	2017-12-31
170.		2014-03-17	2017-01-01	2017-12-31
171.		2014-03-17	2017-01-01	2017-12-31
172.		2014-03-17	2017-01-01	2017-12-07
173.		2014-03-17	2017-01-01	2017-12-31
174.		2014-03-17	2017-01-01	2017-12-31
175.		2014-03-17	2017-01-01	2017-12-31
176.		2014-03-17	2017-01-01	2017-12-31
177.		2014-03-17	2017-01-01	2017-12-31
178.		2014-03-17	2017-01-01	2017-12-31
179.		2014-03-17	2017-01-01	2017-12-31
180.		2014-03-17	2017-01-01	2017-12-31
181.		2014-03-17	2017-01-01	2017-12-31
182.		2014-03-17	2017-01-01	2017-12-31
183.		2014-03-17	2017-01-01	2017-12-31
184.		2014-03-18	2017-01-01	2017-12-31
185.		2014-03-18	2017-01-01	2017-12-31
186.		2014-04-04	2017-01-01	2017-12-31
187.		2014-04-04	2017-01-01	2017-06-14
188.		2014-04-04	2017-01-01	2017-07-04
189.		2014-04-04	2017-01-01	2017-08-15
190.		2014-04-04	2017-01-01	2017-09-02
191.		2014-04-04	2017-01-01	2017-09-06
192.		2014-04-04	2017-01-01	2017-10-14
193.		2014-04-04	2017-01-01	2017-11-09
194.		2014-04-04	2017-01-01	2017-12-19
195.		2014-04-04	2017-01-01	2017-12-31
196.		2014-04-04	2017-01-01	2017-12-31
197.		2014-04-04	2017-01-01	2017-12-31
198.		2014-04-04	2017-01-01	2017-12-31
199.		2014-04-09	2017-01-01	2017-12-31
200.		2014-04-09	2017-01-01	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
201.		2014-04-09	2017-01-01	2017-08-16
202.		2014-04-09	2017-01-01	2017-12-31
203.		2014-04-23	2017-01-01	2017-07-04
204.		2014-04-28	2017-01-01	2017-12-31
205.		2014-04-28	2017-01-01	2017-12-31
206.		2014-04-28	2017-01-01	2017-12-31
207.		2014-04-28	2017-01-01	2017-12-31
208.		2014-04-28	2017-01-01	2017-12-31
209.		2014-04-28	2017-01-01	2017-12-31
210.		2014-04-28	2017-01-01	2017-12-31
211.		2014-04-28	2017-01-01	2017-12-31
212.		2014-04-28	2017-01-01	2017-12-31
213.		2014-04-28	2017-01-01	2017-12-31
214.		2014-04-28	2017-01-01	2017-12-31
215.		2014-04-28	2017-01-01	2017-12-31
216.		2014-04-28	2017-01-01	2017-12-31
217.		2014-04-28	2017-01-01	2017-12-31
218.		2014-04-28	2017-01-01	2017-12-31
219.		2014-04-28	2017-01-01	2017-12-31
220.		2014-05-02	2017-01-01	2017-05-11
221.		2014-05-02	2017-01-01	2017-08-21
222.		2014-05-02	2017-01-01	2017-09-18
223.		2014-05-02	2017-01-01	2017-12-31
224.		2014-05-02	2017-01-01	2017-12-31
225.		2014-05-02	2017-01-01	2017-12-31
226.		2014-05-02	2017-01-01	2017-12-31
227.		2014-05-02	2017-01-01	2017-12-31
228.		2014-05-02	2017-01-01	2017-12-31
229.		2014-05-26	2017-01-01	2017-12-31
230.		2014-05-26	2017-01-01	2017-12-31
231.		2014-05-26	2017-01-01	2017-12-31
232.		2014-05-26	2017-01-01	2017-12-31
233.		2014-05-26	2017-01-01	2017-12-31
234.		2014-05-26	2017-01-01	2017-12-31
235.		2014-05-26	2017-01-01	2017-12-31
236.		2014-05-26	2017-01-01	2017-12-31
237.		2014-05-26	2017-01-01	2017-12-31
238.		2014-05-26	2017-01-01	2017-12-31
239.		2014-05-26	2017-01-01	2017-12-31
240.		2014-05-26	2017-01-01	2017-12-31
241.		2014-05-26	2017-01-01	2017-12-31
242.		2014-05-26	2017-01-01	2017-12-31
243.		2014-05-26	2017-01-01	2017-12-31
244.		2014-05-26	2017-01-01	2017-12-31
245.		2014-05-26	2017-01-01	2017-12-31
246.		2014-05-26	2017-01-01	2017-12-31
247.		2014-05-26	2017-01-01	2017-07-27
248.		2014-05-26	2017-01-01	2017-12-31
249.		2014-05-26	2017-01-01	2017-12-31
250.		2014-05-26	2017-01-01	2017-12-31
251.		2014-05-26	2017-01-01	2017-12-31
252.		2014-05-26	2017-01-01	2017-12-31
253.		2014-05-26	2017-01-01	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
254.		2014-05-26	2017-01-01	2017-12-31
255.		2014-05-26	2017-01-01	2017-12-31
256.		2014-05-26	2017-01-01	2017-12-31
257.		2014-05-26	2017-01-01	2017-12-31
258.		2014-05-26	2017-01-01	2017-12-31
259.		2014-05-26	2017-01-01	2017-12-31
260.		2014-05-26	2017-01-01	2017-12-31
261.		2014-05-26	2017-01-01	2017-12-31
262.		2014-05-26	2017-01-01	2017-12-31
263.		2014-05-26	2017-01-01	2017-12-31
264.		2014-06-08	2017-01-01	2017-12-31
265.		2014-06-10	2017-01-01	2017-12-31
266.		2014-06-11	2017-01-01	2017-08-23
267.		2014-06-11	2017-01-01	2017-12-31
268.		2014-06-11	2017-01-01	2017-12-31
269.		2014-06-25	2017-01-01	2017-12-31
270.		2014-06-25	2017-01-01	2017-12-31
271.		2014-06-25	2017-01-01	2017-12-31
272.		2014-12-15	2017-01-01	2017-12-31
273.		2014-12-15	2017-01-01	2017-12-31
274.		2014-12-15	2017-01-01	2017-12-31
275.		2014-12-15	2017-01-01	2017-12-31
276.		2014-12-15	2017-01-01	2017-12-31
277.		2014-12-15	2017-01-01	2017-12-31
278.		2014-12-15	2017-01-01	2017-12-31
279.		2014-12-15	2017-01-01	2017-12-31
280.		2014-12-15	2017-01-01	2017-12-31
281.		2014-12-15	2017-01-01	2017-12-31
282.		2014-12-15	2017-01-01	2017-12-31
283.		2014-12-15	2017-01-01	2017-12-31
284.		2015-02-20	2017-01-01	2017-12-31
285.		2015-02-20	2017-01-01	2017-12-31
286.		2015-03-03	2017-01-01	2017-12-31
287.		2015-03-19	2017-01-01	2017-07-03
288.		2015-03-19	2017-01-01	2017-12-31
289.		2015-03-19	2017-01-01	2017-10-15
290.		2015-03-19	2017-01-01	2017-12-31
291.		2015-03-19	2017-01-01	2017-12-31
292.		2015-03-19	2017-01-01	2017-12-31
293.		2015-03-19	2017-01-01	2017-12-31
294.		2015-03-19	2017-01-01	2017-12-31
295.		2015-03-19	2017-01-01	2017-12-31
296.		2015-03-19	2017-01-01	2017-12-31
297.		2015-03-19	2017-01-01	2017-12-31
298.		2015-03-19	2017-01-01	2017-12-31
299.		2015-03-19	2017-01-01	2017-12-31
300.		2015-03-19	2017-01-01	2017-12-31
301.		2015-03-19	2017-01-01	2017-12-31
302.		2015-03-19	2017-01-01	2017-12-31
303.		2015-03-19	2017-01-01	2017-12-31
304.		2015-03-19	2017-01-01	2017-12-31
305.		2015-03-19	2017-01-01	2017-12-31
306.		2015-03-23	2017-01-01	2017-12-15

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
307.		2015-03-23	2017-01-01	2017-12-31
308.		2015-03-23	2017-01-01	2017-12-31
309.		2015-03-23	2017-01-01	2017-12-31
310.		2015-03-23	2017-01-01	2017-12-31
311.		2015-03-23	2017-01-01	2017-12-31
312.		2015-03-23	2017-01-01	2017-12-31
313.		2015-03-23	2017-01-01	2017-12-31
314.		2015-04-02	2017-01-01	2017-12-31
315.		2015-04-16	2017-01-01	2017-12-31
316.		2015-04-16	2017-01-01	2017-12-31
317.		2015-04-16	2017-01-01	2017-12-31
318.		2015-04-16	2017-01-01	2017-12-31
319.		2015-04-16	2017-01-01	2017-12-31
320.		2015-04-16	2017-01-01	2017-12-31
321.		2015-04-16	2017-01-01	2017-12-31
322.		2015-04-16	2017-01-01	2017-12-31
323.		2015-04-16	2017-01-01	2017-12-31
324.		2015-04-16	2017-01-01	2017-12-31
325.		2015-04-16	2017-01-01	2017-12-31
326.		2015-04-16	2017-01-01	2017-12-31
327.		2015-04-16	2017-01-01	2017-12-31
328.		2015-04-16	2017-01-01	2017-12-31
329.		2015-04-16	2017-01-01	2017-12-31
330.		2015-04-16	2017-01-01	2017-12-31
331.		2015-04-16	2017-01-01	2017-12-31
332.		2015-04-16	2017-01-01	2017-12-31
333.		2015-04-16	2017-01-01	2017-12-31
334.		2015-04-16	2017-01-01	2017-12-31
335.		2015-04-16	2017-01-01	2017-12-31
336.		2015-04-16	2017-01-01	2017-12-31
337.		2015-04-16	2017-01-01	2017-12-31
338.		2015-04-16	2017-01-01	2017-12-31
339.		2015-04-16	2017-01-01	2017-12-31
340.		2015-04-16	2017-01-01	2017-12-31
341.		2015-04-16	2017-01-01	2017-12-31
342.		2015-04-16	2017-01-01	2017-12-31
343.		2015-05-02	2017-01-01	2017-12-31
344.		2015-05-16	2017-01-01	2017-12-31
345.		2015-05-26	2017-01-01	2017-12-31
346.		2015-05-26	2017-01-01	2017-12-31
347.		2015-07-13	2017-01-01	2017-12-31
348.		2015-07-13	2017-01-01	2017-12-31
349.		2015-07-13	2017-01-01	2017-12-31
350.		2015-07-13	2017-01-01	2017-12-31
351.		2015-07-13	2017-01-01	2017-12-31
352.		2015-07-13	2017-01-01	2017-12-31
353.		2015-07-13	2017-01-01	2017-12-31
354.		2015-07-13	2017-01-01	2017-12-31
355.		2015-07-13	2017-01-01	2017-12-31
356.		2015-07-13	2017-01-01	2017-12-31
357.		2015-07-13	2017-01-01	2017-12-31
358.		2015-07-13	2017-01-01	2017-12-31
359.		2015-07-13	2017-01-01	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
360.		2015-07-13	2017-01-01	2017-12-31
361.		2015-07-13	2017-01-01	2017-12-31
362.		2015-07-13	2017-01-01	2017-12-31
363.		2015-07-13	2017-01-01	2017-12-31
364.		2015-07-13	2017-01-01	2017-12-31
365.		2015-07-13	2017-01-01	2017-12-31
366.		2015-07-13	2017-01-01	2017-12-31
367.		2015-07-13	2017-01-01	2017-12-31
368.		2015-07-13	2017-01-01	2017-12-31
369.		2015-07-13	2017-01-01	2017-12-31
370.		2015-07-13	2017-01-01	2017-12-31
371.		2015-07-13	2017-01-01	2017-12-31
372.		2015-07-13	2017-01-01	2017-12-31
373.		2015-07-13	2017-01-01	2017-12-31
374.		2015-07-13	2017-01-01	2017-12-31
375.		2015-07-13	2017-01-01	2017-12-31
376.		2015-07-13	2017-01-01	2017-12-31
377.		2015-07-13	2017-01-01	2017-12-31
378.		2015-07-13	2017-01-01	2017-12-31
379.		2015-07-13	2017-01-01	2017-12-31
380.		2015-07-13	2017-01-01	2017-12-31
381.		2015-07-13	2017-01-01	2017-12-31
382.		2015-07-13	2017-01-01	2017-12-31
383.		2015-07-13	2017-01-01	2017-12-31
384.		2015-07-13	2017-01-01	2017-12-31
385.		2015-07-13	2017-01-01	2017-12-31
386.		2015-07-13	2017-01-01	2017-12-31
387.		2015-07-13	2017-01-01	2017-12-31
388.		2015-07-13	2017-01-01	2017-12-31
389.		2015-07-13	2017-01-01	2017-12-31
390.		2015-07-28	2017-01-01	2017-12-31
391.		2015-08-11	2017-01-01	2017-12-31
392.		2015-10-13	2017-01-01	2017-12-31
393.		2015-10-13	2017-01-01	2017-12-31
394.		2015-10-13	2017-01-01	2017-12-31
395.		2015-10-13	2017-01-01	2017-12-31
396.		2015-10-13	2017-01-01	2017-12-31
397.		2015-10-13	2017-01-01	2017-12-31
398.		2015-10-13	2017-01-01	2017-12-31
399.		2015-10-13	2017-01-01	2017-12-31
400.		2015-10-13	2017-01-01	2017-12-31
401.		2015-10-13	2017-01-01	2017-12-31
402.		2015-10-13	2017-01-01	2017-12-31
403.		2015-10-13	2017-01-01	2017-12-31
404.		2015-10-13	2017-01-01	2017-12-31
405.		2015-10-13	2017-01-01	2017-12-31
406.		2015-10-13	2017-01-01	2017-12-31
407.		2015-10-13	2017-01-01	2017-12-31
408.		2015-10-13	2017-01-01	2017-12-31
409.		2015-12-21	2017-01-01	2017-12-31
410.		2016-01-08	2017-01-01	2017-12-31
411.		2016-01-29	2017-01-01	2017-12-31
412.		2016-01-29	2017-08-28	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
413.		2016-01-29	2017-01-01	2017-06-13
414.		2016-02-02	2017-01-01	2017-12-31
415.		2016-02-02	2017-01-01	2017-12-31
416.		2016-02-02	2017-01-01	2017-12-31
417.		2016-02-02	2017-01-01	2017-12-31
418.		2016-02-02	2017-01-01	2017-12-31
419.		2016-02-02	2017-01-01	2017-12-31
420.		2016-02-02	2017-01-01	2017-12-31
421.		2016-02-02	2017-01-01	2017-12-31
422.		2016-02-02	2017-01-01	2017-12-31
423.		2016-02-02	2017-01-01	2017-12-31
424.		2016-02-02	2017-01-01	2017-12-31
425.		2016-02-02	2017-01-01	2017-12-31
426.		2016-02-02	2017-01-01	2017-12-31
427.		2016-02-02	2017-01-01	2017-12-31
428.		2016-02-02	2017-01-01	2017-12-31
429.		2016-02-02	2017-01-01	2017-12-31
430.		2016-02-02	2017-01-01	2017-12-31
431.		2016-02-02	2017-01-01	2017-12-31
432.		2016-02-02	2017-01-01	2017-12-31
433.		2016-02-02	2017-01-01	2017-12-31
434.		2016-02-05	2017-01-01	2017-12-31
435.		2016-02-05	2017-01-01	2017-12-31
436.		2016-02-05	2017-01-01	2017-12-31
437.		2016-02-05	2017-01-01	2017-12-31
438.		2016-02-05	2017-08-31	2017-12-31
439.		2016-02-08	2017-03-02	2017-12-31
440.		2016-02-09	2017-01-01	2017-12-31
441.		2016-02-10	2017-01-01	2017-12-31
442.		2016-02-25	2017-01-01	2017-12-31
443.		2016-03-14	2017-01-01	2017-12-31
444.		2016-04-05	2017-01-01	2017-12-31
445.		2016-04-05	2017-01-01	2017-12-31
446.		2016-04-05	2017-01-01	2017-12-31
447.		2016-04-05	2017-01-01	2017-12-31
448.		2016-04-05	2017-01-01	2017-12-31
449.		2016-04-05	2017-01-01	2017-12-31
450.		2016-04-05	2017-01-01	2017-12-31
451.		2016-04-05	2017-01-01	2017-12-31
452.		2016-04-05	2017-01-01	2017-12-31
453.		2016-04-05	2017-01-01	2017-12-31
454.		2016-04-05	2017-01-01	2017-12-31
455.		2016-04-05	2017-01-01	2017-12-31
456.		2016-04-05	2017-01-01	2017-12-31
457.		2016-04-05	2017-01-01	2017-12-31
458.		2016-04-05	2017-01-01	2017-12-31
459.		2016-04-05	2017-01-01	2017-12-31
460.		2016-04-28	2017-01-01	2017-12-31
461.		2016-04-28	2017-01-01	2017-12-31
462.		2016-04-28	2017-01-01	2017-12-31
463.		2016-04-28	2017-01-01	2017-12-31
464.		2016-04-28	2017-01-01	2017-12-31
465.		2016-04-28	2017-01-01	2017-12-31



	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
466.		2016-04-28	2017-01-01	2017-12-31
467.		2016-04-28	2017-01-01	2017-12-31
468.		2016-04-28	2017-01-01	2017-12-31
469.		2016-04-28	2017-01-01	2017-12-31
470.		2016-04-28	2017-01-01	2017-12-31
471.		2016-04-28	2017-01-01	2017-12-31
472.		2016-04-28	2017-01-01	2017-12-31
473.		2016-04-28	2017-01-01	2017-12-31
474.		2016-04-28	2017-01-01	2017-12-31
475.		2016-05-02	2017-01-01	2017-11-10
476.		2016-05-02	2017-01-01	2017-12-31
477.		2016-05-02	2017-01-01	2017-12-31
478.		2016-05-02	2017-01-01	2017-12-31
479.		2016-05-02	2017-01-01	2017-12-31
480.		2016-05-02	2017-01-01	2017-12-31
481.		2016-05-02	2017-01-01	2017-12-31
482.		2016-05-02	2017-01-01	2017-12-31
483.		2016-05-02	2017-01-01	2017-12-31
484.		2016-05-02	2017-01-01	2017-12-31
485.		2016-05-02	2017-01-01	2017-12-31
486.		2016-05-10	2017-01-01	2017-12-31
487.		2016-05-10	2017-01-01	2017-12-31
488.		2016-05-24	2017-01-01	2017-12-31
489.		2016-05-24	2017-01-01	2017-12-31
490.		2016-05-24	2017-01-01	2017-12-31
491.		2016-05-24	2017-01-01	2017-12-31
492.		2016-05-24	2017-01-01	2017-12-31
493.		2016-05-24	2017-01-01	2017-12-31
494.		2016-05-24	2017-01-01	2017-12-31
495.		2016-05-24	2017-01-01	2017-12-31
496.		2016-05-24	2017-01-01	2017-12-31
497.		2016-05-24	2017-01-01	2017-12-31
498.		2016-05-24	2017-01-01	2017-12-31
499.		2016-05-24	2017-01-01	2017-12-31
500.		2016-05-24	2017-01-01	2017-12-31
501.		2016-05-24	2017-01-01	2017-12-31
502.		2016-05-24	2017-01-01	2017-12-31
503.		2016-05-25	2017-01-01	2017-12-31
504.		2016-05-25	2017-08-28	2017-12-31
505.		2016-05-25	2017-01-01	2017-03-06
506.		2016-05-25	2017-01-01	2017-12-31
507.		2016-05-25	2017-01-01	2017-12-31
508.		2016-06-17	2017-01-01	2017-07-03
509.		2016-06-17	2017-01-01	2017-12-31
510.		2016-06-17	2017-01-01	2017-12-31
511.		2016-06-17	2017-01-01	2017-12-31
512.		2016-06-17	2017-01-01	2017-12-31
513.		2016-06-17	2017-01-01	2017-12-31
514.		2016-06-17	2017-01-01	2017-12-31
515.		2016-06-17	2017-01-01	2017-12-31
516.		2016-06-17	2017-01-01	2017-12-31
517.		2016-06-17	2017-01-01	2017-12-31
518.		2016-06-17	2017-01-01	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
519.		2016-06-17	2017-01-01	2017-12-31
520.		2016-06-17	2017-01-01	2017-12-31
521.		2016-06-17	2017-01-01	2017-12-31
522.		2016-06-17	2017-01-01	2017-12-31
523.		2016-06-17	2017-01-01	2017-12-31
524.		2016-06-17	2017-01-01	2017-12-31
525.		2016-06-17	2017-01-01	2017-12-31
526.		2016-06-17	2017-01-01	2017-12-31
527.		2016-06-17	2017-01-01	2017-12-31
528.		2016-06-17	2017-01-01	2017-12-31
529.		2016-06-17	2017-01-01	2017-12-31
530.		2016-06-17	2017-01-01	2017-12-31
531.		2016-06-17	2017-01-01	2017-12-31
532.		2016-06-17	2017-01-01	2017-12-31
533.		2016-06-17	2017-01-01	2017-12-31
534.		2016-06-17	2017-01-01	2017-12-31
535.		2016-06-17	2017-01-01	2017-12-31
536.		2016-06-17	2017-01-01	2017-12-31
537.		2016-06-17	2017-01-01	2017-12-31
538.		2016-06-17	2017-01-01	2017-12-31
539.		2016-06-17	2017-01-01	2017-12-31
540.		2016-06-17	2017-01-01	2017-12-31
541.		2016-06-17	2017-01-01	2017-12-31
542.		2016-06-17	2017-01-01	2017-12-31
543.		2016-06-17	2017-01-01	2017-12-31
544.		2016-06-17	2017-01-01	2017-12-31
545.		2016-07-08	2017-01-01	2017-12-31
546.		2016-08-22	2017-08-28	2017-12-31
547.		2016-10-14	2017-03-02	2017-12-20
548.		2016-10-27	2017-01-01	2017-12-31
549.		2016-11-18	2017-08-28	2017-12-31
550.		2016-11-18	2017-08-28	2017-12-31
551.		2016-11-18	2017-01-01	2017-12-31
552.		2016-11-18	2017-01-01	2017-12-31
553.		2016-12-01	2017-01-01	2017-12-31
554.		2016-12-01	2017-01-01	2017-12-31
555.		2016-12-01	2017-01-01	2017-12-31
556.		2016-12-01	2017-01-01	2017-12-31
557.		2016-12-01	2017-01-01	2017-12-31
558.		2016-12-01	2017-01-01	2017-12-31
559.		2016-12-01	2017-01-01	2017-12-31
560.		2016-12-01	2017-01-01	2017-12-31
561.		2016-12-01	2017-01-01	2017-12-31
562.		2016-12-01	2017-01-01	2017-12-31
563.		2016-12-01	2017-01-01	2017-12-31
564.		2016-12-01	2017-01-01	2017-12-31
565.		2016-12-01	2017-01-01	2017-12-31
566.		2016-12-01	2017-01-01	2017-12-31
567.		2016-12-01	2017-01-01	2017-12-31
568.		2016-12-07	2017-01-01	2017-10-11
569.		2017-01-18	2017-10-12	2017-12-20
570.		2017-01-23	2017-01-23	2017-12-31
571.		2017-01-23	2017-01-23	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
572.		2017-01-23	2017-01-23	2017-12-31
573.		2017-01-23	2017-01-23	2017-09-29
574.		2017-01-23	2017-01-23	2017-12-31
575.		2017-01-23	2017-01-23	2017-12-31
576.		2017-01-23	2017-01-23	2017-12-31
577.		2017-01-23	2017-01-23	2017-10-19
578.		2017-01-23	2017-01-23	2017-12-31
579.		2017-01-23	2017-01-23	2017-12-31
580.		2017-01-23	2017-01-23	2017-12-31
581.		2017-01-23	2017-01-23	2017-12-31
582.		2017-01-23	2017-01-23	2017-12-31
583.		2017-01-23	2017-01-23	2017-12-31
584.		2017-01-23	2017-01-23	2017-12-31
585.		2017-01-24	2017-08-17	2017-12-31
586.		2017-01-24	2017-01-24	2017-12-31
587.		2017-01-24	2017-01-24	2017-12-31
588.		2017-01-24	2017-01-24	2017-12-31
589.		2017-01-24	2017-01-24	2017-12-31
590.		2017-01-24	2017-01-24	2017-12-31
591.		2017-01-24	2017-01-24	2017-12-31
592.		2017-02-03	2017-03-02	2017-12-31
593.		2017-02-03	2017-02-27	2017-12-31
594.		2017-02-03	2017-02-03	2017-12-31
595.		2017-02-03	2017-02-27	2017-12-31
596.		2017-02-03	2017-02-27	2017-12-31
597.		2017-02-03	2017-02-03	2017-12-31
598.		2017-02-03	2017-02-27	2017-12-31
599.		2017-02-03	2017-02-27	2017-12-31
600.		2017-02-03	2017-02-27	2017-12-31
601.		2017-02-03	2017-02-27	2017-12-31
602.		2017-02-03	2017-02-03	2017-12-31
603.		2017-02-03	2017-02-27	2017-12-31
604.		2017-02-03	2017-02-27	2017-12-31
605.		2017-02-03	2017-02-27	2017-12-31
606.		2017-02-03	2017-02-27	2017-12-31
607.		2017-02-03	2017-02-27	2017-12-31
608.		2017-02-03	2017-02-27	2017-12-31
609.		2017-02-16	2017-03-02	2017-12-31
610.		2017-02-16	2017-02-16	2017-12-31
611.		2017-03-21	2017-03-21	2017-12-31
612.		2017-03-21	2017-03-21	2017-12-31
613.		2017-03-21	2017-03-21	2017-12-31
614.		2017-03-23	2017-03-23	2017-12-31
615.		2017-03-23	2017-03-23	2017-12-31
616.		2017-03-23	2017-03-23	2017-12-31
617.		2017-03-23	2017-03-23	2017-12-31
618.		2017-03-23	2017-03-23	2017-12-31
619.		2017-03-23	2017-03-23	2017-12-31
620.		2017-03-23	2017-03-23	2017-12-31
621.		2017-03-23	2017-03-23	2017-12-31
622.		2017-03-23	2017-03-23	2017-12-31
623.		2017-03-23	2017-03-23	2017-12-31
624.		2017-03-23	2017-03-23	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
625.		2017-03-23	2017-03-23	2017-12-31
626.		2017-03-23	2017-03-23	2017-12-31
627.		2017-03-23	2017-03-23	2017-12-31
628.		2017-03-23	2017-03-23	2017-12-31
629.		2017-03-23	2017-03-23	2017-12-31
630.		2017-03-23	2017-03-23	2017-12-31
631.		2017-03-23	2017-03-23	2017-12-31
632.		2017-04-27	2017-04-27	2017-12-31
633.		2017-04-27	2017-04-27	2017-12-31
634.		2017-04-27	2017-04-27	2017-12-31
635.		2017-04-27	2017-04-27	2017-12-31
636.		2017-04-27	2017-04-27	2017-12-31
637.		2017-04-27	2017-04-27	2017-12-31
638.		2017-04-27	2017-04-27	2017-12-31
639.		2017-04-27	2017-04-27	2017-12-31
640.		2017-04-27	2017-04-27	2017-12-31
641.		2017-04-27	2017-04-27	2017-12-31
642.		2017-04-27	2017-04-27	2017-12-31
643.		2017-04-27	2017-04-27	2017-12-31
644.		2017-04-27	2017-04-27	2017-12-31
645.		2017-04-27	2017-04-27	2017-12-31
646.		2017-05-06	2017-05-29	2017-12-31
647.		2017-05-06	2017-05-29	2017-12-31
648.		2017-05-06	2017-05-29	2017-12-31
649.		2017-05-06	2017-05-29	2017-12-31
650.		2017-05-06	2017-05-29	2017-12-31
651.		2017-05-06	2017-05-06	2017-12-31
652.		2017-05-06	2017-05-29	2017-12-31
653.		2017-05-06	2017-05-29	2017-12-31
654.		2017-05-06	2017-05-06	2017-12-31
655.		2017-05-06	2017-05-29	2017-12-31
656.		2017-05-06	2017-05-29	2017-12-31
657.		2017-05-06	2017-05-29	2017-06-03
658.		2017-05-06	2017-05-06	2017-12-31
659.		2017-05-06	2017-05-29	2017-12-31
660.		2017-05-06	2017-05-29	2017-12-31
661.		2017-05-06	2017-05-06	2017-12-31
662.		2017-05-06	2017-05-29	2017-12-31
663.		2017-05-23	2017-08-17	2017-12-31
664.		2017-05-25	2017-05-25	2017-12-31
665.		2017-06-05	2017-06-05	2017-12-31
666.		2017-06-05	2017-06-05	2017-12-31
667.		2017-06-05	2017-06-05	2017-12-31
668.		2017-06-05	2017-06-05	2017-12-31
669.		2017-06-05	2017-06-05	2017-12-31
670.		2017-06-05	2017-06-05	2017-12-31
671.		2017-06-05	2017-06-05	2017-12-31
672.		2017-06-05	2017-06-05	2017-12-31
673.		2017-06-05	2017-06-05	2017-12-31
674.		2017-06-05	2017-06-05	2017-12-31
675.		2017-06-05	2017-06-05	2017-12-31
676.		2017-06-05	2017-06-05	2017-12-31
677.		2017-06-05	2017-06-05	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
678.		2017-06-05	2017-06-05	2017-12-31
679.		2017-06-05	2017-06-05	2017-12-31
680.		2017-06-13	2017-10-12	2017-12-20
681.		2017-06-13	2017-06-13	2017-12-31
682.		2017-06-13	2017-06-13	2017-12-31
683.		2017-06-13	2017-06-13	2017-12-31
684.		2017-06-13	2017-06-13	2017-12-31
685.		2017-06-13	2017-06-13	2017-12-31
686.		2017-06-20	2017-06-20	2017-09-26
687.		2017-06-20	2017-06-20	2017-12-31
688.		2017-06-20	2017-06-20	2017-12-31
689.		2017-06-20	2017-06-20	2017-12-31
690.		2017-06-22	2017-06-22	2017-07-05
691.		2017-06-22	2017-06-22	2017-12-31
692.		2017-06-22	2017-06-22	2017-12-31
693.		2017-06-22	2017-06-22	2017-12-31
694.		2017-07-16	2017-08-28	2017-12-31
695.		2017-08-05	2017-08-05	2017-12-31
696.		2017-08-05	2017-08-05	2017-12-31
697.		2017-08-05	2017-08-05	2017-12-31
698.		2017-08-05	2017-08-05	2017-12-31
699.		2017-08-05	2017-08-05	2017-12-31
700.		2017-08-05	2017-08-05	2017-12-31
701.		2017-08-05	2017-08-05	2017-12-31
702.		2017-08-05	2017-08-05	2017-12-31
703.		2017-08-05	2017-08-05	2017-12-31
704.		2017-08-05	2017-08-05	2017-12-31
705.		2017-08-05	2017-08-05	2017-12-31
706.		2017-08-05	2017-08-05	2017-12-31
707.		2017-08-05	2017-08-05	2017-12-31
708.		2017-08-05	2017-08-05	2017-12-31
709.		2017-08-05	2017-08-05	2017-12-31
710.		2017-08-05	2017-08-05	2017-12-31
711.		2017-08-14	2017-08-14	2017-12-31
712.		2017-08-28	2017-08-28	2017-12-31
713.		2017-09-02	2017-09-02	2017-12-31
714.		2017-09-02	2017-09-02	2017-12-31
715.		2017-09-02	2017-09-02	2017-12-31
716.		2017-09-02	2017-09-02	2017-12-31
717.		2017-09-02	2017-09-02	2017-12-31
718.		2017-09-02	2017-09-02	2017-12-31
719.		2017-09-02	2017-09-02	2017-12-31
720.		2017-09-02	2017-09-02	2017-12-31
721.		2017-09-02	2017-09-02	2017-12-31
722.		2017-09-02	2017-09-02	2017-12-31
723.		2017-09-02	2017-09-02	2017-12-31
724.		2017-09-02	2017-09-02	2017-12-31
725.		2017-09-02	2017-09-02	2017-12-31
726.		2017-09-02	2017-09-02	2017-12-31
727.		2017-09-02	2017-09-02	2017-12-31
728.		2017-09-02	2017-09-02	2017-12-31
729.		2017-10-04	2017-10-04	2017-12-31
730.		2017-10-04	2017-10-04	2017-12-31

	<b>D</b> Original contract or training agreement number	<b>E</b> Original registration date of apprenticeship contract or training agreement (YYYYMMDD) (see note 1)	<b>F</b> Start date of employment as an apprentice in the tax year (YYYYMMDD) (see note 2)	<b>G</b> End date of employment as an apprentice in the tax year (YYYYMMDD) (see note 3)
	<b>420</b>	<b>425</b>	<b>430</b>	<b>435</b>
731.		2017-10-04	2017-10-04	2017-12-31
732.		2017-10-05	2017-10-05	2017-12-20
733.		2017-10-05	2017-10-05	2017-12-20
734.		2017-10-05	2017-10-05	2017-12-31
735.		2017-10-06	2017-10-06	2017-12-31
736.		2017-10-06	2017-10-06	2017-12-31
737.		2017-10-08	2017-10-08	2017-12-31
738.		2017-10-11	2017-10-11	2017-12-31
739.		2017-10-11	2017-10-11	2017-12-31
740.		2017-10-11	2017-10-11	2017-12-31
741.		2017-10-17	2017-10-17	2017-12-31
742.		2017-10-19	2017-10-19	2017-12-20
743.		2017-10-19	2017-10-19	2017-12-31
744.		2017-10-19	2017-10-19	2017-12-31
745.		2017-10-19	2017-10-19	2017-12-31
746.		2017-10-19	2017-10-19	2017-12-31
747.		2017-10-19	2017-10-19	2017-12-31
748.		2017-10-20	2017-10-20	2017-12-31
749.		2017-10-20	2017-10-20	2017-12-31

Note 1: Enter the original registration date of the apprenticeship contract or training agreement in all cases, even when multiple employers employed the apprentice.

Note 2: When there are multiple employment periods as an apprentice in the tax year with the corporation, enter the date that is the first day of employment as an apprentice in the tax year with the corporation. When claiming an ATTC for repayment of government assistance, enter the start date of employment as an apprentice for the tax year in which the government assistance was received.

Note 3: When there are multiple employment periods as an apprentice in the tax year with the corporation, enter the date that is the last day of employment as an apprentice in the tax year with the corporation. When claiming an ATTC for repayment of government assistance, enter the end date of employment as an apprentice for the tax year in which the government assistance was received.

**Part 4 – Ontario apprenticeship training tax credit (continued)**

	H1 Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)	H2 Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)	I Maximum credit amount for the tax year (see note 2)
	<b>442</b>	<b>443</b>	<b>445</b>
1.	28		767
2.	28		767
3.	28		767
4.	28		767
5.	28		767
6.	28		767
7.	28		767
8.	28		767
9.	28		767
10.	28		767
11.	28		767
12.	28		767
13.	28		767
14.	28		767
15.	56		1,534
16.	54		1,479
17.	56		1,534
18.	24		658
19.	56		1,534
20.	56		1,534
21.	56		1,534
22.	56		1,534
23.	56		1,534
24.	56		1,534
25.	56		1,534
26.	56		1,534
27.	56		1,534
28.	56		1,534
29.	56		1,534
30.	72		1,973
31.	105		2,877
32.	105		2,877
33.	23		630
34.	105		2,877
35.	105		2,877
36.	105		2,877
37.	105		2,877
38.	105		2,877
39.	105		2,877
40.	105		2,877
41.	105		2,877
42.	97		2,658
43.	97		2,658
44.	105		2,877
45.	24		658
46.	119		3,260
47.	119		3,260
48.	119		3,260
49.	119		3,260
50.	119		3,260
51.	119		3,260
52.	119		3,260

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)	<b>I</b> Maximum credit amount for the tax year (see note 2)
	<b>442</b>		
53.	119		3,260
54.	119		3,260
55.	119		3,260
56.	119		3,260
57.	119		3,260
58.	119		3,260
59.	119		3,260
60.	119		3,260
61.	119		3,260
62.	154		4,219
63.		365	5,000
64.	154		4,219
65.	154		4,219
66.	19		521
67.	154		4,219
68.	154		4,219
69.	154		4,219
70.	154		4,219
71.	154		4,219
72.	154		4,219
73.	154		4,219
74.	154		4,219
75.	154		4,219
76.	154		4,219
77.	154		4,219
78.	154		4,219
79.	154		4,219
80.	154		4,219
81.	136		3,726
82.	151		4,137
83.	156		4,274
84.	171		4,685
85.	171		4,685
86.	171		4,685
87.	171		4,685
88.	171		4,685
89.	171		4,685
90.	180		4,932
91.	180		4,932
92.	67		1,836
93.	156		4,274
94.	177		4,849
95.	260		7,123
96.	12		329
97.	60		1,644
98.	54		1,479
99.	79		2,164
100.	102		2,795
101.	158		4,329
102.	203		5,562
103.	289		7,918
104.	54		1,479
105.	95		2,603
106.	101		2,767



	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)	<b>I</b> Maximum credit amount for the tax year (see note 2)
	<b>442</b>	<b>443</b>	<b>445</b>
107.	290		7,945
108.	210		5,753
109.	294		8,055
110.	294		8,055
111.	294		8,055
112.	294		8,055
113.	294		8,055
114.	294		8,055
115.	294		8,055
116.	294		8,055
117.	294		8,055
118.	294		8,055
119.	294		8,055
120.	101		2,767
121.	294		8,055
122.	91		2,493
123.	131		3,589
124.	187		5,123
125.	323		8,849
126.	323		8,849
127.	323		8,849
128.	323		8,849
129.	323		8,849
130.	102		2,795
131.	365		10,000
132.	139		3,808
133.	276		7,562
134.	365		10,000
135.	365		10,000
136.	365		10,000
137.	365		10,000
138.	365		10,000
139.	365		10,000
140.	365		10,000
141.	365		10,000
142.	365		10,000
143.	365		10,000
144.	365		10,000
145.	365		10,000
146.	365		10,000
147.	365		10,000
148.	365		10,000
149.	159		4,356
150.	365		10,000
151.	365		10,000
152.	365		10,000
153.	365		10,000
154.	365		10,000
155.	365		10,000
156.	365		10,000
157.	365		10,000
158.	365		10,000
159.	353		9,671
160.	365		10,000

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)	<b>I</b> Maximum credit amount for the tax year (see note 2)
	<b>442</b>	<b>443</b>	<b>445</b>
161.	365		10,000
162.	365		10,000
163.	365		10,000
164.	365		10,000
165.	365		10,000
166.	365		10,000
167.	365		10,000
168.	365		10,000
169.	365		10,000
170.	365		10,000
171.	365		10,000
172.	341		9,342
173.	365		10,000
174.	365		10,000
175.	365		10,000
176.	365		10,000
177.	365		10,000
178.	365		10,000
179.	365		10,000
180.	365		10,000
181.	365		10,000
182.	365		10,000
183.	365		10,000
184.	365		10,000
185.	365		10,000
186.	365		10,000
187.	165		4,521
188.	185		5,068
189.	227		6,219
190.	245		6,712
191.	249		6,822
192.	287		7,863
193.	313		8,575
194.	353		9,671
195.	365		10,000
196.	365		10,000
197.	365		10,000
198.	365		10,000
199.	365		10,000
200.	365		10,000
201.	228		6,247
202.	365		10,000
203.	185		5,068
204.	365		10,000
205.	365		10,000
206.	365		10,000
207.	365		10,000
208.	365		10,000
209.	365		10,000
210.	365		10,000
211.	365		10,000
212.	365		10,000
213.	365		10,000
214.	365		10,000

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)	<b>I</b> Maximum credit amount for the tax year (see note 2)
	<b>442</b>	<b>443</b>	<b>445</b>
215.	365		10,000
216.	365		10,000
217.	365		10,000
218.	365		10,000
219.	365		10,000
220.	131		3,589
221.	233		6,384
222.	261		7,151
223.	365		10,000
224.	365		10,000
225.	365		10,000
226.	365		10,000
227.	365		10,000
228.	365		10,000
229.	365		10,000
230.	365		10,000
231.	365		10,000
232.	365		10,000
233.	365		10,000
234.	365		10,000
235.	365		10,000
236.	365		10,000
237.	365		10,000
238.	365		10,000
239.	365		10,000
240.	365		10,000
241.	365		10,000
242.	365		10,000
243.	365		10,000
244.	365		10,000
245.	365		10,000
246.	365		10,000
247.	208		5,699
248.	365		10,000
249.	365		10,000
250.	365		10,000
251.	365		10,000
252.	365		10,000
253.	365		10,000
254.	365		10,000
255.	365		10,000
256.	365		10,000
257.	365		10,000
258.	365		10,000
259.	365		10,000
260.	365		10,000
261.	365		10,000
262.	365		10,000
263.	365		10,000
264.	365		10,000
265.	365		10,000
266.	235		6,438
267.	365		10,000
268.	365		10,000

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)	<b>I</b> Maximum credit amount for the tax year (see note 2)
	<b>442</b>	<b>443</b>	<b>445</b>
269.	365		10,000
270.	365		10,000
271.	365		10,000
272.	365		10,000
273.	365		10,000
274.	365		10,000
275.	365		10,000
276.	365		10,000
277.	365		10,000
278.	365		10,000
279.	365		10,000
280.	365		10,000
281.	365		10,000
282.	365		10,000
283.	365		10,000
284.	365		10,000
285.	365		10,000
286.	365		10,000
287.	184		5,041
288.	365		10,000
289.	288		7,890
290.	365		10,000
291.	365		10,000
292.	365		10,000
293.	365		10,000
294.	365		10,000
295.	365		10,000
296.	365		10,000
297.	365		10,000
298.	365		10,000
299.	365		10,000
300.	365		10,000
301.	365		10,000
302.	365		10,000
303.	365		10,000
304.	365		10,000
305.	365		10,000
306.	349		9,562
307.	365		10,000
308.	365		10,000
309.	365		10,000
310.	365		10,000
311.	365		10,000
312.	365		10,000
313.	365		10,000
314.	365		10,000
315.	365		10,000
316.	365		10,000
317.	365		10,000
318.	365		10,000
319.	365		10,000
320.	365		10,000
321.	365		10,000
322.	365		10,000

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)	<b>I</b> Maximum credit amount for the tax year (see note 2)
	<b>442</b>	<b>443</b>	<b>445</b>
323.	365		10,000
324.	365		10,000
325.	365		10,000
326.	365		10,000
327.	365		10,000
328.	365		10,000
329.	365		10,000
330.	365		10,000
331.	365		10,000
332.	365		10,000
333.	365		10,000
334.	365		10,000
335.	365		10,000
336.	365		10,000
337.	365		10,000
338.	365		10,000
339.	365		10,000
340.	365		10,000
341.	365		10,000
342.	365		10,000
343.		365	5,000
344.		365	5,000
345.		365	5,000
346.		365	5,000
347.		365	5,000
348.		365	5,000
349.		365	5,000
350.		365	5,000
351.		365	5,000
352.		365	5,000
353.		365	5,000
354.		365	5,000
355.		365	5,000
356.		365	5,000
357.		365	5,000
358.		365	5,000
359.		365	5,000
360.		365	5,000
361.		365	5,000
362.		365	5,000
363.		365	5,000
364.		365	5,000
365.		365	5,000
366.		365	5,000
367.		365	5,000
368.		365	5,000
369.		365	5,000
370.		365	5,000
371.		365	5,000
372.		365	5,000
373.		365	5,000
374.		365	5,000
375.		365	5,000
376.		365	5,000

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)  <b>442</b>	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)  <b>443</b>	<b>I</b> Maximum credit amount for the tax year (see note 2)  <b>445</b>
377.		365	5,000
378.		365	5,000
379.		365	5,000
380.		365	5,000
381.		365	5,000
382.		365	5,000
383.		365	5,000
384.		365	5,000
385.		365	5,000
386.		365	5,000
387.		365	5,000
388.		365	5,000
389.		365	5,000
390.		365	5,000
391.		365	5,000
392.		365	5,000
393.		365	5,000
394.		365	5,000
395.		365	5,000
396.		365	5,000
397.		365	5,000
398.		365	5,000
399.		365	5,000
400.		365	5,000
401.		365	5,000
402.		365	5,000
403.		365	5,000
404.		365	5,000
405.		365	5,000
406.		365	5,000
407.		365	5,000
408.		365	5,000
409.		365	5,000
410.		365	5,000
411.		365	5,000
412.		126	1,726
413.		164	2,247
414.		365	5,000
415.		365	5,000
416.		365	5,000
417.		365	5,000
418.		365	5,000
419.		365	5,000
420.		365	5,000
421.		365	5,000
422.		365	5,000
423.		365	5,000
424.		365	5,000
425.		365	5,000
426.		365	5,000
427.		365	5,000
428.		365	5,000
429.		365	5,000
430.		365	5,000

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)  <b>442</b>	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)  <b>443</b>	<b>I</b> Maximum credit amount for the tax year (see note 2)  <b>445</b>
431.		365	5,000
432.		365	5,000
433.		365	5,000
434.		365	5,000
435.		365	5,000
436.		365	5,000
437.		365	5,000
438.		123	1,685
439.		305	4,178
440.		365	5,000
441.		365	5,000
442.		365	5,000
443.		365	5,000
444.		365	5,000
445.		365	5,000
446.		365	5,000
447.		365	5,000
448.		365	5,000
449.		365	5,000
450.		365	5,000
451.		365	5,000
452.		365	5,000
453.		365	5,000
454.		365	5,000
455.		365	5,000
456.		365	5,000
457.		365	5,000
458.		365	5,000
459.		365	5,000
460.		365	5,000
461.		365	5,000
462.		365	5,000
463.		365	5,000
464.		365	5,000
465.		365	5,000
466.		365	5,000
467.		365	5,000
468.		365	5,000
469.		365	5,000
470.		365	5,000
471.		365	5,000
472.		365	5,000
473.		365	5,000
474.		365	5,000
475.		314	4,301
476.		365	5,000
477.		365	5,000
478.		365	5,000
479.		365	5,000
480.		365	5,000
481.		365	5,000
482.		365	5,000
483.		365	5,000
484.		365	5,000

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)  <b>442</b>	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)  <b>443</b>	<b>I</b> Maximum credit amount for the tax year (see note 2)  <b>445</b>
485.		365	5,000
486.		365	5,000
487.		365	5,000
488.		365	5,000
489.		365	5,000
490.		365	5,000
491.		365	5,000
492.		365	5,000
493.		365	5,000
494.		365	5,000
495.		365	5,000
496.		365	5,000
497.		365	5,000
498.		365	5,000
499.		365	5,000
500.		365	5,000
501.		365	5,000
502.		365	5,000
503.		365	5,000
504.		126	1,726
505.		65	890
506.		365	5,000
507.		365	5,000
508.		184	2,521
509.		365	5,000
510.		365	5,000
511.		365	5,000
512.		365	5,000
513.		365	5,000
514.		365	5,000
515.		365	5,000
516.		365	5,000
517.		365	5,000
518.		365	5,000
519.		365	5,000
520.		365	5,000
521.		365	5,000
522.		365	5,000
523.		365	5,000
524.		365	5,000
525.		365	5,000
526.		365	5,000
527.		365	5,000
528.		365	5,000
529.		365	5,000
530.		365	5,000
531.		365	5,000
532.		365	5,000
533.		365	5,000
534.		365	5,000
535.		365	5,000
536.		365	5,000
537.		365	5,000
538.		365	5,000



	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)  <b>442</b>	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)  <b>443</b>	<b>I</b> Maximum credit amount for the tax year (see note 2)  <b>445</b>
539.		365	5,000
540.		365	5,000
541.		365	5,000
542.		365	5,000
543.		365	5,000
544.		365	5,000
545.		365	5,000
546.		126	1,726
547.		294	4,027
548.		365	5,000
549.		126	1,726
550.		126	1,726
551.		365	5,000
552.		365	5,000
553.		365	5,000
554.		365	5,000
555.		365	5,000
556.		365	5,000
557.		365	5,000
558.		365	5,000
559.		365	5,000
560.		365	5,000
561.		365	5,000
562.		365	5,000
563.		365	5,000
564.		365	5,000
565.		365	5,000
566.		365	5,000
567.		365	5,000
568.		284	3,890
569.		70	959
570.		343	4,699
571.		343	4,699
572.		343	4,699
573.		250	3,425
574.		343	4,699
575.		343	4,699
576.		343	4,699
577.		270	3,699
578.		343	4,699
579.		343	4,699
580.		343	4,699
581.		343	4,699
582.		343	4,699
583.		343	4,699
584.		343	4,699
585.		137	1,877
586.		342	4,685
587.		342	4,685
588.		342	4,685
589.		342	4,685
590.		342	4,685
591.		342	4,685
592.		305	4,178

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)  <b>442</b>	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)  <b>443</b>	<b>I</b> Maximum credit amount for the tax year (see note 2)  <b>445</b>
593.		308	4,219
594.		332	4,548
595.		308	4,219
596.		308	4,219
597.		332	4,548
598.		308	4,219
599.		308	4,219
600.		308	4,219
601.		308	4,219
602.		332	4,548
603.		308	4,219
604.		308	4,219
605.		308	4,219
606.		308	4,219
607.		308	4,219
608.		308	4,219
609.		305	4,178
610.		319	4,370
611.		286	3,918
612.		286	3,918
613.		286	3,918
614.		284	3,890
615.		284	3,890
616.		284	3,890
617.		284	3,890
618.		284	3,890
619.		284	3,890
620.		284	3,890
621.		284	3,890
622.		284	3,890
623.		284	3,890
624.		284	3,890
625.		284	3,890
626.		284	3,890
627.		284	3,890
628.		284	3,890
629.		284	3,890
630.		284	3,890
631.		284	3,890
632.		249	3,411
633.		249	3,411
634.		249	3,411
635.		249	3,411
636.		249	3,411
637.		249	3,411
638.		249	3,411
639.		249	3,411
640.		249	3,411
641.		249	3,411
642.		249	3,411
643.		249	3,411
644.		249	3,411
645.		249	3,411
646.		217	2,973

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)  <b>442</b>	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)  <b>443</b>	<b>I</b> Maximum credit amount for the tax year (see note 2)  <b>445</b>
647.		217	2,973
648.		217	2,973
649.		217	2,973
650.		217	2,973
651.		240	3,288
652.		217	2,973
653.		217	2,973
654.		240	3,288
655.		217	2,973
656.		217	2,973
657.		6	82
658.		240	3,288
659.		217	2,973
660.		217	2,973
661.		240	3,288
662.		217	2,973
663.		137	1,877
664.		221	3,027
665.		210	2,877
666.		210	2,877
667.		210	2,877
668.		210	2,877
669.		210	2,877
670.		210	2,877
671.		210	2,877
672.		210	2,877
673.		210	2,877
674.		210	2,877
675.		210	2,877
676.		210	2,877
677.		210	2,877
678.		210	2,877
679.		210	2,877
680.		70	959
681.		202	2,767
682.		202	2,767
683.		202	2,767
684.		202	2,767
685.		202	2,767
686.		99	1,356
687.		195	2,671
688.		195	2,671
689.		195	2,671
690.		14	192
691.		193	2,644
692.		193	2,644
693.		193	2,644
694.		126	1,726
695.		149	2,041
696.		149	2,041
697.		149	2,041
698.		149	2,041
699.		149	2,041
700.		149	2,041

	<b>H1</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began before April 24, 2015 (see note 1)  <b>442</b>	<b>H2</b> Number of days in the tax year employed as an apprentice in a qualifying apprenticeship program that began after April 23, 2015 (see note 1)  <b>443</b>	<b>I</b> Maximum credit amount for the tax year (see note 2)  <b>445</b>
701.		149	2,041
702.		149	2,041
703.		149	2,041
704.		149	2,041
705.		149	2,041
706.		149	2,041
707.		149	2,041
708.		149	2,041
709.		149	2,041
710.		149	2,041
711.		140	1,918
712.		126	1,726
713.		121	1,658
714.		121	1,658
715.		121	1,658
716.		121	1,658
717.		121	1,658
718.		121	1,658
719.		121	1,658
720.		121	1,658
721.		121	1,658
722.		121	1,658
723.		121	1,658
724.		121	1,658
725.		121	1,658
726.		121	1,658
727.		121	1,658
728.		121	1,658
729.		89	1,219
730.		89	1,219
731.		89	1,219
732.		77	1,055
733.		77	1,055
734.		88	1,205
735.		87	1,192
736.		87	1,192
737.		85	1,164
738.		82	1,123
739.		82	1,123
740.		82	1,123
741.		76	1,041
742.		63	863
743.		74	1,014
744.		74	1,014
745.		74	1,014
746.		74	1,014
747.		74	1,014
748.		73	1,000
749.		73	1,000

Note 1: When there are multiple employment periods as an apprentice in the tax year with the corporation, do not include days in which the individual was not employed as an apprentice.

For H1: The days employed as an apprentice must be within 48 months of the registration date provided in column E.

For H2: The days employed as an apprentice must be within 36 months of the registration date provided in column E.

Note 2: Maximum credit = (\$10,000 × H1/365\*) or (\$5,000 × H2/365\*), whichever applies.

\* 366 days, if the tax year includes February 29

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)
	<b>452</b>	<b>453</b>	<b>460</b>
1.	26,803		9,381
2.	13,852		4,848
3.	1,350		473
4.	50,997		17,849
5.	23,318		8,161
6.	33,729		11,805
7.	43,562		15,247
8.	67,481		23,618
9.	26,487		9,270
10.	12,165		4,258
11.	46,744		16,360
12.	22,280		7,798
13.	69,377		24,282
14.	8,002		2,801
15.	29,697		10,394
16.	117,030		40,961
17.	80,979		28,343
18.	113,569		39,749
19.	65,672		22,985
20.	34,821		12,187
21.	13,531		4,736
22.	36,994		12,948
23.	23,302		8,156
24.	40,294		14,103
25.	31,850		11,148
26.	46,051		16,118
27.	36,594		12,808
28.	58,592		20,507
29.	83,634		29,272
30.	72,018		25,206
31.	75,376		26,382
32.	70,336		24,618
33.	134,053		46,919
34.	72,536		25,388
35.	51,339		17,969
36.	52,770		18,470
37.	58,357		20,425
38.	30,788		10,776
39.	47,520		16,632
40.	21,200		7,420
41.	98,206		34,372
42.	130,697		45,744
43.	109,096		38,184
44.	47,367		16,578
45.	150,133		52,547
46.	28,388		9,936
47.	35,612		12,464
48.	41,011		14,354

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)
	<b>452</b>	<b>453</b>	<b>460</b>
49.	36,705		12,847
50.	40,053		14,019
51.	87,794		30,728
52.	55,000		19,250
53.	48,259		16,891
54.	33,771		11,820
55.	23,135		8,097
56.	63,083		22,079
57.	84,672		29,635
58.	51,959		18,186
59.	46,299		16,205
60.	64,835		22,692
61.	72,677		25,437
62.	42,958		15,035
63.		89,275	22,319
64.	83,623		29,268
65.	6,091		2,132
66.	27,506		9,627
67.	10,331		3,616
68.	6,271		2,195
69.	14,245		4,986
70.	6,280		2,198
71.	8,954		3,134
72.	32,764		11,467
73.	6,691		2,342
74.	562		197
75.	6,683		2,339
76.	6,684		2,339
77.	5,760		2,016
78.	61,266		21,443
79.	8,513		2,980
80.	38,238		13,383
81.	58,031		20,311
82.	85,392		29,887
83.	76,006		26,602
84.	64,627		22,619
85.	49,629		17,370
86.	37,539		13,139
87.	23,920		8,372
88.	31,942		11,180
89.	25,310		8,859
90.	66,529		23,285
91.	33,656		11,780
92.	102,269		35,794
93.	89,125		31,194
94.	84,934		29,727
95.	59,118		20,691
96.	100,994		35,348
97.	13,774		4,821
98.	96,908		33,918
99.	91,592		32,057
100.	47,826		16,739
101.	94,678		33,137
102.	83,663		29,282

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)
	<b>452</b>	<b>453</b>	<b>460</b>
103.	75,882		26,559
104.	96,404		33,741
105.	44,869		15,704
106.	88,816		31,086
107.	58,646		20,526
108.	82,099		28,735
109.	48,339		16,919
110.	53,519		18,732
111.	63,131		22,096
112.	58,046		20,316
113.	67,650		23,678
114.	29,527		10,334
115.	32,611		11,414
116.	54,255		18,989
117.	44,745		15,661
118.	38,836		13,593
119.	38,471		13,465
120.	95,459		33,411
121.	64,794		22,678
122.	115,165		40,308
123.	95,704		33,496
124.	87,168		30,509
125.	70,381		24,633
126.	60,953		21,334
127.	59,552		20,843
128.	72,497		25,374
129.	65,293		22,853
130.	57,894		20,263
131.	58,958		20,635
132.	73,031		25,561
133.	49,842		17,445
134.	82,874		29,006
135.	85,166		29,808
136.	97,476		34,117
137.	80,953		28,334
138.	101,450		35,508
139.	115,005		40,252
140.	109,549		38,342
141.	113,569		39,749
142.	78,864		27,602
143.	81,817		28,636
144.	102,741		35,959
145.	74,477		26,067
146.	138,834		48,592
147.	86,763		30,367
148.	75,908		26,568
149.	93,370		32,680
150.	86,963		30,437
151.	84,607		29,612
152.	75,711		26,499
153.	87,526		30,634
154.	86,545		30,291
155.	81,916		28,671
156.	96,585		33,805

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)
	<b>452</b>	<b>453</b>	<b>460</b>
157.	88,612		31,014
158.	88,865		31,103
159.	84,277		29,497
160.	87,633		30,672
161.	77,817		27,236
162.	80,236		28,083
163.	107,346		37,571
164.	86,728		30,355
165.	78,703		27,546
166.	80,151		28,053
167.	75,941		26,579
168.	60,597		21,209
169.	99,077		34,677
170.	87,667		30,683
171.	83,009		29,053
172.	104,953		36,734
173.	116,284		40,699
174.	81,071		28,375
175.	101,498		35,524
176.	80,392		28,137
177.	80,243		28,085
178.	75,438		26,403
179.	137,968		48,289
180.	80,576		28,202
181.	99,108		34,688
182.	117,340		41,069
183.	77,902		27,266
184.	67,769		23,719
185.	76,089		26,631
186.	77,958		27,285
187.	86,358		30,225
188.	96,434		33,752
189.	89,309		31,258
190.	87,997		30,799
191.	80,192		28,067
192.	80,756		28,265
193.	97,942		34,280
194.	66,486		23,270
195.	80,436		28,153
196.	71,821		25,137
197.	89,474		31,316
198.	20,254		7,089
199.	75,767		26,518
200.	89,824		31,438
201.	40,213		14,075
202.	63,573		22,251
203.	92,863		32,502
204.	92,851		32,498
205.	80,466		28,163
206.	33,477		11,717
207.	77,066		26,973
208.	84,693		29,643
209.	79,745		27,911
210.	99,189		34,716



	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)
	<b>452</b>	<b>453</b>	<b>460</b>
211.	65,908		23,068
212.	52,866		18,503
213.	74,742		26,160
214.	124,002		43,401
215.	77,960		27,286
216.	108,506		37,977
217.	138,833		48,592
218.	80,063		28,022
219.	75,715		26,500
220.	12,562		4,397
221.	77,045		26,966
222.	84,971		29,740
223.	78,848		27,597
224.	79,847		27,946
225.	79,924		27,973
226.	71,827		25,139
227.	79,377		27,782
228.	86,743		30,360
229.	81,904		28,666
230.	89,623		31,368
231.	82,862		29,002
232.	102,130		35,746
233.	80,763		28,267
234.	114,292		40,002
235.	91,113		31,890
236.	78,624		27,518
237.	79,941		27,979
238.	106,350		37,223
239.	78,074		27,326
240.	76,224		26,678
241.	66,824		23,388
242.	90,687		31,740
243.	83,375		29,181
244.	78,082		27,329
245.	65,457		22,910
246.	58,798		20,579
247.	109,390		38,287
248.	62,086		21,730
249.	58,743		20,560
250.	51,605		18,062
251.	23,007		8,052
252.	55,323		19,363
253.	72,324		25,313
254.	73,610		25,764
255.	67,196		23,519
256.	46,953		16,434
257.	85,471		29,915
258.	60,913		21,320
259.	62,752		21,963
260.	69,146		24,201
261.	91,491		32,022
262.	65,590		22,957
263.	85,444		29,905
264.	57,532		20,136

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)
	<b>452</b>	<b>453</b>	<b>460</b>
265.	88,704		31,046
266.	45,713		16,000
267.	69,274		24,246
268.	61,338		21,468
269.	51,185		17,915
270.	59,006		20,652
271.	67,856		23,750
272.	56,296		19,704
273.	55,875		19,556
274.	44,946		15,731
275.	58,786		20,575
276.	78,600		27,510
277.	73,393		25,688
278.	63,944		22,380
279.	84,087		29,430
280.	61,471		21,515
281.	39,697		13,894
282.	72,235		25,282
283.	67,720		23,702
284.	79,330		27,766
285.	74,641		26,124
286.	75,816		26,536
287.	45,094		15,783
288.	84,056		29,420
289.	47,007		16,452
290.	64,295		22,503
291.	72,897		25,514
292.	69,197		24,219
293.	56,370		19,730
294.	70,450		24,658
295.	66,331		23,216
296.	75,176		26,312
297.	69,736		24,408
298.	64,841		22,694
299.	84,789		29,676
300.	69,215		24,225
301.	74,930		26,226
302.	80,313		28,110
303.	71,860		25,151
304.	63,355		22,174
305.	109,724		38,403
306.	71,205		24,922
307.	85,643		29,975
308.	65,665		22,983
309.	73,170		25,610
310.	68,913		24,120
311.	66,347		23,221
312.	74,128		25,945
313.	78,461		27,461
314.	59,876		20,957
315.	65,400		22,890
316.	68,658		24,030
317.	73,303		25,656
318.	89,306		31,257

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)
	<b>452</b>	<b>453</b>	<b>460</b>
319.	70,435		24,652
320.	76,813		26,885
321.	83,544		29,240
322.	78,660		27,531
323.	77,779		27,223
324.	68,383		23,934
325.	72,829		25,490
326.	93,655		32,779
327.	71,127		24,894
328.	72,239		25,284
329.	47,689		16,691
330.	74,394		26,038
331.	70,873		24,806
332.	122,805		42,982
333.	71,824		25,138
334.	78,602		27,511
335.	77,868		27,254
336.	96,254		33,689
337.	78,164		27,357
338.	100,489		35,171
339.	72,488		25,371
340.	77,912		27,269
341.	80,843		28,295
342.	70,896		24,814
343.		60,629	15,157
344.		77,045	19,261
345.		63,345	15,836
346.		48,361	12,090
347.		68,971	17,243
348.		57,650	14,413
349.		64,441	16,110
350.		73,019	18,255
351.		96,457	24,114
352.		70,974	17,744
353.		76,794	19,199
354.		63,937	15,984
355.		74,537	18,634
356.		70,066	17,517
357.		64,232	16,058
358.		86,768	21,692
359.		76,507	19,127
360.		81,664	20,416
361.		77,679	19,420
362.		70,030	17,508
363.		76,901	19,225
364.		73,436	18,359
365.		69,357	17,339
366.		64,074	16,019
367.		64,449	16,112
368.		66,824	16,706
369.		64,074	16,019
370.		88,873	22,218
371.		72,691	18,173
372.		64,129	16,032

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)  <b>452</b>	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)  <b>453</b>	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)  <b>460</b>
373.		80,201	20,050
374.		89,623	22,406
375.		70,988	17,747
376.		73,641	18,410
377.		63,736	15,934
378.		69,561	17,390
379.		69,852	17,463
380.		68,960	17,240
381.		44,023	11,006
382.		51,844	12,961
383.		67,554	16,889
384.		75,580	18,895
385.		54,406	13,602
386.		65,316	16,329
387.		99,816	24,954
388.		47,992	11,998
389.		61,541	15,385
390.		81,272	20,318
391.		72,082	18,021
392.		37,230	9,308
393.		48,505	12,126
394.		68,455	17,114
395.		65,440	16,360
396.		68,354	17,089
397.		75,260	18,815
398.		73,190	18,298
399.		63,892	15,973
400.		64,302	16,076
401.		65,901	16,475
402.		80,188	20,047
403.		68,131	17,033
404.		55,421	13,855
405.		74,993	18,748
406.		67,726	16,932
407.		67,114	16,779
408.		69,201	17,300
409.		75,797	18,949
410.		40,624	10,156
411.		73,321	18,330
412.		30,992	7,748
413.		87,360	21,840
414.		57,349	14,337
415.		47,586	11,897
416.		60,635	15,159
417.		64,043	16,011
418.		56,423	14,106
419.		27,652	6,913
420.		65,434	16,359
421.		73,646	18,412
422.		60,341	15,085
423.		58,045	14,511
424.		66,973	16,743
425.		55,763	13,941
426.		53,828	13,457

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)  <b>452</b>	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)  <b>453</b>	<b>K</b> Eligible expenditures <b>multiplied</b> by specified percentage (see note 4)  <b>460</b>
427.		62,532	15,633
428.		72,759	18,190
429.		64,574	16,144
430.		38,607	9,652
431.		66,920	16,730
432.		93,962	23,491
433.		70,620	17,655
434.		47,672	11,918
435.		49,363	12,341
436.		45,503	11,376
437.		41,491	10,373
438.		22,275	5,569
439.		37,944	9,486
440.		40,723	10,181
441.		54,995	13,749
442.		44,753	11,188
443.		37,043	9,261
444.		93,749	23,437
445.		74,822	18,706
446.		69,326	17,332
447.		60,231	15,058
448.		57,713	14,428
449.		115,156	28,789
450.		70,944	17,736
451.		63,298	15,825
452.		60,436	15,109
453.		56,337	14,084
454.		64,509	16,127
455.		71,261	17,815
456.		54,242	13,561
457.		64,378	16,095
458.		64,236	16,059
459.		72,109	18,027
460.		62,202	15,551
461.		69,205	17,301
462.		57,245	14,311
463.		57,766	14,442
464.		56,187	14,047
465.		72,666	18,167
466.		64,913	16,228
467.		68,352	17,088
468.		63,201	15,800
469.		87,576	21,894
470.		83,558	20,890
471.		63,876	15,969
472.		61,995	15,499
473.		67,654	16,914
474.		66,122	16,531
475.		79,248	19,812
476.		62,142	15,536
477.		60,800	15,200
478.		61,712	15,428
479.		59,481	14,870
480.		69,398	17,350

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)  <b>452</b>	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)  <b>453</b>	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)  <b>460</b>
481.		71,700	17,925
482.		63,708	15,927
483.		76,488	19,122
484.		56,001	14,000
485.		68,044	17,011
486.		47,947	11,987
487.		50,354	12,589
488.		63,852	15,963
489.		68,575	17,144
490.		68,642	17,161
491.		59,566	14,892
492.		72,357	18,089
493.		71,943	17,986
494.		66,276	16,569
495.		53,791	13,448
496.		63,185	15,796
497.		50,804	12,701
498.		62,934	15,734
499.		64,256	16,064
500.		68,985	17,246
501.		80,508	20,127
502.		71,928	17,982
503.		42,066	10,517
504.		17,548	4,387
505.		4,507	1,127
506.		62,492	15,623
507.		55,558	13,890
508.		26,052	6,513
509.		59,583	14,896
510.		154,690	38,673
511.		70,301	17,575
512.		60,379	15,095
513.		70,031	17,508
514.		56,618	14,155
515.		61,292	15,323
516.		55,487	13,872
517.		61,969	15,492
518.		68,154	17,039
519.		61,930	15,483
520.		62,830	15,708
521.		68,467	17,117
522.		52,550	13,138
523.		57,767	14,442
524.		62,120	15,530
525.		58,995	14,749
526.		65,005	16,251
527.		39,166	9,792
528.		59,381	14,845
529.		45,916	11,479
530.		51,223	12,806
531.		42,641	10,660
532.		69,214	17,304
533.		48,993	12,248
534.		49,069	12,267

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)  <b>452</b>	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)  <b>453</b>	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)  <b>460</b>
535.		75,877	18,969
536.		40,987	10,247
537.		51,860	12,965
538.		55,015	13,754
539.		45,422	11,356
540.		49,076	12,269
541.		51,973	12,993
542.		44,717	11,179
543.		57,099	14,275
544.		51,565	12,891
545.		58,406	14,602
546.		13,283	3,321
547.		51,161	12,790
548.		41,436	10,359
549.		14,600	3,650
550.		24,732	6,183
551.		82,616	20,654
552.		62,203	15,551
553.		54,286	13,572
554.		52,189	13,047
555.		60,307	15,077
556.		55,476	13,869
557.		59,208	14,802
558.		51,655	12,914
559.		53,504	13,376
560.		55,293	13,823
561.		53,137	13,284
562.		54,847	13,712
563.		54,517	13,629
564.		54,030	13,508
565.		55,401	13,850
566.		63,292	15,823
567.		33,582	8,396
568.		53,172	13,293
569.		14,932	3,733
570.		57,174	14,294
571.		57,508	14,377
572.		54,695	13,674
573.		31,044	7,761
574.		61,906	15,477
575.		51,079	12,770
576.		59,145	14,786
577.		43,646	10,912
578.		59,676	14,919
579.		55,972	13,993
580.		50,223	12,556
581.		56,583	14,146
582.		49,582	12,396
583.		63,838	15,960
584.		52,037	13,009
585.		25,492	6,373
586.		53,654	13,414
587.		45,755	11,439
588.		40,073	10,018

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)  <b>452</b>	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)  <b>453</b>	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)  <b>460</b>
589.		39,063	9,766
590.		43,791	10,948
591.		37,877	9,469
592.		46,434	11,609
593.		45,127	11,282
594.		41,202	10,301
595.		44,111	11,028
596.		52,126	13,032
597.		40,698	10,175
598.		45,288	11,322
599.		45,801	11,450
600.		46,183	11,546
601.		61,679	15,420
602.		48,277	12,069
603.		48,221	12,055
604.		44,299	11,075
605.		41,764	10,441
606.		44,848	11,212
607.		44,569	11,142
608.		42,594	10,649
609.		33,015	8,254
610.		61,066	15,267
611.		36,377	9,094
612.		32,371	8,093
613.		30,696	7,674
614.		34,733	8,683
615.		25,735	6,434
616.		39,191	9,798
617.		46,527	11,632
618.		45,204	11,301
619.		23,962	5,991
620.		50,939	12,735
621.		57,252	14,313
622.		44,226	11,057
623.		49,665	12,416
624.		47,447	11,862
625.		43,110	10,778
626.		42,387	10,597
627.		42,721	10,680
628.		43,416	10,854
629.		41,237	10,309
630.		40,908	10,227
631.		45,658	11,415
632.		29,094	7,274
633.		25,941	6,485
634.		47,407	11,852
635.		42,695	10,674
636.		27,463	6,866
637.		38,911	9,728
638.		45,617	11,404
639.		42,455	10,614
640.		39,781	9,945
641.		25,319	6,330
642.		49,685	12,421



	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)  <b>452</b>	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)  <b>453</b>	<b>K</b> Eligible expenditures multiplied by specified percentage (see note 4)  <b>460</b>
643.		41,549	10,387
644.		37,868	9,467
645.		41,183	10,296
646.		35,357	8,839
647.		31,604	7,901
648.		32,069	8,017
649.		31,422	7,856
650.		32,622	8,156
651.		20,271	5,068
652.		34,735	8,684
653.		30,078	7,520
654.		22,353	5,588
655.		34,918	8,730
656.		30,281	7,570
657.		1,800	450
658.		31,383	7,846
659.		31,932	7,983
660.		29,948	7,487
661.		28,053	7,013
662.		30,454	7,614
663.		20,318	5,080
664.		30,383	7,596
665.		25,403	6,351
666.		26,422	6,606
667.		28,304	7,076
668.		26,564	6,641
669.		27,248	6,812
670.		31,048	7,762
671.		25,395	6,349
672.		23,138	5,785
673.		30,201	7,550
674.		14,030	3,508
675.		22,200	5,550
676.		26,930	6,733
677.		23,630	5,908
678.		36,434	9,109
679.		25,588	6,397
680.		20,118	5,030
681.		32,169	8,042
682.		34,126	8,532
683.		34,280	8,570
684.		27,480	6,870
685.		31,668	7,917
686.		12,789	3,197
687.		31,471	7,868
688.		34,684	8,671
689.		30,136	7,534
690.		5,172	1,293
691.		27,315	6,829
692.		24,936	6,234
693.		30,847	7,712
694.		17,906	4,477
695.		23,359	5,840
696.		19,680	4,920

	<b>J1</b> Eligible expenditures incurred after March 26, 2009 for a qualifying apprenticeship program that began before April 24, 2015 (see note 3)  <b>452</b>	<b>J2</b> Eligible expenditures incurred for a qualifying apprenticeship program that began after April 23, 2015 (see note 3)  <b>453</b>	<b>K</b> Eligible expenditures <b>multiplied</b> by specified percentage (see note 4)  <b>460</b>
697.		21,270	5,318
698.		21,383	5,346
699.		20,270	5,068
700.		23,304	5,826
701.		15,511	3,878
702.		20,997	5,249
703.		22,954	5,739
704.		20,420	5,105
705.		21,498	5,375
706.		24,556	6,139
707.		24,728	6,182
708.		24,412	6,103
709.		25,034	6,259
710.		18,613	4,653
711.		13,489	3,372
712.		12,243	3,061
713.		21,440	5,360
714.		18,060	4,515
715.		19,336	4,834
716.		23,693	5,923
717.		22,740	5,685
718.		21,445	5,361
719.		20,189	5,047
720.		17,968	4,492
721.		20,402	5,101
722.		26,422	6,606
723.		19,761	4,940
724.		24,943	6,236
725.		20,492	5,123
726.		24,467	6,117
727.		18,945	4,736
728.		19,290	4,823
729.		8,486	2,122
730.		20,256	5,064
731.		8,529	2,132
732.		20,414	5,104
733.		16,799	4,200
734.		10,102	2,526
735.		10,951	2,738
736.		12,823	3,206
737.		9,862	2,466
738.		10,590	2,648
739.		9,128	2,282
740.		14,372	3,593
741.		9,203	2,301
742.		14,220	3,555
743.		7,661	1,915
744.		6,899	1,725
745.		9,882	2,471
746.		2,884	721
747.		11,158	2,790
748.		7,599	1,900
749.		15,729	3,932

Note 3: Reduce eligible expenditures by all government assistance, as defined under subsection 89(19) of the *Taxation Act, 2007* (Ontario), that the corporation has received, is entitled to receive, or may reasonably expect to receive, in respect of the eligible expenditures, on or before the filing due date of the *T2 Corporation Income Tax Return* for the tax year.

For J1: Eligible expenditures must be for services provided by the apprentice to the taxpayer during the first 48 months of the apprenticeship program, and not relating to services performed before the apprenticeship program began or after it ended.

For J2: Eligible expenditures must be for services provided by the apprentice to the taxpayer during the first 36 months of the apprenticeship program, and not relating to services performed before the apprenticeship program began or after it ended.

Note 4: Calculate the amount in column K as follows:

Column K = (J1 × line 312) or (J2 × line 314), whichever applies.

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>		<b>490</b>
1.	767		740
2.	767		740
3.	473		473
4.	767		740
5.	767		740
6.	767		740
7.	767		740
8.	767		740
9.	767		740
10.	767		740
11.	767		740
12.	767		740
13.	767		740
14.	767		740
15.	1,534		1,507
16.	1,479		1,479
17.	1,534		1,507
18.	658		658
19.	1,534		1,507
20.	1,534		1,507
21.	1,534		1,534
22.	1,534		1,507
23.	1,534		1,507
24.	1,534		1,507
25.	1,534		1,507
26.	1,534		1,507
27.	1,534		1,507
28.	1,534		1,507
29.	1,534		1,507
30.	1,973		1,973
31.	2,877		2,658
32.	2,877		2,658
33.	630		630
34.	2,877		2,658
35.	2,877		2,658
36.	2,877		2,658
37.	2,877		2,658
38.	2,877		2,658
39.	2,877		2,658
40.	2,877		2,658
41.	2,877		2,658
42.	2,658		2,658
43.	2,658		2,658
44.	2,877		2,658
45.	658		658

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
46.	3,260		3,260
47.	3,260		3,233
48.	3,260		3,233
49.	3,260		3,233
50.	3,260		3,233
51.	3,260		3,233
52.	3,260		3,233
53.	3,260		3,233
54.	3,260		3,233
55.	3,260		3,233
56.	3,260		3,233
57.	3,260		3,233
58.	3,260		3,233
59.	3,260		3,233
60.	3,260		3,233
61.	3,260		3,233
62.	4,219		4,192
63.	5,000		5,000
64.	4,219		4,192
65.	2,132		2,132
66.	521		521
67.	3,616		3,616
68.	2,195		2,195
69.	4,219		4,192
70.	2,198		2,198
71.	3,134		3,134
72.	4,219		4,192
73.	2,342		2,342
74.	197		197
75.	2,339		2,339
76.	2,339		2,339
77.	2,016		2,016
78.	4,219		4,192
79.	2,980		2,980
80.	4,219		4,192
81.	3,726		3,315
82.	4,137		3,315
83.	4,274		3,315
84.	4,685		3,315
85.	4,685		3,452
86.	4,685		3,315
87.	4,685		3,315
88.	4,685		3,315
89.	4,685		4,685
90.	4,932		4,932
91.	4,932		4,932
92.	1,836		1,836
93.	4,274		4,274
94.	4,849		4,000
95.	7,123		7,123
96.	329		329
97.	1,644		1,644
98.	1,479		1,479

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
99.	2,164		2,164
100.	2,795		2,795
101.	4,329		4,329
102.	5,562		5,562
103.	7,918		6,817
104.	1,479		1,479
105.	2,603		2,603
106.	2,767		2,767
107.	7,945		7,945
108.	5,753		5,753
109.	8,055		4,849
110.	8,055		8,055
111.	8,055		8,055
112.	8,055		6,192
113.	8,055		7,151
114.	8,055		7,151
115.	8,055		7,918
116.	8,055		7,918
117.	8,055		8,055
118.	8,055		8,055
119.	8,055		8,055
120.	2,767		2,767
121.	8,055		7,690
122.	2,493		2,493
123.	3,589		3,589
124.	5,123		5,123
125.	8,849		7,918
126.	8,849		7,918
127.	8,849		7,918
128.	8,849		8,027
129.	8,849		8,027
130.	2,795		2,795
131.	10,000		10,000
132.	3,808		3,808
133.	7,562		6,384
134.	10,000		10,000
135.	10,000		10,000
136.	10,000		10,000
137.	10,000		10,000
138.	10,000		10,000
139.	10,000		10,000
140.	10,000		10,000
141.	10,000		10,000
142.	10,000		10,000
143.	10,000		10,000
144.	10,000		10,000
145.	10,000		10,000
146.	10,000		10,000
147.	10,000		10,000
148.	10,000		10,000
149.	4,356		4,356
150.	10,000		10,000
151.	10,000		10,000

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
152.	10,000		10,000
153.	10,000		10,000
154.	10,000		10,000
155.	10,000		10,000
156.	10,000		10,000
157.	10,000		10,000
158.	10,000		10,000
159.	9,671		9,671
160.	10,000		10,000
161.	10,000		10,000
162.	10,000		10,000
163.	10,000		10,000
164.	10,000		10,000
165.	10,000		10,000
166.	10,000		10,000
167.	10,000		10,000
168.	10,000		10,000
169.	10,000		10,000
170.	10,000		10,000
171.	10,000		10,000
172.	9,342		9,342
173.	10,000		10,000
174.	10,000		10,000
175.	10,000		10,000
176.	10,000		10,000
177.	10,000		10,000
178.	10,000		10,000
179.	10,000		10,000
180.	10,000		10,000
181.	10,000		10,000
182.	10,000		10,000
183.	10,000		10,000
184.	10,000		10,000
185.	10,000		10,000
186.	10,000		10,000
187.	4,521		4,521
188.	5,068		5,068
189.	6,219		6,219
190.	6,712		6,712
191.	6,822		6,822
192.	7,863		7,863
193.	8,575		8,575
194.	9,671		9,671
195.	10,000		5,808
196.	10,000		10,000
197.	10,000		10,000
198.	7,089		7,089
199.	10,000		10,000
200.	10,000		10,000
201.	6,247		6,247
202.	10,000		10,000
203.	5,068		5,068
204.	10,000		10,000

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
205.	10,000		10,000
206.	10,000		10,000
207.	10,000		10,000
208.	10,000		10,000
209.	10,000		10,000
210.	10,000		10,000
211.	10,000		10,000
212.	10,000		10,000
213.	10,000		10,000
214.	10,000		10,000
215.	10,000		10,000
216.	10,000		10,000
217.	10,000		10,000
218.	10,000		10,000
219.	10,000		10,000
220.	3,589		3,589
221.	6,384		6,384
222.	7,151		7,151
223.	10,000		10,000
224.	10,000		10,000
225.	10,000		10,000
226.	10,000		10,000
227.	10,000		10,000
228.	10,000		10,000
229.	10,000		10,000
230.	10,000		10,000
231.	10,000		10,000
232.	10,000		10,000
233.	10,000		10,000
234.	10,000		10,000
235.	10,000		10,000
236.	10,000		10,000
237.	10,000		10,000
238.	10,000		10,000
239.	10,000		10,000
240.	10,000		10,000
241.	10,000		10,000
242.	10,000		10,000
243.	10,000		10,000
244.	10,000		10,000
245.	10,000		10,000
246.	10,000		10,000
247.	5,699		5,699
248.	10,000		10,000
249.	10,000		10,000
250.	10,000		10,000
251.	8,052		8,052
252.	10,000		10,000
253.	10,000		10,000
254.	10,000		10,000
255.	10,000		10,000
256.	10,000		10,000
257.	10,000		10,000

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
258.	10,000		10,000
259.	10,000		10,000
260.	10,000		10,000
261.	10,000		10,000
262.	10,000		10,000
263.	10,000		10,000
264.	10,000		10,000
265.	10,000		10,000
266.	6,438		6,438
267.	10,000		10,000
268.	10,000		10,000
269.	10,000		10,000
270.	10,000		10,000
271.	10,000		10,000
272.	10,000		10,000
273.	10,000		10,000
274.	10,000		10,000
275.	10,000		10,000
276.	10,000		10,000
277.	10,000		10,000
278.	10,000		10,000
279.	10,000		10,000
280.	10,000		10,000
281.	10,000		10,000
282.	10,000		10,000
283.	10,000		10,000
284.	10,000		10,000
285.	10,000		10,000
286.	10,000		10,000
287.	5,041		5,041
288.	10,000		10,000
289.	7,890		7,890
290.	10,000		10,000
291.	10,000		10,000
292.	10,000		10,000
293.	10,000		10,000
294.	10,000		10,000
295.	10,000		10,000
296.	10,000		10,000
297.	10,000		10,000
298.	10,000		10,000
299.	10,000		10,000
300.	10,000		10,000
301.	10,000		10,000
302.	10,000		10,000
303.	10,000		10,000
304.	10,000		10,000
305.	10,000		10,000
306.	9,562		9,562
307.	10,000		10,000
308.	10,000		10,000
309.	10,000		10,000
310.	10,000		10,000



	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
311.	10,000		10,000
312.	10,000		10,000
313.	10,000		10,000
314.	10,000		10,000
315.	10,000		10,000
316.	10,000		10,000
317.	10,000		10,000
318.	10,000		10,000
319.	10,000		10,000
320.	10,000		10,000
321.	10,000		10,000
322.	10,000		10,000
323.	10,000		10,000
324.	10,000		10,000
325.	10,000		10,000
326.	10,000		10,000
327.	10,000		10,000
328.	10,000		10,000
329.	10,000		10,000
330.	10,000		10,000
331.	10,000		10,000
332.	10,000		10,000
333.	10,000		10,000
334.	10,000		10,000
335.	10,000		10,000
336.	10,000		10,000
337.	10,000		10,000
338.	10,000		10,000
339.	10,000		10,000
340.	10,000		10,000
341.	10,000		10,000
342.	10,000		10,000
343.	5,000		5,000
344.	5,000		1,836
345.	5,000		1,918
346.	5,000		1,918
347.	5,000		5,000
348.	5,000		5,000
349.	5,000		5,000
350.	5,000		5,000
351.	5,000		5,000
352.	5,000		5,000
353.	5,000		5,000
354.	5,000		5,000
355.	5,000		5,000
356.	5,000		5,000
357.	5,000		5,000
358.	5,000		5,000
359.	5,000		5,000
360.	5,000		5,000
361.	5,000		5,000
362.	5,000		5,000
363.	5,000		5,000

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
364.	5,000		5,000
365.	5,000		5,000
366.	5,000		5,000
367.	5,000		5,000
368.	5,000		5,000
369.	5,000		5,000
370.	5,000		5,000
371.	5,000		5,000
372.	5,000		5,000
373.	5,000		5,000
374.	5,000		5,000
375.	5,000		5,000
376.	5,000		5,000
377.	5,000		5,000
378.	5,000		5,000
379.	5,000		5,000
380.	5,000		5,000
381.	5,000		5,000
382.	5,000		5,000
383.	5,000		5,000
384.	5,000		5,000
385.	5,000		5,000
386.	5,000		5,000
387.	5,000		5,000
388.	5,000		5,000
389.	5,000		5,000
390.	5,000		5,000
391.	5,000		5,000
392.	5,000		5,000
393.	5,000		5,000
394.	5,000		5,000
395.	5,000		5,000
396.	5,000		5,000
397.	5,000		5,000
398.	5,000		5,000
399.	5,000		5,000
400.	5,000		5,000
401.	5,000		5,000
402.	5,000		5,000
403.	5,000		5,000
404.	5,000		5,000
405.	5,000		5,000
406.	5,000		5,000
407.	5,000		5,000
408.	5,000		5,000
409.	5,000		5,000
410.	5,000		5,000
411.	5,000		5,000
412.	1,726		1,726
413.	2,247		2,247
414.	5,000		5,000
415.	5,000		5,000
416.	5,000		5,000

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
417.	5,000		5,000
418.	5,000		5,000
419.	5,000		5,000
420.	5,000		5,000
421.	5,000		5,000
422.	5,000		5,000
423.	5,000		5,000
424.	5,000		5,000
425.	5,000		5,000
426.	5,000		5,000
427.	5,000		5,000
428.	5,000		5,000
429.	5,000		5,000
430.	5,000		5,000
431.	5,000		5,000
432.	5,000		5,000
433.	5,000		5,000
434.	5,000		5,000
435.	5,000		5,000
436.	5,000		5,000
437.	5,000		5,000
438.	1,685		1,685
439.	4,178		4,178
440.	5,000		5,000
441.	5,000		5,000
442.	5,000		5,000
443.	5,000		5,000
444.	5,000		5,000
445.	5,000		5,000
446.	5,000		5,000
447.	5,000		5,000
448.	5,000		5,000
449.	5,000		5,000
450.	5,000		5,000
451.	5,000		5,000
452.	5,000		5,000
453.	5,000		5,000
454.	5,000		5,000
455.	5,000		5,000
456.	5,000		5,000
457.	5,000		5,000
458.	5,000		5,000
459.	5,000		5,000
460.	5,000		5,000
461.	5,000		5,000
462.	5,000		5,000
463.	5,000		5,000
464.	5,000		5,000
465.	5,000		5,000
466.	5,000		5,000
467.	5,000		5,000
468.	5,000		5,000
469.	5,000		5,000

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
470.	5,000		5,000
471.	5,000		5,000
472.	5,000		5,000
473.	5,000		5,000
474.	5,000		5,000
475.	4,301		4,301
476.	5,000		5,000
477.	5,000		5,000
478.	5,000		5,000
479.	5,000		5,000
480.	5,000		5,000
481.	5,000		5,000
482.	5,000		5,000
483.	5,000		5,000
484.	5,000		5,000
485.	5,000		5,000
486.	5,000		5,000
487.	5,000		5,000
488.	5,000		5,000
489.	5,000		5,000
490.	5,000		5,000
491.	5,000		5,000
492.	5,000		5,000
493.	5,000		5,000
494.	5,000		5,000
495.	5,000		5,000
496.	5,000		5,000
497.	5,000		5,000
498.	5,000		5,000
499.	5,000		5,000
500.	5,000		5,000
501.	5,000		5,000
502.	5,000		5,000
503.	5,000		5,000
504.	1,726		1,726
505.	890		890
506.	5,000		5,000
507.	5,000		5,000
508.	2,521		2,521
509.	5,000		5,000
510.	5,000		5,000
511.	5,000		5,000
512.	5,000		5,000
513.	5,000		5,000
514.	5,000		5,000
515.	5,000		5,000
516.	5,000		5,000
517.	5,000		5,000
518.	5,000		5,000
519.	5,000		5,000
520.	5,000		5,000
521.	5,000		5,000
522.	5,000		5,000

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
523.	5,000		5,000
524.	5,000		5,000
525.	5,000		5,000
526.	5,000		5,000
527.	5,000		5,000
528.	5,000		5,000
529.	5,000		5,000
530.	5,000		5,000
531.	5,000		5,000
532.	5,000		5,000
533.	5,000		5,000
534.	5,000		5,000
535.	5,000		5,000
536.	5,000		5,000
537.	5,000		5,000
538.	5,000		5,000
539.	5,000		5,000
540.	5,000		5,000
541.	5,000		5,000
542.	5,000		5,000
543.	5,000		5,000
544.	5,000		5,000
545.	5,000		5,000
546.	1,726		1,726
547.	4,027		4,027
548.	5,000		5,000
549.	1,726		1,726
550.	1,726		1,726
551.	5,000		5,000
552.	5,000		5,000
553.	5,000		5,000
554.	5,000		5,000
555.	5,000		5,000
556.	5,000		5,000
557.	5,000		5,000
558.	5,000		5,000
559.	5,000		5,000
560.	5,000		5,000
561.	5,000		5,000
562.	5,000		5,000
563.	5,000		5,000
564.	5,000		5,000
565.	5,000		5,000
566.	5,000		5,000
567.	5,000		5,000
568.	3,890		3,890
569.	959		959
570.	4,699		4,699
571.	4,699		4,699
572.	4,699		4,699
573.	3,425		3,425
574.	4,699		4,699
575.	4,699		4,699

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
576.	4,699		4,699
577.	3,699		3,699
578.	4,699		4,699
579.	4,699		4,699
580.	4,699		4,699
581.	4,699		4,699
582.	4,699		4,699
583.	4,699		4,699
584.	4,699		4,699
585.	1,877		1,877
586.	4,685		4,685
587.	4,685		4,685
588.	4,685		4,685
589.	4,685		4,685
590.	4,685		4,685
591.	4,685		4,685
592.	4,178		4,178
593.	4,219		4,219
594.	4,548		4,548
595.	4,219		4,219
596.	4,219		4,219
597.	4,548		4,548
598.	4,219		4,219
599.	4,219		4,219
600.	4,219		4,219
601.	4,219		4,219
602.	4,548		4,548
603.	4,219		4,219
604.	4,219		4,219
605.	4,219		4,219
606.	4,219		4,219
607.	4,219		4,219
608.	4,219		4,219
609.	4,178		4,178
610.	4,370		4,370
611.	3,918		3,918
612.	3,918		3,918
613.	3,918		3,918
614.	3,890		3,890
615.	3,890		3,890
616.	3,890		3,890
617.	3,890		3,890
618.	3,890		3,890
619.	3,890		3,890
620.	3,890		3,890
621.	3,890		3,890
622.	3,890		3,890
623.	3,890		3,890
624.	3,890		3,890
625.	3,890		3,890
626.	3,890		3,890
627.	3,890		3,890
628.	3,890		3,890

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
629.	3,890		3,890
630.	3,890		3,890
631.	3,890		3,890
632.	3,411		3,411
633.	3,411		3,411
634.	3,411		3,411
635.	3,411		3,411
636.	3,411		3,411
637.	3,411		3,411
638.	3,411		3,411
639.	3,411		3,411
640.	3,411		3,411
641.	3,411		3,411
642.	3,411		3,411
643.	3,411		3,411
644.	3,411		3,411
645.	3,411		3,411
646.	2,973		2,973
647.	2,973		2,973
648.	2,973		2,973
649.	2,973		2,973
650.	2,973		2,973
651.	3,288		3,288
652.	2,973		2,973
653.	2,973		2,973
654.	3,288		3,288
655.	2,973		2,973
656.	2,973		2,973
657.	82		82
658.	3,288		3,288
659.	2,973		2,973
660.	2,973		2,973
661.	3,288		3,288
662.	2,973		2,973
663.	1,877		1,877
664.	3,027		3,027
665.	2,877		2,877
666.	2,877		2,877
667.	2,877		2,877
668.	2,877		2,877
669.	2,877		2,877
670.	2,877		2,877
671.	2,877		2,877
672.	2,877		2,877
673.	2,877		2,877
674.	2,877		2,877
675.	2,877		2,877
676.	2,877		2,877
677.	2,877		2,877
678.	2,877		2,877
679.	2,877		2,877
680.	959		959
681.	2,767		2,767

	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
682.	2,767		2,767
683.	2,767		2,767
684.	2,767		2,767
685.	2,767		2,767
686.	1,356		1,356
687.	2,671		2,671
688.	2,671		2,671
689.	2,671		2,671
690.	192		192
691.	2,644		2,644
692.	2,644		2,644
693.	2,644		2,644
694.	1,726		1,726
695.	2,041		2,041
696.	2,041		2,041
697.	2,041		2,041
698.	2,041		2,041
699.	2,041		2,041
700.	2,041		2,041
701.	2,041		2,041
702.	2,041		2,041
703.	2,041		2,041
704.	2,041		2,041
705.	2,041		2,041
706.	2,041		2,041
707.	2,041		2,041
708.	2,041		2,041
709.	2,041		2,041
710.	2,041		2,041
711.	1,918		1,918
712.	1,726		1,726
713.	1,658		1,658
714.	1,658		1,658
715.	1,658		1,658
716.	1,658		1,658
717.	1,658		1,658
718.	1,658		1,658
719.	1,658		1,658
720.	1,658		1,658
721.	1,658		1,658
722.	1,658		1,658
723.	1,658		1,658
724.	1,658		1,658
725.	1,658		1,658
726.	1,658		1,658
727.	1,658		1,658
728.	1,658		1,658
729.	1,219		1,219
730.	1,219		1,219
731.	1,219		1,219
732.	1,055		1,055
733.	1,055		1,055
734.	1,205		1,205



	<b>L</b> ATTC on eligible expenditures (lesser of columns I and K)	<b>M</b> ATTC on repayment of government assistance (see note 5)	<b>N</b> ATTC for each apprentice (column L or M, whichever applies)
	<b>470</b>	<b>480</b>	<b>490</b>
735.	1,192		1,192
736.	1,192		1,192
737.	1,164		1,164
738.	1,123		1,123
739.	1,123		1,123
740.	1,123		1,123
741.	1,041		1,041
742.	863		863
743.	1,014		1,014
744.	1,014		1,014
745.	1,014		1,014
746.	721		721
747.	1,014		1,014
748.	1,000		1,000
749.	1,000		1,000

**Ontario apprenticeship training tax credit** (total of amounts in column N) **500** 4,074,756 **O**

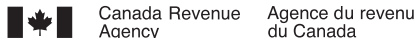
Or, if the corporation answered **yes** at line 150 in Part 1, determine the partner's share of amount O:

Amount O \_\_\_\_\_ × percentage on line 170 in Part 1 \_\_\_\_\_ % = \_\_\_\_\_ **P**

Enter amount O or P, whichever applies, on line 454 of Schedule 5, *Tax Calculation Supplementary – Corporations*. If you are filing more than one Schedule 552, **add** the amounts from line O or P, whichever applies, on all the schedules, and enter the total amount on line 454 of Schedule 5.

Note 5: Include the amount of government assistance repaid in the tax year multiplied by the specified percentage for the tax year in which the government assistance was received, to the extent that the government assistance reduced the ATTC in that tax year. Complete a **separate entry** for each repayment of government assistance.

See the privacy notice on your return.



**ONTARIO BUSINESS-RESEARCH INSTITUTE TAX CREDIT**

Name of corporation <b>HYDRO ONE NETWORKS INC.</b>	Business Number <b>87086 5821 RC0001</b>	Tax year-end Year Month Day <b>2017-12-31</b>
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- Use this schedule to claim the Ontario business-research institute tax credit (OBRITC) under section 97 of the *Taxation Act, 2007* (Ontario).
- The OBRITC is a 20% refundable tax credit based on qualified expenditures incurred in Ontario under an eligible contract with an eligible research institute (ERI).
- A list of eligible research institutes and the applicable ERI codes for eligible contracts can be found on our website. Go to [www.cra.gc.ca/ctao](http://www.cra.gc.ca/ctao) and select "business-research institute tax credit".
- The criteria for a corporation to be eligible for the OBRITC include the eligibility requirements in Part 1 of this schedule.
- The annual qualified expenditure limit is \$20 million. If a corporation is associated with other corporations at any time in the calendar year, the \$20 million limit must be allocated among the associated corporations.
- Qualifying corporations are defined in subsection 97(3) of the *Taxation Act, 2007* (Ontario).
- For each eligible contract, you must complete a separate Schedule 569, *Ontario Business-Research Institute Tax Credit Contract Information*.
- Keep the eligible contract to support your claim. Do not submit the contract with the *T2 Corporation Income Tax Return*.
- To claim the OBRITC, include the following with the *T2 Corporation Income Tax Return*:
  - a completed copy of this schedule; and
  - a completed copy of Schedule 569 for each eligible contract.

**Part 1 – Eligibility**

1. Did the corporation, for the tax year, carry on business in Ontario through a permanent establishment in Ontario? . . . . . **100** 1 Yes  2 No

2. Was the corporation exempt from tax for the tax year under Part III of the *Taxation Act, 2007* (Ontario)? . . . . . **105** 1 Yes  2 No

If you answered **no** to question 1 or **yes** to question 2, the corporation is **not eligible** for the OBRITC.

**Part 2 – Qualified expenditure limit for the tax year**

Was the corporation associated at any time in the tax year with another corporation? . . . . . **200** 1 Yes  2 No

If the corporation answered **no** at line 200, enter \$20,000,000 on line 205. If the corporation answered **yes** at line 200, complete Part 3 and enter on line 205 the expenditure limit allocated to the corporation in column 310 in Part 3.

Qualified expenditure limit . . . . . **205** 20,000,000 A

If the tax year is 51 weeks or more, enter amount A on line 210.

If the tax year of the filing corporation is less than 51 weeks, complete the following proration calculation:

Amount A 20,000,000 ×  $\frac{\text{days in the tax year}}{365}$  = 365 = 365 B

**Qualified expenditure limit for the tax year** (amount A or amount B, whichever applies) . . . . . **210** 20,000,000 C

**Part 3 – Allocation of the \$20 million expenditure limit between associated corporations**

Use this part to allocate the \$20 million expenditure limit to the filing corporation and all its associated corporations for each of their tax years ending in the calendar year. See subsection 38(4) of Ontario Regulation 37/09 for expenditure limit allocation rules for associated corporations. Attach additional schedules if you need more space.

	Name of all associated corporations, including the filing corporation (include the associated corporations that have a tax year that ends in the calendar year)	Business Number (enter "NR" if corporation is not registered)	Expenditure limit allocated
	<b>300</b>	<b>305</b>	<b>310</b>
1.	Hydro One Networks Inc	87086 5821 RC0001	20,000,000
2.	Hydro One Limited		
3.	Hydro One Inc.		
4.	2486267 Ontario Inc.		
5.	2486268 Ontario Inc.		
6.	Hydro One Remote Communities Inc.		
7.	Hydro One Telecom Inc.		
8.	Hydro One Telecom Link Limited		
9.	Municipal Billing Services Inc.		
10.	Hydro One Lake Erie Link Management Inc.		
11.	1938454 Ontario Inc.		
12.	1943404 Ontario Inc.		
13.	B2M GP Inc.		
14.	Hydro One B2M Holdings Inc.		
15.	Hydro One B2M LP Inc.		
16.	Norfolk Energy Inc.		
17.	Norfolk Power Distribution Inc.		
18.	Haldimand County Energy Inc.		
19.	Haldimand County Hydro Inc.		
20.	Woodstock Hydro Services Inc.		
21.	1937672 Ontario Inc.		
22.	Hydro One Sault Ste. Marie Holdings Inc.		
23.	Hydro One Sault Ste. Marie Inc.		
24.	Hydro One Sault Ste. Marie Holding Corp.		
25.	1228185 Ontario Inc.		
26.	Hydro One East-West Tie Inc.		
27.	1937680 Ontario Inc.		
28.	1937681 Ontario Inc.		
29.	2587264 Ontario Inc.		
30.	2593958 Ontario Inc.		
31.	2587265 Ontario Inc.		
32.	Olympus Holding Corp.		

Name of all associated corporations, including the filing corporation (include the associated corporations that have a tax year that ends in the calendar year)	Business Number (enter "NR" if corporation is not registered)	Expenditure limit allocated
<b>300</b>	<b>305</b>	<b>310</b>
33. Olympus Corp.	■	
<b>Total expenditure limit (cannot exceed \$20 million)</b>		<b>315</b>
		<u>20,000,000</u>

Enter the expenditure limit allocated to the corporation on line 205 in Part 2.

**Part 4 – Calculation of the Ontario business-research institute tax credit**

Total number of eligible contracts used to determine the OBRITC for this tax year	<b>400</b>	<u>1</u>
Total qualified expenditures for all eligible contracts identified on line 400 for this tax year (total of amounts on line 310 in Part 3 of each <b>Schedule 569</b> )	<b>405</b>	<u>155,500</u> E
Qualified expenditure limit for the tax year (amount C in Part 2)	<u>20,000,000</u> F	
Qualified expenditures for the OBRITC for the tax year (amount E or F, whichever is less)	<b>410</b>	<u>155,500</u>
<b>Ontario business-research Institute tax credit</b> (line 410 x 20 %)		<u>31,100</u> G

Enter amount G on line 470 of Schedule 5, *Tax Calculation Supplementary – Corporations*.

**ONTARIO BUSINESS-RESEARCH INSTITUTE TAX CREDIT CONTRACT INFORMATION**

Name of corporation HYDRO ONE NETWORKS INC.	Business Number 87086 5821 RC0001	Tax year-end Year Month Day 2017-12-31
--	--------------------------------------	--

- Use this schedule to support your claim for the Ontario business-research institute tax credit (OBRITC), which is made on Schedule 568, *Ontario Business-Research Institute Tax Credit*. Complete a separate Schedule 569 for each eligible contract.
- The OBRITC is a 20% refundable tax credit based on qualified expenditures incurred in Ontario under an eligible contract with an eligible research institute (ERI). An ERI, for purposes of the OBRITC, is defined in subsection 97(27) of the *Taxation Act, 2007* (Ontario).
- A list of eligible research institutes and the applicable ERI codes for eligible contracts can be found on our web site. Go to [www.cra.gc.ca/ctao](http://www.cra.gc.ca/ctao) and select "business-research institute tax credit".
- The eligibility requirements in Part 2 of this schedule must be met for the qualifying corporation to claim an OBRITC for this contract.
- Eligible contracts entered into before August 10, 2007 were subject to advanced ruling legislation. OBRITC claims relating to one of these contracts must have the corresponding Ontario Ministry of Revenue ruling reference number entered at line 130 in Part 1 of this schedule.
- Corporations can only claim the OBRITC for the number of days in the tax year that the corporation **was not** connected to the ERI. Connected corporations, for the purposes of the OBRITC, are defined in subsection 97(4) of the *Taxation Act, 2007* (Ontario).
- Eligible contracts and qualified expenditures are defined in subsections 97(6) and 97(8), respectively, of the *Taxation Act, 2007* (Ontario).
- According to subsections 97(16) and (19) of the *Taxation Act, 2007* (Ontario), qualified expenditures must be reduced by contributions the corporation received, is entitled to receive or may reasonably expect to receive. Qualified expenditures include repayment of government assistance made by the corporation during the year. Contribution and government assistance are defined in subsection 97(27) of the *Taxation Act, 2007* (Ontario).

**Part 1 – Contract details**

<b>100</b> Name of person to contact for more information [REDACTED]	<b>105</b> Telephone number including area code [REDACTED]
<b>110</b> Name of the ERI on the contract [REDACTED]	
<b>115</b> ERI code 117	<b>120</b> Date of contract Year Month Day 2015-12-31
If the date on line 120 is before August 10, 2007, was the contract subject to an advanced ruling? . . .	<b>125</b> 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>
For all contracts entered into before August 10, 2007, enter the Ontario Ministry of Revenue ruling reference number . . . . .	<b>130</b> [ ] - [ ]
Is the claim filed for an OBRITC earned through a partnership?* . . . . .	<b>135</b> 1 Yes <input type="checkbox"/> 2 No <input checked="" type="checkbox"/>
If the answer on line 135 is <b>yes</b> , are you a specified member? . . . . .	<b>140</b> 1 Yes <input type="checkbox"/> 2 No <input type="checkbox"/>
If the answer on line 135 is <b>yes</b> , what is the name of the partnership? . . . . .	<b>145</b> [ ]
Enter the corporation's percentage share of the income or loss of the partnership's fiscal period ending in the corporation's tax year . . . . .	<b>150</b> [ ] %

\* When a corporate member of a partnership is claiming an amount for qualified expenditures incurred during the tax year under the eligible contract by the partnership, complete Schedule 569 as if the partnership were a corporation. Each corporate member, other than a specified member, should file a Schedule 569 as if it, instead of the partnership, had entered into the contract with the ERI and can claim the corporation's share of the partnership's qualified expenditures. Specified members of a partnership cannot claim an OBRITC. A definition of "specified member" can be found in subsection 248(1) of the federal *Income Tax Act*.

**Part 2 – Eligibility**

**Contract:**

- 1. Did the corporation enter into a contract with an ERI? . . . . . **200** 1 Yes  2 No
- 2. Do the terms of the contract state that the ERI agrees to perform, in Ontario, scientific research and experimental development (SR&ED) related to the business carried on in Canada by the corporation? . . . . . **205** 1 Yes  2 No
- 3. Was the corporation entitled to exploit the results of the SR&ED carried out under the contract? . . . . . **210** 1 Yes  2 No

If you answered **no** to question 1, 2, or 3, the contract is **not an eligible** contract for the purposes of an OBRITC.

**Expenditures:**

- 4. Were the expenditures made by a payment of money by the corporation to the ERI or by a prescribed payment? . . . . . **215** 1 Yes  2 No
- 5. Were the expenditures incurred in respect of SR&ED carried on in Ontario by the ERI? . . . . . **220** 1 Yes  2 No
- 6. Are the expenditures identified in subparagraph 37(1)(a)(i), (i.1) or (ii) of the federal *Income Tax Act* and would they also qualify as qualified expenditures, as defined in subsection 127(9) of the federal Act, other than prescribed types of expenditures and certain salaries or wages? . . . . . **225** 1 Yes  2 No
- 7. Were the expenditures incurred by the corporation for purposes of SR&ED related to the business carried on in Canada by the corporation? . . . . . **230** 1 Yes  2 No

If you answered **no** to question 4, 5, 6, or 7, the expenditures are **not eligible** expenditures for the purposes of an OBRITC.

**Part 3 – Qualified expenditures for this contract for the tax year**

Qualified expenditures incurred in the tax year . . . . . **300** 155,500

If the corporation answered **yes** at line 135 in Part 1, and **no** at line 140 in Part 1, determine the partnerships' share of qualified expenditures available to claim in the tax year:

Line 300 155,500 × percentage on line 150 in Part 1 \_\_\_\_\_ % = \_\_\_\_\_ A

Number of days in this tax year that the corporation was **not** connected to the ERI identified on line 110 in Part 1 . . . . . **305** 365

**Qualified expenditures for this contract for the tax year:**

(Line 300 or amount A, whichever applies) x line 305 56,757,500 = . . . . . **310** 155,500 B  
number of days in the tax year 365

Enter amount B on line 405 of **Schedule 568, Ontario Business-Research Institute Tax Credit.**

# Corporate Taxpayer Summary

## Corporate information

Corporation's name . . . . . HYDRO ONE NETWORKS INC.  
 Taxation Year . . . . . 2017-01-01 to 2017-12-31  
 Jurisdiction . . . . . Ontario

BC	AB	SK	MB	ON	QC	NB	NS	NO	PE	NL	XO	YT	NT	NU	OC
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Corporation is associated . . . . . Y  
 Corporation is related . . . . . Y  
 Number of associated corporations . . . . . 32  
 Type of corporation . . . . . Corporation Controlled by a Public Corporation  
 Total amount due (refund) federal and provincial\* . . . . . -6,288,874

\* The amounts displayed on lines "Total amount due (refund) federal and provincial" are all listed in the help. Press F1 to consult the context-sensitive help.

## Summary of federal information

Net income		-120,276,804
Taxable income		
Donations		750,089
Calculation of income from an active business carried on in Canada		
Dividends paid		1,500,000
Dividends paid – Regular		
Dividends paid – Eligible		1,500,000
Balance of the low rate income pool at the end of the previous year		
Balance of the low rate income pool at the end of the year		
Balance of the general rate income pool at the end of the previous year		1,532,131,967
Balance of the general rate income pool at the end of the year		
Part I tax (base amount)		
<b>Credits against part I tax</b>	<b>Summary of tax</b>	<b>Refunds/credits</b>
Small business deduction	Part I	ITC refund
M&P deduction	Part IV	Dividends refund
Foreign tax credit	Part III.1	Instalments
Investment tax credits	Other*	Other*
Abatement/Other*	Provincial or territorial tax	
		15,380,716
		<b>Balance due/refund (-)</b>
		-6,288,874

\* The amounts displayed on lines "Other" are all listed in the Help. Press F1 to consult the context-sensitive help.

## Summary of federal carryforward/carryback information

<b>Carryforward balances</b>	
Charitable donations	1,215,058
Investment tax credits	2,965,462
Non-capital losses that can be carried forward over 20 years	891,343,131
Capital losses/L.P.P.	117,088
Current year's balance of SR&ED expenditures (T661)	10,619,671
Financial statement reserve	1,711,665,237
Other reserves	40,478,960

**Summary of provincial information – provincial income tax payable**

	Ontario	Québec (CO-17)	Alberta (AT1)
Net income	-120,276,804		
Taxable income			
% Allocation	100.00		
Attributed taxable income			
Tax payable before deduction*			
Deductions and credits			
Net tax payable			
Attributed taxable capital	N/A		N/A
Capital tax payable**	N/A		N/A
Total tax payable***	20,619,297		
Instalments and refundable credits	5,238,581		
Balance due/Refund (-)	15,380,716		
<b>Logging tax payable (COZ-1179)</b>			
Tax payable	N/A		N/A

\* For Québec, this includes special taxes.  
 \*\* For Québec, this includes compensation tax and registration fee.  
 \*\*\* For Ontario, this includes the corporate minimum tax, the Crown royalties' additional tax, the transitional tax debit, the recaptured research and development tax credit and the special additional tax debit on life insurance corporations. The Balance due/Refund is included in the federal Balance due/refund.

**Summary of provincial carryforward amounts**

**Other carryforward amounts**

Ontario	
Ontario research and development tax credit – Schedule 508	406,476
Corporate minimum tax credit that can be carried forward over 20 years – Schedule 510	44,863,160

**Summary – taxable capital**

**Federal**

Corporate name	Taxable capital used to calculate the business limit reduction (T2, line 415)	Taxable capital used to calculate the SR&ED expenditure limit for a CCPC (Schedules 31 and 49)	Taxable capital used to calculate line 233 of the T2 return	Taxable capital used to calculate line 234 of the T2 return
Hydro One Networks Inc			21,374,539,700	21,374,539,700
Hydro One Limited				
Hydro One Inc.				
2486267 Ontario Inc.				
2486268 Ontario Inc.				
Hydro One Remote Communités Inc.				
Hydro One Telecom Inc.				
Hydro One Telecom Link Limited				
Municipal Billing Services Inc.				
Hydro One Lake Erie Link Management Inc.				
1938454 Ontario Inc.				
1943404 Ontario Inc.				
B2M GP Inc.				
Hydro One B2M Holdings Inc.				
Hydro One B2M LP Inc.				
Norfolk Energy Inc.				
Norfolk Power Distribution Inc.				
Haldimand County Energy Inc.				
Haldimand County Hydro Inc.				



**Federal**

Corporate name	Taxable capital used to calculate the business limit reduction (T2, line 415)	Taxable capital used to calculate the SR&ED expenditure limit for a CCPC (Schedules 31 and 49)	Taxable capital used to calculate line 233 of the T2 return	Taxable capital used to calculate line 234 of the T2 return
Woodstock Hydro Services Inc.				
1937672 Ontario Inc.				
Hydro One Sault Ste. Marie Holdings Inc.				
Hydro One Sault Ste. Marie Inc.				
Hydro One Sault Ste. Marie Holding Corp.				
1228185 Ontario Inc.				
Hydro One East-West Tie Inc.				
1937680 Ontario Inc.				
1937681 Ontario Inc.				
2587264 Ontario Inc.				
2593958 Ontario Inc.				
2587265 Ontario Inc.				
Olympus Holding Corp.				
Olympus Corp.				
Total			21,374,539,700	21,374,539,700

**Québec**

Corporate name	Paid-up capital used to calculate the Québec business limit reduction (CO-771) and to calculate the additional deduction for transportation costs of remote manufacturing SMEs (CO-156.TR)	Paid-up capital used to calculate the tax credit for investment (CO-1029.8.36.IN)	Paid-up capital used to calculate the 1 million deduction (CO-1137.A and CO-1137.E)
Total			

**Ontario**

Corporate name	Specified capital used to calculate the expenditure limit – Ontario innovation tax credit (Schedule 566)
Hydro One Networks Inc	20,413,472,162
Hydro One Limited	
Hydro One Inc.	
2486267 Ontario Inc.	
2486268 Ontario Inc.	
Hydro One Remote Communités Inc.	
Hydro One Telecom Inc.	
Hydro One Telecom Link Limited	
Municipal Billing Services Inc.	
Hydro One Lake Erie Link Management Inc.	
1938454 Ontario Inc.	
1943404 Ontario Inc.	
B2M GP Inc.	
Hydro One B2M Holdings Inc.	
Hydro One B2M LP Inc.	

**Ontario**

Corporate name	Specified capital used to calculate the expenditure limit – Ontario innovation tax credit (Schedule 566)
Norfolk Energy Inc.	
Norfolk Power Distribution Inc.	
Haldimand County Energy Inc.	
Haldimand County Hydro Inc.	
Woodstock Hydro Services Inc.	
1937672 Ontario Inc.	
Hydro One Sault Ste. Marie Holdings Inc.	
Hydro One Sault Ste. Marie Inc.	
Hydro One Sault Ste. Marie Holding Corp.	
1228185 Ontario Inc.	
Hydro One East-West Tie Inc.	
1937680 Ontario Inc.	
1937681 Ontario Inc.	
2587264 Ontario Inc.	
2593958 Ontario Inc.	
2587265 Ontario Inc.	
Olympus Holding Corp.	
Olympus Corp.	
<b>Total</b>	<b>20,413,472,162</b>

**Other provinces**

Corporate name	Capital used to calculate the Newfoundland and Labrador capital deduction on financial institutions (Schedule 306)
<b>Total</b>	

## Five-Year Comparative Summary

	Current year	1st prior year	2nd prior year	3rd prior year	4th prior year
<b>Federal information (T2)</b>					
Taxation year end	<b>2017-12-31</b>	<b>2016-12-31</b>	<b>2015-12-31</b>	<b>2015-11-04</b>	<b>2015-10-31</b>
Net income	-120,276,804	-549,209,136	-219,765,360	-2,091,831	
Taxable income					
Active business income					
Dividends paid	1,500,000	26,500,564		10,000,000,000	
Dividends paid – Regular		25,000,564		10,000,000,000	
Dividends paid – Eligible	1,500,000	1,500,000			
LRIP – end of the previous year					
LRIP – end of the year					
GRIP – end of the previous year	1,532,131,967	1,532,131,967	1,532,131,967	1,532,131,967	1,532,131,967
GRIP – end of the year				1,532,131,967	1,532,131,967
Donations	750,089	233,603	226,366	5,000	
Balance due/refund (-)	-6,288,874	-732,568	-2,975,591	199,901	
<b>Line 996 – Amended tax return</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Loss carrybacks requested in prior years to reduce taxable income</b>					
Taxation year end	<b>2017-12-31</b>	<b>2016-12-31</b>	<b>2015-12-31</b>	<b>2015-11-04</b>	<b>2015-10-31</b>
Taxable income before loss carrybacks	N/A	N/A			
Non-capital losses	N/A	N/A			
Net capital losses (50%)	N/A	N/A			
Restricted farm losses	N/A	N/A			
Farm losses	N/A	N/A			
Listed personal property losses (50%)	N/A	N/A			
Total loss carried back to prior years	N/A	N/A			
Adjusted taxable income after loss carrybacks	N/A	N/A			
<b>Losses in the current year carried back to previous years to reduce taxable income (according to Schedule 4)</b>					
Taxation year end	<b>2017-12-31</b>	<b>2016-12-31</b>	<b>2015-12-31</b>	<b>2015-11-04</b>	<b>2015-10-31</b>
Adjusted taxable income before current year loss carrybacks*	N/A				N/A
Non-capital losses	N/A				N/A
Net capital losses (50%)	N/A				N/A
Restricted farm losses	N/A				N/A
Farm losses	N/A				N/A
Listed personal property losses (50%)	N/A				N/A
Total current year losses carried back to prior years	N/A				N/A
Adjusted taxable income after loss carrybacks	N/A				N/A

\* The adjusted taxable income before current year loss carryback takes into account loss carrybacks that were made in prior taxation years.

**Loss carrybacks requested in prior years to reduce taxable dividends subject to Part IV tax**

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2015-11-04	2015-10-31
Adjusted Part IV tax multiplied by the multiplication factor**, before loss carrybacks	N/A	N/A			
Non-capital losses	N/A	N/A			
Farm losses	N/A	N/A			
Total loss carried back to prior years	N/A	N/A			
Adjusted Part IV tax multiplied by the multiplication factor**, after loss carrybacks	N/A	N/A			

**Losses in the current year carried back to previous years to reduce taxable dividends subject to Part IV tax (according to Schedule 4)**

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2015-11-04	2015-10-31
Adjusted Part IV tax multiplied by the multiplication factor**, before current-year loss carrybacks***	N/A				N/A
Non-capital losses	N/A				N/A
Farm losses	N/A				N/A
Total current year losses carried back to prior years	N/A				N/A
Adjusted Part IV tax multiplied by the multiplication factor**, after loss carrybacks	N/A				N/A

\*\* The multiplication factor is 3 for dividends received before January 1, 2016, and 100 / 38 1/3 for dividends received after December 31, 2015.

\*\*\* The adjusted Part IV tax multiplied by the multiplication factor before current-year loss carrybacks takes into account loss carrybacks that were made in prior taxation years. This amount is multiplied by the multiplication factor to help you determine the loss amount that must be used to reduce Part IV tax payable to zero.

**Federal taxes**

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2015-11-04	2015-10-31
Part I					
Part IV					
Part III.1					
Other*					

\* The amounts displayed on lines "Other" are all listed in the help. Press F1 to consult the context-sensitive help.

**Credits against part I tax**

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2015-11-04	2015-10-31
Small business deduction					
M&P deduction					
Foreign tax credit					
Investment tax credit					
Abatement/other*					

\* The amounts displayed on lines "Other" are all listed in the help. Press F1 to consult the context-sensitive help.

**Refunds/credits**

Taxation year end	2017-12-31	2016-12-31	2015-12-31	2015-11-04	2015-10-31
ITC refund					
Dividend refund					
Instalments	21,669,590	17,841,308	4,000,000		
Other*					

\* The amounts displayed on lines "Other" are all listed in the help. Press F1 to consult the context-sensitive help.

**Ontario**

Taxation year end	<b>2017-12-31</b>	<b>2016-12-31</b>	<b>2015-12-31</b>	<b>2015-11-04</b>	<b>2015-10-31</b>
Net income	-120,276,804	-549,209,136	-219,765,360	-2,091,831	
Taxable income					
% Allocation	100.00	100.00	100.00	100.00	100.00
Attributed taxable income					
Surtax					
Income tax payable before deduction					
Income tax deductions /credits					
Net income tax payable					
Taxable capital					
Capital tax payable					
Total tax payable*	20,619,297	23,328,339	2,362,905	199,901	
Instalments and refundable credits	5,238,581	6,219,599	1,338,496		
Balance due/refund**	15,380,716	17,108,740	1,024,409	199,901	

\* For taxation years ending before January 1, 2009, this includes the corporate minimum tax and the premium tax. For taxation years ending after December 31, 2008, this includes the corporate minimum tax, the Crown royalties' additional tax, the transitional tax debit, the recaptured research and development tax credit and the special additional tax debit on life insurance corporations.

\*\* For taxation years ending after December 31, 2008, the Balance due/Refund is included in the federal Balance due/refund.

2017 INCOME TAX RETURN - ALLOCATION TO SEGMENTS

HYDRO ONE NETWORKS INC.  
 TRANSMISSION  
 Calculation of Utility Income Taxes  
 2017 Networks Tax Return Allocation to Segments  
 Year Ending December 31  
 (\$ Millions)

Line No.	Particulars	Networks	Distribution	Acquired LDC	Transmission	Non-Reg
<u>Calculation of Federal and ON Taxable Income</u>						
1	Net Income Before Tax (NIBT)	\$ 817.1	\$ 341.4	\$ (17.6)	\$ 499.2	\$ (5.9)
<b>Required Adjustments to accounting NIBT</b>						
<b>Recurring items included in Revenue Requirement (RR):</b>						
2	Other Post Employment Benefit expense greater than payments	11.8	10.5	0.0	1.3	0.0
3	Depreciation and amortization	787.6	379.1	5.3	403.2	0.0
4	Capital Cost Allowance	(993.7)	(442.1)	(8.4)	(543.1)	0.0
5	Cumulative Eligible Capital	0.0	0.0	0.0	0.0	0.0
6	Removal costs	(7.7)	(4.6)	(0.3)	(2.8)	0.0
7	Environmental costs paid	(22.4)	(13.9)	(0.4)	(8.1)	0.0
8	Non-deductible items (50% Meals & entertainment / interest)	5.6	3.1	0.0	2.5	0.0
9	R&D Fed ITC/ Apprenticeship (prior year addback)	0.0	0.9	0.0	0.7	(1.6)
10	Capitalized overhead costs deducted	(64.2)	(25.8)	0.0	(38.4)	0.0
11	Capital additions deducted for accounting	17.6	10.4	0.0	6.7	0.5
12	Capitalized pension cost deducted	(47.6)	(21.4)	0.0	(26.2)	0.0
13	Capitalized SRED Expenditures deductible for tax	(1.0)	(0.1)	0.0	(0.9)	0.0
	Net Underwriting/Finance Costs	(1.7)	(0.9)	0.0	(0.8)	0.0
	Sharebased Compensation	8.7	6.3	0.0	2.4	0.0
14		\$ (307.0)	\$ (98.5)	\$ (3.8)	\$ (203.5)	\$ (1.1)
<b>Deferral accounts not part of RR:</b>						
15	RSVA/RRRP	145.8	151.1	(5.3)	0.0	0.0
16	Restricted Depreciation	(2.9)	0.1	0.3	(3.3)	0.0
17	CDM a/c Variance	(27.0)	0.0	0.0	(27.0)	0.0
18	Smart Meter costs deferred	0.2	0.2	0.0	0.0	0.0
19	Tx Export Credit/Deferred Export Revenue	(5.8)	0.0	0.0	(5.8)	0.0
20	Deferred Pension	26.9	21.1	0.0	5.8	0.0
21	Deferral a/c's etc.	2.1	2.4	0.1	(0.4)	0.0
22	Tax Changes deferral a/c	(1.5)	(1.2)	0.0	(0.3)	0.0
23	Riders 6/8/9/11	(10.3)	(13.5)	3.2	0.0	0.0
24	Rider 2015-2017	13.0	13.0	0.0	0.0	0.0
25	Forgn Rev Defer-Pri	(22.2)	0.0	0.0	(22.2)	0.0
26	Station Revenue and Secondary Land Use	(13.0)	0.0	0.0	(13.0)	0.0
		\$ 105.3	\$ 173.2	\$ (1.7)	\$ (66.2)	\$ 0.0
<b>Reversal of accounting adjustments not part of RR:</b>						
27	Contingent liability movement	(9.4)	(4.8)	(0.4)	(4.2)	0.0
28	Capitalized interest deductible for tax	(55.1)	(10.8)	(0.1)	(44.2)	0.0
29		\$ (64.5)	\$ (15.6)	\$ (0.5)	\$ (48.4)	\$ 0.0
<b>Recurring items not part of RR:</b>						
30	CCRA True Ups	8.7	0.1	0.0	8.6	0.0
31	Capital Contribution (CCRA True Up)/OPA Directed Projects	(11.6)	(2.5)	0.0	(9.1)	0.0
	First Nations (CCA)	0.0	0.0	0.0	0.0	0.0
32	Excluded CCA/ECE - BUMP	(663.4)	0.0	0.0	0.0	(663.4)
33		\$ (666.3)	\$ (2.4)	\$ 0.0	\$ (0.5)	\$ (663.4)
<b>Items not in business plan detail:</b>						
	Reverse Insurance proceeds included in NIBT	(4.8)	0.0	0.0	(4.8)	0
35	Tenant Inducement	(2.5)	(1.4)	0.0	(1.1)	0.0
36	Loss Carryforward Utilized	120.3	0.0	0.0	0.0	120.3
37	Other	2.4	0.4	(0.2)	0.4	1.8
38		\$ 115.4	\$ (1.0)	\$ (0.2)	\$ (5.5)	\$ 122.1
39	NET Adjustments to Accounting NIBT	\$ (816.8)	\$ 55.8	\$ (6.2)	\$ (324.1)	\$ (542.4)
40	<b>Taxable Income</b>	<b>\$ 0.0</b>	<b>\$ 397.0</b>	<b>\$ (23.8)</b>	<b>\$ 175.1</b>	<b>\$ (548.3)</b>
<b>NOTE:</b>						
41	Taxable Income	0.0	397.0	(23.8)	175.1	(548.3)
42	Corporate Income Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%
43	Subtotal	0.0	105.2	(6.3)	46.4	(145.3)
44	Less: Tax Credits	(6.4)	(3.9)	0.0	(2.5)	0.0
45	<b>Income Tax</b>	<b>\$ (6.4)</b>	<b>\$ 101.3</b>	<b>\$ (6.3)</b>	<b>\$ 43.9</b>	<b>\$ (145.3)</b>
<b>Tax Rates</b>						
46	Federal Tax	15.0%	15.0%	15.0%	15.0%	15.0%
47	Provincial Tax	11.5%	11.5%	11.5%	11.5%	11.5%
48	Total Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%

\*\* First Nations is excluded from rates. FN EBT is not included with TX. TX CCA includes FN CCA and FN CCA is then removed

**2017 INCOME TAX RETURN - TAX CREDIT ALLOCATION**

HYDRO ONE NETWORKS INC.  
 TRANSMISSION

Calculation of Apprenticeship, Coop Education and SR&ED Tax Credits  
 2017 Networks Tax Return Tax Credit Allocation to Transmission and Distribution  
 Year Ending December 31  
 (\$ Thousands)

Line No	Particulars	Networks	Transmission	Distribution
1	ON Coop Education Credit	\$ 1,133	\$ 443	\$ 690
2	Eligible Positions	378	148	230
3	ON Apprenticeship Credit	\$ 4,075	\$ 1,592	\$ 2,483
4	Eligible Positions	749	293	456
5	Ontario Business Research Tax Credit Credit	\$ 31	\$ 12	\$ 19
6	Federal Apprenticeship Credit	\$ 891	\$ 322	\$ 569
7	Eligible positions	472	170	302
8	SR&ED	\$ 291	\$ 105	\$ 186
9	<b>TOTAL TAX CREDITS</b>	<b><u>\$ 6,421</u></b>	<b><u>\$ 2,473</u></b>	<b><u>\$ 3,947</u></b>

**Note:**

\* The amount is based on an reassessment, and is therefore, different from the tax returns by approximately \$100K.

## TAXES OTHER THAN INCOME TAXES

### 1. INTRODUCTION

This Exhibit describes Hydro One Transmission's expenses related to taxes other than income and capital taxes. A summary of these costs is presented in Table 1.

**Table 1: Taxes Other than Income Tax (\$ Millions)**

Description	Historical				Bridge	Test
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Property Tax	57.0	57.4	43.9	58.1	60.4	61.2
Indemnity Payment *	3.8	0.0	0.0	0.0	0.0	0.0
Rights Payment	3.1	3.9	6.8	7.2	6.8	6.9
<b>Total</b>	<b>63.9</b>	<b>61.3</b>	<b>50.7</b>	<b>65.3</b>	<b>67.2</b>	<b>68.1</b>

*\*As result of Hydro One restructuring in 2015, the indemnity payments to the Province have ceased in year 2016 and onwards.*

Property tax and rights payments funding levels generally reflect higher tax rates, increases in the assessed value of Hydro One properties and increases in land values.

### 2. PROPERTY TAX

Like every other land owner within the Province of Ontario, Hydro One is responsible for the payment of property taxes. Property taxes for Hydro One are regulated under the *Electricity Act 1998*, the *Municipal Act 2001*, and the *Assessment Act 1990*. Property taxes are levied on Hydro One's land and buildings, including service centre sites, transmission stations and transmission lines. Hydro One pays property tax to about 400 municipalities each year.

Witness: Rob Berardi



1 A summary of annual transmission property taxes is presented in Table 2 below.

2

3 **Table 2: Breakdown of Total Property Tax Expense (\$ Millions)**

Description	Historical				Bridge	Test
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
Stations and Buildings, <i>including Proxy Tax</i>	19.7	20.1	18.7	21.0	23.0	23.8
Transmission Lines	37.3	37.3	37.3	37.1	37.4	37.4
Property Tax Adjustment *			(12.1)			
<b>Total</b>	<b>57.0</b>	<b>57.4</b>	<b>43.9</b>	<b>58.1</b>	<b>60.4</b>	<b>61.2</b>

*\*The Property Tax expense in 2017 reflects a \$12.1 million provision adjustment to First Nations bands for payment in lieu of taxes with respect to transmission assets on reserves.*

4

5 **2.1 TRANSMISSION STATIONS AND BUILDINGS**

6

7 For municipal property tax purposes, transmission station buildings are assessed at a  
 8 statutory rate of \$86.11 per square metre, according to the *Assessment Act*, R.S.O. 1990,  
 9 c. A31, Section 19. The lands containing the transmission stations are assessed using the  
 10 current value assessment ("CVA") method - the valuation method used for other property  
 11 owners within the province. Hydro One property other than transmission lines and not  
 12 classified as a transmission station (for example, a service centre), is assessed using only  
 13 the CVA method. The Municipal Property Assessment Corporation ("MPAC") assigns  
 14 the total assessed value, which is updated utilizing the same schedule as for the rest of the  
 15 province. Provincial reassessment was issued for 2017 tax year, which was based on a  
 16 January 1, 2016 valuation date and the next scheduled province wide assessment is 2021  
 17 which will be based on a January 1, 2020 valuation date. Under the *Assessment Act*, an  
 18 increase in assessed value between the base valuation years of January 1, 2012 and  
 19 January 1, 2016 is phased in over four years, from 2017 to 2020, assuming the property  
 20 characteristics and assessment evaluation stays the same.

Witness: Rob Berardi

1 Notices of assessment are received and reviewed for accurate valuation and tax  
2 classification each year. Any incorrect classes and/or over-valuations are appealed  
3 through the MPAC, and/or the Assessment Review Board.

4  
5 Additional property tax payments, called proxy property taxes, for owned transmission  
6 stations are levied and paid to the Minister of Finance, to be applied against the stranded  
7 debt of the former Ontario Hydro. Transmission station buildings are assessed at a  
8 statutory rate of \$86.11 per square metre, per the *Assessment Act*. Transmission stations  
9 are subject to additional property tax payments, called property proxy taxes, payable to  
10 the Minister of Finance under Ontario Regulation 423/11 of the *Electricity Act, 1998*.  
11 The additional tax is the difference between the statutory rate for transmission station  
12 buildings and the municipal tax that would apply to the buildings if they were taxed using  
13 the CVA method. This amount is calculated each year for each transmission station  
14 owned by Hydro One.

15  
16 Ontario Power Generation Inc. ("OPG") is the owner of various properties within the  
17 province, on which Hydro One's facilities are located. OPG and Hydro One entered into  
18 lease and easement agreements with respect to these properties, effective April 1, 1999.  
19 Under these agreements, Hydro One is required to pay realty taxes with respect to its  
20 occupancy to OPG.

21  
22 Other municipal property tax costs relate to costs on other sundry properties, such as  
23 transmission communication towers, and administrative buildings.

## 24 25 **2.2 TRANSMISSION LINES**

26  
27 Hydro One's line corridors are assessed, and municipal taxes are calculated at a rate per  
28 acre of owned corridor land. These rates are established by Ontario Regulation 387/98

Witness: Rob Berardi

1 (Tax Matter – Taxation of Certain Railway, Power Utility Lands) made under the  
2 *Municipal Act, 2001* and Ontario Regulation 494/98 made under the *Education Act*, all as  
3 amended. As payments are made based on an area of land multiplied by a legislated rate,  
4 appeals must be based on corrections to the area of the property, or on the decision to re-  
5 classify a property as outside the utility corridor tax class.

6  
7 An additional amount is paid annually to various First Nations bands for payment in lieu  
8 of taxes with respect to transmission assets on reserves. Since June 1985, Section 83 of  
9 the *Indian Act* has provided for taxation by First Nations, of property interests on their  
10 reserve lands. Hydro One makes payments in lieu of taxes similar to taxes paid to  
11 municipalities that have Hydro One Transmission facilities within their boundaries.

### 12 13 **3. RIGHTS PAYMENT**

14  
15 Through agreements or permits, Hydro One Transmission's line facilities cross and/or  
16 occupy properties owned by railway companies (e.g., Canadian National) and/or  
17 governmental bodies (e.g., federal government, Rideau Canal). According to the terms of  
18 the individual agreements, Hydro One pays an annual fee to the railway companies and  
19 the government entities for the right to cross and/or occupy their properties. These  
20 agreements contain rental review provisions allowing for rent increases tied to increased  
21 land values, subject to negotiation by both parties. Hydro One anticipates increased costs  
22 as reviews within the individual agreements are triggered, due to recent increases in land  
23 values.

24  
25 At this point, Hydro One is not able to predict the outcome nor the timing of the future  
26 negotiated agreements and the amount that it will have to pay to secure the crossing or  
27 occupation rights with railway companies. However, for planning purposes, the rights  
28 payments for the 2020 test year are budgeted to be \$5.4 million respectively.

Witness: Rob Berardi

1 Through agreements or permits granted by the Department of Indian and Northern  
2 Affairs, Canada ("INAC"), Hydro One has approval for its transmission and distribution  
3 facilities (that is, lines and transformer and distribution stations), to cross and/or occupy  
4 First Nation Reserves. Some of these permits and agreements require Hydro One to pay  
5 annual rental fees, the payment of which are administered by INAC.

6  
7 The transfer orders by which Hydro One acquired Ontario Hydro's electricity  
8 transmission, distribution and energy services businesses as of April 1, 1999 did not  
9 transfer title to some assets located on lands held for First Nations under the *Indian Act*  
10 (Canada). The transfer of title to these assets did not occur because authorizations  
11 originally granted by the federal Minister of Indian and Northern Affairs for the  
12 construction and operation of these assets could not be transferred without the consent of  
13 the Minister and the relevant First Nations or, in several cases, because the authorizations  
14 had either expired or had never been properly issued. The transmission portion  
15 comprises approximately about 82 kilometres of transmission lines, primarily, held by the  
16 Ontario Electricity Financial Corporation ("OEFC"). Under the terms of the transfer  
17 orders, Hydro One is required to manage these assets until it has obtained all consents  
18 necessary to complete the transfer of title of them to Hydro One. Hydro One is seeking  
19 to obtain from the relevant First Nations, the consents necessary to complete the transfer  
20 of title to these assets.

21  
22 Hydro One cannot predict with accuracy the aggregate amount that it may have to pay to  
23 obtain the required consents. For planning purposes, however, the First Nations rights  
24 payments for the 2020 test year are budgeted to be \$1.5 million. This amount is based on  
25 continuing payments and the current status of the on-going negotiations with various First  
26 Nations bands.

Witness: Rob Berardi

1 **REGULATORY COSTS**

2  
3 For this Application, Hydro One's regulatory costs will be recovered in the year in which  
4 they are incurred. The regulatory costs are not amortized and are included in the  
5 forecasted budget in the approved business plan in the years in which they are incurred.

6  
7 A large portion of regulatory costs includes ongoing OEB cost assessments. These are  
8 quarterly expenses that are assumed in the forecasted budget. In 2016, the OEB changed  
9 the cost assessment model and Hydro One's cost was reduced as a result. The OEB  
10 assessments and total costs for Regulatory Affairs can be found in Exhibit F, Tab 2,  
11 Schedule 2.

12  
13 For this Application, Hydro One engaged consultants and expert witnesses to complete a  
14 number of benchmarking studies and reports including:

- 15 • Total Factor Productivity Study
- 16 • Econometric Total Cost Benchmarking Study
- 17 • Total Compensation Benchmarking Study
- 18 • Transmission System Plan Review
- 19 • Transmission Rate Design Study
- 20 • Tx Customer Engagement Survey
- 21 • Investment Planning Process Review

22  
23 The estimated consultant and expert witness costs include the cost of the various studies  
24 and reports as well as the cost for the expert to testify in the Hydro One proceeding.

25  
26 Legal costs for this Application will include time spent for preparation of evidence, a  
27 technical conference, the oral hearings and arguments.

Witness: Frank D'Andrea

- 1 Intervenor and stakeholder costs for this Application include the stakeholder sessions
- 2 held in preparation of the Application and for the time involved in preparing for and
- 3 participating in the oral hearing.

**Appendix 2-M  
 Regulatory Cost Schedule**

Regulatory Cost Category	USoA Account	USoA Account Balance	Ongoing or One-time Cost? <sup>2</sup>	Last Rebasing Year (2013 Board Approved)	Most Current Actuals Year 2018	2019 Bridge Year	Annual % Change	2020 Test Year	Annual % Change
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H) = [(G)-(F)]/(F)	(I)	(J) = [(I)-(G)]/(G)
1	OEB Annual Assessment		On-Going		\$ 7,753	\$ 7,900	1.90%	\$ 8,098	2.51%
2	OEB Section 30 Costs (Applicant-originated)		One-Time		\$ 217	\$ 150	-30.88%	\$ 150	0.00%
3	OEB Section 30 Costs (OEB-initiated)		One-Time		\$ 159	\$ 94	-40.88%	\$ 100	6.38%
4	Expert Witness costs for regulatory matters		One-Time		\$ -	\$ -		\$ -	
5	Legal costs for regulatory matters		One-Time	-	\$ -	\$ -		\$ -	
6	Consultants' costs for regulatory matters		One-Time		\$ 1,548	\$ 694	-55.17%	\$ 710	2.31%
7	Operating expenses associated with staff resources allocated to regulatory matters		On-Going		\$ 8,823	\$ 8,209	-6.96%	\$ 8,341	1.61%
8	Operating expenses associated with other resources allocated to regulatory matters <sup>1</sup>		On-Going						
9	Other regulatory agency fees or assessments		On-Going		\$ 1,132	\$ 1,000	-11.66%	\$ 1,025	2.50%
10	Any other costs for regulatory matters (please define)		One-Time		\$ 163	\$ 510	212.88%	\$ 523	2.55%
11	Intervenor costs		One-Time		\$ 803	\$ 1,306	62.64%	\$ 1,339	2.53%
12	Sub-total - Ongoing Costs <sup>3</sup>	\$ -		\$ -	\$ 17,708	\$ 17,109	-3.38%	\$ 17,464	2.07%
13	Sub-total - One-time Costs <sup>4</sup>	\$ -		\$ -	\$ 2,890	\$ 2,754	-4.71%	\$ 2,822	2.47%
14	Total	\$ -		\$ -	\$ 20,598	\$ 19,863	-3.57%	\$ 20,286	2.13%

Please fill out the following table for one-time costs related to this cost of service application to be amortized over the test year plus the IRM period.

	Historical Year(s)	2019 Bridge Year	2020 Test Year
2	OEB Section 30 Costs (Applicant-originated)	150	
4	Expert Witness costs/Consultants' costs	550	
5	Legal costs	2,000	
10	Any other costs for regulatory matters (please define)	125	
11	Intervenor costs	900	

**Notes:**

- <sup>1</sup> Please identify the resources involved. Resources involved include printing, training, and other.
- <sup>2</sup> Where a category's costs include both one-time and ongoing costs, the applicant should prove a separate breakdown between one-time and ongoing costs.
- <sup>3</sup> Sum of all ongoing costs identified in rows 1 to 11 inclusive.
- <sup>4</sup> Sum of all one-time costs identified in rows 1 to 11 inclusive.

**ONE TIME COSTS**

1  
2  
3  
4

Hydro One is not seeking recovery of any one-time costs as described in section 2.8.7 of the Filing Requirements.



1                                   **CHARITABLE AND POLITICAL DONATIONS**

2

3   Hydro One confirms that neither charitable donations nor political donations have been  
4   included in this Application for recovery. Any charitable donations made by Hydro One  
5   are allocated to its non-regulated accounting segment, not Hydro One Transmission.

**Z-FACTOR CLAIMS**

1  
2  
3  
4

Hydro One is not seeking recovery of any material costs associated with unforeseen events as described in section 2.8.12 of the Filing Requirements.