Hydro One Networks Inc.

### EB-2019-0082

# **OEB Staff Compendium**

# **OM&A and Scorecard Issues**

## Panel 1

## October 22, 2019

Updated: 2019-06-19 EB-2019-0082 Exhibit F Tab 1 Schedule 1 Page 3 of 12

1 <b>T</b> a	able 1: S	Summa	ry of Tr	ansmis	ssion Ol	M&A I	Expendi	tures (S	6 millions)	
				Histe	orical				Bridge	Test
	201	15	201	16	20	17	20	18	2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Category Level										•
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
				Adjus	tments					
EB-2014-0140		20.0		20.0						
Settlement Reduction		-20.0		-20.0						
EB-2016-0160						15.0		15.0		
Decision Reduction						-13.0		-13.0		
Removal of B2M		0.0		0.7		0.8		2.1		
Expense		-0.9		-0.7		-0.8		-2.1		
Pension Adjustment						-11.4		-9.9		
Directive *									-0.1	-0.1
				Envelo	pe Level					
Total Transmission OM&A	441.6	431.2	408.1	436.8	385.0	397.7	419.2	394.3	356.5	375.8
% 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			

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

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

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

<sup>&</sup>lt;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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	(\$ Millions)		
	2018 Historic	2018	
Rate Base Component	Year	Board- approved	Variance
Mid-Year Gross Plant	17,630.8	17,537.1	93.7
Less: Mid-Year Accumulated Depreciation	(6,481.9)	(6,416.3)	(65.6)
Mid-Year Net Utility Plant	11,148.9	11,120.8	28.1
Cash Working Capital	14.1	15.0	(0.8)
Materials & Supply Inventory	11.5	12.2	(0.7)
Total Rate Base	11,174.6	11,148.0	26.6

#### Table 1: 2018 Board-approved versus 2018 Historic Year Rate Base

1 2

3

4 Total rate base in 2018 is in line with the OEB-approved total, within 0.24% of the 5 amount.

6

#### 7 **3. UTILITY RATE BASE**

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9 Utility rate base for the transmission system for the test years is filed at Exhibit C, Tab 4,
10 Schedule 1. The calculation of Net Utility Plant is provided at Exhibit C, Tab 4,
11 Schedule 2 and 3.

12

Hydro One Transmission's forecast rate base for the test years 2020-2022 is shown in
Table 2.

Witness: Joel Jodoin

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Description	Bridge		Test		
	2019	2020	2021	2022	
Mid-Year Gross Plant	18,591.6	19,489.3	20,598.5	21,829.8	
Mid-Year Accumulated					
Depreciation	(6,810.4)	(7,151.2)	(7,544.0)	(7,953.3)	
Mid-Year Net Plant	11,781.2	12,338.1	13,054.5	13,876.5	
Cash Working Capital	22.1	24.4	26.6	27.8	
Materials and Supply					
Inventory *	11.7	12.0	12.2	12.4	
<b>Transmission Rate Base</b>	11,815.0	12,374.5	13,093.3	13,916.7	

#### Table 2: Transmission Rate Base (\$ Millions)

\* Average Materials and Supply Inventory

2 3

1

The mid-year gross plant balance reflects the capital expenditures and in-service additions forecast for the bridge and test years. The capital expenditures are described in detail in Sections 3.1 through 3.3 of the TSP, and the in-service forecast is outlined in Exhibit C, Tab 2, Schedule 1.

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Table 3 below provides historical and bridge year continuity of total fixed assets. The
growth in gross plant primarily reflects the in-service additions made to Hydro One
Transmission's rate base during the period from 2015 to 2018.

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#### Table 3: Continuity of Fixed Assets Summary - Rate Base (\$ Millions)

Description		Histo	ric Years	
Description	2015	2016	2017	2018
Opening Gross Asset Balance	14,805.9	15,398.1	16,274.2	17,076.7
In-Service Additions	652.3	897.5	864.2	1,135.6
Retirements	(40.4)	(13.0)	(47.2)	(10.9)
Sales	(19.8)	(7.5)	(11.8)	(15.9)
Transfers / Other	0.0	(0.8)	(2.7)	(0.5)
<b>Closing Gross Asset Balance</b>	15,398.1	16,274.2	17,076.7	18,185.0

,	,	,	<u> </u>						
								2020	2020
								versus	versus
						Average	Average	Average	Average
Actual	Actual	Actual	Actual	Forecast	Forecast	2015-	2015-	2015-	2015-
2015	2016	2017	2018	2019	2020	2018	2019	2018	2019
					А	В	С	D = A - B	E = A - C
\$ 441.6	\$ 408.1	\$ 385.0	\$ 419.2	\$ 356.5	\$ 375.8	\$ 413.5	\$ 402.1	\$ (37.7)	\$ (26.3)
								-9.1%	-6.5%

#### OEB Staff Table 1 - Summary of Transmission OM&A Expenditures (\$ millions) Exhibit F, Tab 1, Schedule 1, Page 3, Table 1

Filed: 2019-08-02 EB-2019-0082 Exhibit I Tab 01 Schedule 162 Page 1 of 2

#### **OEB INTERROGATORY #162**

### 3 **<u>Reference:</u>**

- 4 F-01-01 p.3
- 5

1 2

#### 6 Interrogatory:

- 7 At the above reference, Hydro One states that:
- 8

Hydro One's 2019 OM&A expenses are expected to be \$38 million or 9.6 percent lower 9 than the 2018 plan funding envelope. This OM&A reduction will be achieved largely 10 through sustained productivity gains, a one-time extension of Hydro One's planned asset 11 maintenance cycles, and corporate cost reductions, which are described further within 12 Section 6 of this Exhibit. Hydro One plans to increase its 2020 OM&A expenditures by 5 13 percent from 2019 levels while still remaining 4.7 percent below the 2018 plan funding 14 envelope. The investment plan was designed to utilize the approved funding to improve 15 reliability and maintain asset condition over the planning period. In this manner, the 16 investment plan appropriately balances the need to minimize customer rate impacts with 17 the requirements of the system for supporting the delivery of safe and reliable 18 transmission service. 19

20

a) Please discuss whether or not Hydro One's ability to remain 4.7 percent below the
 2018 plan funding envelope approved in the previous transmission application would
 reasonably raise concerns that it may be over-forecasting OM&A requirements in the
 current application.

25

b) Given that Hydro One's OM&A expenditures were running below the envelope
 approved in the previous application, please explain why it was considered necessary
 to undertake the above referenced one-time extension of planned asset maintenance
 cycles, along with the other cost containment measures also described.

30

#### 31 **Response:**

a) In 2018, actual OM&A was \$24.9 million or 6.3% above the funding envelope
 approved in the previous transmission application for 2018. In the current application,
 the funding envelope for 2020 Test Year is 4.7% lower than the 2018 approved
 amount. This demonstrates that Hydro One is asking for a lower OM&A funding

Filed: 2019-08-02 EB-2019-0082 Exhibit I Tab 01 Schedule 162 Page 2 of 2

envelope, contrary to the statement made that Hydro One is over-forecasting OM&A
 requirements in the current application.

3

Comparison of historical performance relative to prior approvals must include consideration of the contributing factors to the variances. The largest cost drivers (Sustainment, Operations), which have enabled the safe and reliable operation of the transmission system historically, are consistent within or below historic levels and reflect a level of expenditure which will ensure the continued safe and reliable operation of the transmission system in the future.

10

b) Per Table 1 of Exhibit F-01-01, Hydro One's originally forecasted 2018 OM&A
expenditures were \$5.1 million above the approved funding envelope. As part of the
blue page update, the actual OM&A variance was updated to \$24.9M above 2018
approved funding envelope. Hydro One implemented the noted measures to manage
the transmission business within the approved revenue requirement envelope for
2019. The approved revenue requirement for 2019 was derived using a one year
inflationary adjustment mechanism relative to 2018 approved revenue requirement.

	Ac 2	ctual 2015	Plar 2015	n Diff	erence	)	Actua 2016	1	Plan 2016	Dif	ference	Actual 2017	Plan 2017	Diff	ference	Actual 2018	Plan 2018	Diff	erence	Plan 2019	Plan 2020	Diff 20	ference of 2020 versus 18 Plan
																	A			 	В	С	= B - A
Total OM&A	\$44	1.6	\$ 431.2	\$	10.4 2.4%	\$	408.1	\$	436.8	\$	(28.7) -6.6%	\$ 385.0	\$ 397.7	\$	(12.7) -3.2%	\$ 419.2	\$ 394.3	\$	24.9 6.3%	\$ 356.5	\$ 375.8	\$	(18.5) -4.7%

#### OEB Staff Table 2 - Summary of Transmission OM&A Expenditures (\$ millions) - Actual versus Plan Exhibit F. Tab 1. Schedule 1. Page 3. Table 1

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# 6.7 OPERATIONS, MAINTENANCE AND ADMINISTRATION (OM&A) 2 EXPENSE

3

A summary of forecast OM&A expenses for the 2020 test year is provided in Exhibit F, 4 Tab 1, Schedule 1. These amounts have been reduced by the OM&A productivity savings 5 outlined in Table 2 of this Exhibit. As shown in Table 9, 2020 OM&A expenses are 6 expected to be \$18.5 million lower (4.7%) than the 2018 OEB-approved (plan) funding 7 envelope and are \$34 million lower than what they would be if 2018 OEB-approved 8 funding levels were increased at a 2% rate of inflation in 2019 and 2020.7 OM&A 9 reductions will be achieved through operating efficiencies, particularly the management 10 of maintenance cycles, and a company-wide exercise undertaken by Hydro One to review 11 and reduce corporate common costs. The review resulted in a significant commitment by 12 business units to reduce corporate costs across the organization. These reductions were 13 achieved primarily through a reduction in vacancies and by limiting consulting and 14 contract engagements to critical functions, which also assist in strengthening and building 15 internal capabilities. Hydro One's TSP is designed to utilize approved funding, in both 16 capital and OM&A, to improve reliability and maintain asset condition over the planning 17 period. In this manner, the plan appropriately balances customer rate impacts with the 18 requirements of the system. 19

20

2019 OM&A expenditures are lower than the proposed test year OM&A as a result of the 22 need to align to the funding envelope afforded in Hydro One's 2019 transmission revenue 23 cap adjustment application (EB-2018-0130). This maintenance reduction has included 24 reductions in activities including a one year extension of planned maintenance and asset

 $<sup>^7</sup>$  2018 OEB-approved OM&A inflated by 2% would have resulted in OM&A of \$402.2 million in 2019 and \$410.2 million in 2020

Updated: 2019-06-19 EB-2019-0082 Exhibit F Tab 1 Schedule 1 Page 3 of 12

1 <b>T</b> a	able 1: S	Summa	ry of Tr	ansmis	ssion Ol	M&A I	Expendi	tures (S	6 millions)	
				Histe	orical				Bridge	Test
	201	15	201	16	20	17	20	18	2019	2020
	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Forecast	Forecast
Category Level										•
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
				Adjus	tments					
EB-2014-0140		20.0		20.0						
Settlement Reduction		-20.0		-20.0						
EB-2016-0160						15.0		15.0		
Decision Reduction						-13.0		-13.0		
Removal of B2M		0.0		0.7		0.8		2.1		
Expense		-0.9		-0.7		-0.8		-2.1		
Pension Adjustment						-11.4		-9.9		
Directive *									-0.1	-0.1
				Envelo	pe Level					
Total Transmission OM&A	441.6	431.2	408.1	436.8	385.0	397.7	419.2	394.3	356.5	375.8
% 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			

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

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

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

<sup>&</sup>lt;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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costs related to detailed customer surveys which were centralized and included in this
 category level.

#### 6. COMMON CORPORATE COSTS AND OTHER OM&A

4

3

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

9

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

18

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

Witness: Joel Jodoin

Filed: 2019-08-02 EB-2019-0082 Exhibit I Tab 01 Schedule 185 Page 1 of 1

1	<b>OEB INTERROGATORY #185</b>
2	
3	<u>Reference:</u>
4	A-03-01, F-01-01
5	
6	Interrogatory:
7	At the references above, Hydro One's derivation of its 2020 level of requested OM&A is
8	discussed.
9	
10	a) Please provide a summary table quantifying the impacts on the 2020 revenue
11	requirement, including the impacts on both OM&A and capital, due to Hydro One's
12	efforts, as noted in the references above, in the areas listed below:
13	i. The management of maintenance cycles
14	ii. The company-wide exercise undertaken by Hydro One to review and reduce
15	corporate common costs as primarily achieved by:
16	1. The reduction in vacancies
17	2. The limiting of consulting and contract engagements to critical functions
18	iii. Sustained productivity gains
19	iv. The renegotiation of the Inergi outsourcing agreement
20	
21	Response:
22	a) The impact to 2020 Revenue Requirement reductions are quantified below:

22 a) The impact to 2020 Revenue Requirement reductions are quantified below:

	OM&A	Capital	2020 Revenue Requirement Impact
Management of Maintenance Cycles*	(\$15.2M)	-	(\$15.2M)
The reduction in vacancies	(\$7.2M)	(\$7.2M)	
Limiting of consulting and contract engagements	(\$2.5M)	(\$6.2M)	(\$11.1M)
Sustained Productivity (excludes Inergi Renegotiation for IT and Corporate cost reductions)	(\$8.7M)	(\$63.7M)	(\$17.3M)
Sustained Productivity (Inergi Renegotiation)	(\$6.4M)		

23 \*Relative to 2018 Actuals Updated: 2019-06-19 EB-2019-0082 Exhibit F Tab 1 Schedule 3 Page 2 of 59

• Engineering and Environmental Support, which funds the specialized and administrative support needed to assist with decision making processes in 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)

				Histo	orical				Bridge	Test
Description	20	15	20	16	20	17	20	18	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	6.0	11.9	4.4	10.8	4.0	2.9	4.1	2.9	7.2	5.3
Support										
Total Sustainment	233.6	238.7	215.1	241.1	218.1	241.2	229.4	238.5	200.6	214.2

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#### 11

#### 2. VARIANCE EXPLANATION FOR SUSTAINMENT OM&A

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

		, та		, 5016	Suun	5 J, F	aye	; 2,	Table																	
	Actu 201	al 5		Plan 2015	Diff	erenc	e	1	Actual 2016	Pla 201	ın D 6	iffe	rence	Actual 2017	Plan 2017	Dif	ference	Actual 2018	Plan 2018	Diff	erence		Plan 2019	Plan 2020	Dif	ference of 2020 versus 18 Plan
																			А			L		В	С	= B - A
Sustainment	\$ 233.	5\$	6 2	238.7	\$	(5.1 -2.19	1) \$ %	5 2	215.1	\$ 241.	1 \$	6 ( -1	(26.0) 10.8%	\$ 218.1	\$ 241.2	\$	(23.1) -9.6%	\$ 229.4	\$ 238.5	\$	(9.1) -3.8%	\$	200.6	\$ 214.2	\$	(24.3) -10.2%

### OEB Staff Table 4 - Summary of Transmission OM&A Sustainment (\$ millions) - Actual versus Plan Exhibit F. Tab 1. Schedule 3. Page 2. Table 1



# ONTARIO ENERGY BOARD

FILE NO.: EB-2019-0082

Hydro One Networks Inc.

- VOLUME: Technical Conference
- DATE: August 12, 2019

cuts related to items such as vegetation management. So - MR. SPENCER: Sorry to interrupt. Just for clarity,
 would you mind repeating the interrogatory reference,
 please? Just trying to find it here. Thank you.

MS. O'CONNELL: Exhibit 1, tab 1, Schedule 184.
MR. KEIZER: Don't worry about the exhibit. Just say
Staff -- that would be a lot more helpful.

8 MS. O'CONNELL: Okay, sure. So Staff 184. Okay, so 9 my questions are as follows. With your improved asset 10 management practices, it is my understanding that the 11 allocations of projects and prioritization of projects 12 would be improved.

13 So if your prioritization process is being improved, 14 then can you explain why in response, saying that this 15 deferred maintenance expense cannot be continued in 2020, 16 you said the reason why are projects such as vegetation 17 management would be deferred.

18 So bottom line, my question is why are you deferring 19 high-priority projects such as vegetation management, and 20 as a result can you better explain your prioritization 21 practices?

22 MR. JESUS: So in order to accommodate the reductions 23 in 2019, we looked, using our prioritization process, the 24 lowest-risk plans that we could defer, and this consisted 25 on the veg management associated with 115 kV non-NERC-26 compliant corridors until 2020. We also looked at one-time 27 extensions of maintenance on breakers, transformers, and 28 switches, which, bottom line is that we deferred that by

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1 one year, and that risk is seen as being managed, and they 2 were, again, using our process, the lowest-risk items that 3 we could defer by one year, and we thought that was a 4 managed increase.

5 We also deferred our PCB compliance from being 6 compliant by 2023 to 2024. So it is taking on more risk, 7 in that we have to be compliant by federal legislation by 8 2025. We are providing ourselves with a two-year 9 contingency. We've deferred that by one year to 2024.

10 So all in all, those risks were looked at and engaged 11 with with the lines of business to identify the lowest risk 12 where those cuts could be made to achieve the reductions 13 required as per the O&M envelopes.

MS. O'CONNELL: So bottom line what you are saying is that vegetation management is actually a lower-rated priority because it's lower risk?

MR. JESUS: So what I am saying is that on those specific corridors where customer impacts are limited and that they're not NERC-compliant that we looked at it as a managed risk to reduce or defer the maintenance for one year until 2020.

MS. O'CONNELL: Okay, thank you. My next question is also regarding this deferment and also regarding your improved asset management practices.

25 So it's my understanding from your improved asset 26 management practices there's a better integration of 27 capital and OM&A trade-offs and things of that nature 28 versus operating in silos. However, it's my understanding

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Filed: 2019-08-28 EB-2019-0082 Exhibit JT 1.3 Page 1 of 6

#### **UNDERTAKING - JT 1.3**

1

#### 2

#### **Reference:** 3

I-01-OEB-184 4

5

#### **Undertaking:** 6

To provide analysis that supports Hydro One's assertion that OM&A deferred in 2019 7 cannot be repeated in 2020. 8

#### 9 **Response:** 10

#### 2020 Sustainment OM&A is the Minimum Level of Funding Needed 11

12

Hydro One's 2020 Sustainment OM&A budget of \$214.2 million consists of 13 expenditures required to maintain transmission system assets so that they continue to 14 function as originally designed. The average age range of the major transmission system 15 assets is 28-41 years<sup>1</sup> with  $3-27\%^2$  of these assets in High or Very High Risk condition. 16 With this age and condition context, the current plan seeks an appropriate balance 17 between the needs of the system, overall stewardship of Hydro One's assets to maintain 18 asset condition and performance, and customer preferences regarding outcomes, 19 including system reliability and rates. The resulting 2020 maintenance plan represents the 20 prioritization of these competing needs and provides the minimum level of investment 21 needed to ensure this balance is achieved. 22

23

Furthermore, the proposed Sustainment OM&A budget for the 2020 Test Year is almost 24 \$10 million lower than the 2015-2018 average spending (i.e. \$214.2M for 2020 versus 25 \$224.0M for 2015-2018 average). For the reasons below, the proposed 2020 Sustainment 26 budget is the minimum level of investment needed to maintain transmission system assets 27 to ensure that they continue to function as designed. 28

29

#### 2020 Sustainment OM&A Includes Additional Mandatory Compliance Work

30 31

The 2020 Sustainment OM&A is forecast to be \$13.6 million higher than the forecast 32 2019 Sustainment OM&A (2020: \$214.2M vs 2019: \$200.6M)<sup>3</sup>. \$6.9 Million or about 33

51% of this funding increase relative to 2019 is comprised of mandatory PCB Retirement 34

<sup>&</sup>lt;sup>1</sup> Exhibit B-1-1 TSP Section 2.2 Table 3, 6, 9, 17, 20 and page 60

<sup>&</sup>lt;sup>2</sup> Interrogatory I-11-CCC-04 part b) <sup>3</sup> Exhibit F-1-3 Table 1

Filed: 2019-08-28 EB-2019-0082 Exhibit JT 1.3 Page 2 of 6

(remediation) work to address PCB filled equipment in order to comply with Federal PCB Regulations. A significant volume of additional PCB retrofill and sampling work relative to 2019 has been planned and paced during the test period.<sup>4</sup> The plan provides for a one year buffer to schedule outages and resolve new identified PCB filled equipment. Funding this work at 2019 levels is not possible as that level of funding will not be sufficient to complete the planned retrofill and sampling work in time for Environment Canada's 2025 deadline.

8

If the 2020 Sustainment OM&A were fixed to the 2019 level of \$200.6 million,
accommodating this mandatory PCB work would result in reprioritization and reduced
funding to other maintenance work categories to levels significantly below 2019 budgets.
This funding approach would be ill advised as it would introduce a much greater level of
risk in these below-2019 funded categories than that originally contemplated for 2019.

14

# 2020 Sustainment OM&A Includes Further Essential Maintenance; The 2019 Funding Level is not Prudent

17

Funding not related to mandatory PCB remediation work (discussed above) is associated 18 with further essential maintenance work that cannot be held at 2019 levels. This includes 19 additional funding relative to 2019 for Power Equipment Preventive Maintenance (\$2.4 20 million)<sup>5</sup>, Transformer Refurbishments<sup>6</sup> (\$1.5 million)<sup>7</sup>, Site Infrastructure Maintenance 21 (\$1.5 million)<sup>8</sup>, Vegetation Management (\$2.2 million)<sup>9</sup>, and Overhead Lines 22 Maintenance (\$3.2 million)<sup>10</sup>. Despite this additional funding, which for each category is 23 below the materiality threshold in this Application, almost all of these categories remain 24 funded below historical levels (total of these categories in 2020: \$92M vs 2015-2018 25 average: \$98M). 26

27

<sup>&</sup>lt;sup>4</sup> Interrogatory I-10-VECC-36 part b)

 $<sup>^5</sup>$  \$17.6M for 2020; \$15.2M for 2019; and \$20.6M for the 2015-2018 period; 2020 funding is **below** historical funding

<sup>&</sup>lt;sup>6</sup> Includes activities to fully refurbish transformers or transformer sub-systems such as radiators or underload tap changers (ULTC)

 $<sup>^{7}</sup>$  \$3.9M for 2020; \$2.4M for 2019; and \$4.7M for the 2015-2018 period; 2020 funding is **below** historical funding

<sup>&</sup>lt;sup>8</sup> \$21.3M for 2020; \$19.8M for 2019; and \$23.0M for the 2015-2018 period; 2020 funding is **below** historical funding

<sup>&</sup>lt;sup>9</sup> \$31.9M for 2020; \$29.7M for 2019; and \$32.6M for the 2015-2018 period; 2020 funding is **below** historical funding

 $<sup>^{10}</sup>$  \$17.2M for 2020; \$14.0M for 2019; and \$17.1M for the 2015-2018 period; 2020 funding is **in line** historical funding

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Maintaining the 2019 funding and associated unit accomplishments through 2020-22 for the above noted categories would result in more than four times as many assets not receiving maintenance or assessments than was contemplated in 2019, because some categories of work would need to be funded below 2019 levels in order to fund the additional mandatory maintenance (PCB Retirement discussed above).

6

For some assets classes the impact of such a proposal poses a significant risk to their 7 condition. For example, maintaining Power Equipment Preventive Maintenance for 8 breakers and switches at 2019 unit accomplishments through 2020-22 would be 9 equivalent to suspending all breaker and switch maintenance for 2 and 1.4 years<sup>11</sup> 10 respectively, relative to historical levels; or maintaining Transformer Refurbishments at 11 2019 unit accomplishments through 2020-22 would be equivalent to suspending all 12 transformer refurbishment work for 2.5 years relative to historical unit accomplishments; 13 or maintaining Vegetation Management (Brush Control and Line Clearing) at 2019 14 maintenance levels through 2020-22 would be equivalent to suspending line clearing for 15 one year and suspending brush control for a third of a year relative to historical unit 16 accomplishments; or maintaining Overhead Lines Maintenance (Preventive Maintenance 17 and Asset Assessment) at 2019 maintenance levels through 2020-22 would be equivalent 18 to suspending all preventive and assessment work for 1.3 and 3 years<sup>12</sup> for wood poles, 19 conductor and foot patrols respectively, relative to historical unit accomplishments. 20

21

Hydro One does not consider this to be an acceptable approach to prudent stewardship of 22 the system and does not consider this to be an acceptable risk to place on the transmission 23 system. These types of maintenance and assessment suspensions would be imprudent 24 especially at a time when power assets are experiencing significant demographic 25 pressure; for example absent replacement, the percentage of the transformer, breaker, 26 conductor and wood pole fleet exceeding ESL will increase by 5% to 80% during the 27 2019-22 period.<sup>13</sup> Correspondingly the historical condition trend for these aging assets 28 shows increasing deterioration in most asset categories.<sup>14</sup> Notably, the condition of these 29 asset categories would have been worse without the historical Sustainment OM&A and 30 capital investment levels. 31

<sup>&</sup>lt;sup>11</sup> Breakers: 2.0 years; Switches: 1.4 years

<sup>&</sup>lt;sup>12</sup> Wood poles: 1.3 years; Conductor: 1.9 years; Foot Patrols: 3 years

<sup>&</sup>lt;sup>13</sup> Exhibit B-1-1 TSP Section 2.2 page 2: Transformers increasing from 192 to 251 units beyond ESL in 2022 (31%); Breakers increasing from 604 to 915 units beyond ESL in 2022 (51%); Conductor increasing from 1650 to 2980 units beyond ESL in 2022 (80%); and Exhibit B-1-1 TSP Section 2.2 Table 20 page 69: Wood Poles increasing from 14,400 to 15,100 units beyond ESL (5%)

<sup>&</sup>lt;sup>14</sup> For example: Undertaking JT 1.21 showing the increasing percentage/number of assets in the High or Very High Risk condition category

1

If Sustainment OM&A for this essential maintenance were funded at 2019 levels for
 three additional years:

Power Equipment Preventive Maintenance (performed to cost effectively preserve • 4 equipment functionality, reliability, availability, and meet safety, and regulatory 5 requirements) would be significantly curtailed (as shown above) and would result 6 in deteriorating assets such as transformers, breakers, ULTCs or switches not 7 being identified in time to prevent more costly repairs, or to be inoperable when 8 needed, causing larger outage zones which may impact connected customers, 9 inhibiting other maintenance or capital work, and resulting in inefficiencies such 10 as delays and increased costs to deliver this planned work. 11

- Transformer Refurbishment, which addresses verified poor condition assets that need to be treated, would be significantly curtailed (as shown above), putting these transformers at risk of accelerated deterioration that may result in failure or reduce expected service life. In light of the significant expense and potential customer reliability impact to replace a transformer, refurbishment at the 2020 level is recommended as the minimum level to prevent greater future capital replacement costs.
- Vegetation Management would result in further deferral of brush control and line 19 clearing activities on 115 kV non-critical circuits, which are generally radial 20 circuits that supply large industrial customers in Northern Ontario. Vegetation 21 management on these circuits cannot be indefinitely deferred as neglecting these 22 corridors will result in overgrowth, which results in higher future clearing costs 23 and danger trees that could fall on the line. Further, funding at the 2019 level will 24 curtail vegetation work in urban areas that are more costly in light of the 25 heightened effort to coordinate this work with adjacent property owners and 26 municipal governments.<sup>15</sup> 27

Overhead Lines Maintenance work i.e. foot patrols assessments, on all flyable
 circuits where helicopter inspections are performed would continue to be
 suspended. However helicopter inspections are not a long-term substitute for foot
 patrols which offer a greater level of condition assessment information.

32

Funding 2020 Sustainment OM&A for this essential maintenance significantly below the historical average (i.e. at 2019 funding levels) would result in two general outcomes: a) Hydro One would complete significantly fewer condition assessments resulting in it having less condition data upon which to make investment decisions and b) Hydro One

<sup>&</sup>lt;sup>15</sup> Interrogatory I-12-AMPCO-52 and 53

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would be unable to prevent further degradation and perform refurbishment work on 1 verified poor condition assets that need to be treated at a greater pace than 2019 levels. In 2 respect of outcome a) much of this assessment work supports Hydro One's capital 3 investments, and the loss of this condition information risks high priority deficiencies 4 from not being identified and included in planned replacement programs. Thus this work 5 cannot be funded at 2019 levels for three additional years. 6

- 7
- 8 9

#### 2020 Sustainment OM&A Has Not Been Increased Across All Categories

In 2020 many Sustainment OM&A categories require additional funding for mandatory 10 and further essential maintenance. To offset this additional funding need, many 11 categories have been funded in line with or below 2019 levels. In particular, Engineering 12 & Environmental Support has received a \$1.2 million funding reduction below the 2019 13 funding level and Protection and Control, and Telecom maintenance has received an 14 appreciable \$3.3 million funding reduction below the 2019 funding level<sup>16</sup> demonstrating 15 that 2020 Sustainment OM&A has not been increased across all categories relative to 16 2019. For 2019 Hydro One reviewed and extended the preventive maintenance intervals 17 for the protection relay fleet to achieve more cost-effective delivery of the maintenance 18 program.<sup>17</sup> Funding in 2020 for Support Process (field support and failure analysis) and 19 Telecom operational services within the Protection and Control, and Telecom 20 maintenance category have received the bulk of the 2020 reduction in this category in 21 order to not impact other important Protection and Control, and Telecom maintenance 22 work including NERC and NPCC compliance work and fixed contracted payments for 23 leased telecommunication circuits. 24

25

27

#### 26 Conclusion

The proposed 2020 Sustainment OM&A is almost \$10 million lower than the 2015-2018 28 average spending, reflecting Hydro One's effort to prioritize mandatory and further 29 essential work, and its effort to offset these increases with reductions in other 30 maintenance categories where possible. 31

32

Maintaining the 2019 funding and associated unit accomplishments through 2020-22 for 33 the above noted categories would result in more than four times as many assets not 34 receiving maintenance or assessments than was contemplated in 2019, because some 35

<sup>&</sup>lt;sup>16</sup> \$35.5M for 2020; \$38.8M for 2019; and \$41.4M for the 2015-2018 period <sup>17</sup> Exhibit B-1-1 TSP Section 2.3 Table 4 page 20

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- 1 categories of work would need to be funded below 2019 levels in order to fund the
- 2 additional mandatory maintenance that is required in 2020. Furthermore, continuing at
- 3 2019 funding levels for three additional years (2020-22) would be equivalent to
- 4 suspending all maintenance work in certain categories for one or more years. Hydro One
- 5 considers this to be imprudent and ill-advised especially at a time when power assets are
- <sup>6</sup> experiencing significant demographic pressure and verified deteriorating condition.

Updated: 2019-06-19 EB-2019-0082 Exhibit F Tab 1 Schedule 3 Page 2 of 59

• <u>Engineering and Environmental Support</u>, which funds the specialized and administrative support needed to assist with decision making processes in 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)

				Histo	orical				Bridge	Test
Description	20	15	20	16	20	17	20	18	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	6.0	11.9	4.4	10.8	4.0	2.9	4.1	2.9	7.2	5.3
Support										
Total Sustainment	233.6	238.7	215.1	241.1	218.1	241.2	229.4	238.5	200.6	214.2

10

#### 11

#### 2. VARIANCE EXPLANATION FOR SUSTAINMENT OM&A

12

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

OEB Staff Table 5 - Summary of Sustainment OM&A Impact on the 2020 Revenue Requirement (\$ Millions) Exhibit F, Tab 1, Schedule 3, Page 2, Table 1

2018	2018	2019		2020		202	0 versus	1	2020 versus
Actual	Plan	Forecast		Forecast		201	8 Actual		2018 Plan
А	В	С		D		E	E = D - A		F = D - B
\$ 229.4	\$ 238.5	\$ 200.6	\$	214.2		\$	(15.2)	\$	(24.3)
		Decrease 201 Increase 2020 Net decrease	9 ve ) ver E	ersus 2018 a sus 2019 <mark>(</mark> F	actual (G = C - A) H = D - C)	\$ \$ \$	(28.8) 13.6 (15.2)		
		Decrease 201 Increase 2020 Net decrease	9 ve ) ver F	ersus 2018   sus 2019 <mark>(</mark> F	olan (I = C - B) H = D - C)			\$ \$ \$	(37.9) 13.6 (24.3)

#### OEB Staff Table 6 - Breakdown of Sustainment OM&A (\$ Millions) Undertaking JT 1.03; Exhibit F, Tab 1, Schedule 3, Page 2, Table 1

							<u>Ratio of</u> 2020
							<u>versus</u>
	<u>201</u>	5-2018					<u>2015-2018</u>
Sustainment OM&A (\$ millions)	<u>Average</u>			<u>2019</u>	-	<u>2020</u>	<u>Average</u>
		Α		В		С	D = C / A
Breakdown of some components of Sustainment							
OM&A provided in Undertaking JT 1.03:							
Power equipment preventative maintenance	\$	20.6	\$	15.2	\$	17.6	85%
Transformer refurbishments	\$	4.7	\$	2.4	\$	3.9	83%
Site infrastructure maintenance	\$	23.0	\$	19.8	\$	21.3	93%
Vegetation management	\$	32.6	\$	29.7	\$	31.9	98%
Overhead lines maintenance	\$	17.1	\$	14.0	\$	17.2	101%
Sub-Total Undertaking JT 1.03 F	\$	98.0	\$	81.1	\$	91.9	94%
Total Sustainment OM&A G	\$	224.1	\$	200.6	\$	214.2	96%
Sub-Total JT 1.03 / Total Sustainment OM&A H = F / G	-	43.7%		40.4%		42.9%	



# ONTARIO ENERGY BOARD

FILE NO.: EB-2019-0082

Hydro One Networks Inc.

- VOLUME: Technical Conference
- DATE: August 12, 2019

1 one year, and that risk is seen as being managed, and they 2 were, again, using our process, the lowest-risk items that 3 we could defer by one year, and we thought that was a 4 managed increase.

5 We also deferred our PCB compliance from being 6 compliant by 2023 to 2024. So it is taking on more risk, 7 in that we have to be compliant by federal legislation by 8 2025. We are providing ourselves with a two-year 9 contingency. We've deferred that by one year to 2024.

10 So all in all, those risks were looked at and engaged 11 with with the lines of business to identify the lowest risk 12 where those cuts could be made to achieve the reductions 13 required as per the O&M envelopes.

MS. O'CONNELL: So bottom line what you are saying is that vegetation management is actually a lower-rated priority because it's lower risk?

MR. JESUS: So what I am saying is that on those specific corridors where customer impacts are limited and that they're not NERC-compliant that we looked at it as a managed risk to reduce or defer the maintenance for one year until 2020.

MS. O'CONNELL: Okay, thank you. My next question is also regarding this deferment and also regarding your improved asset management practices.

25 So it's my understanding from your improved asset 26 management practices there's a better integration of 27 capital and OM&A trade-offs and things of that nature 28 versus operating in silos. However, it's my understanding

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that this deferment in 2019 only -- primarily only affected
 OM&A and not capital.

3 Can you please confirm that, and can you please also 4 state why there was a deferment of expenses but not 5 capital?

б MR. JESUS: So the reason why we looked at expenses is that they have more of an impact on the revenue 7 requirements that were allocated to us. So we were -- the 8 envelopes were provided -- are provided by our finance 9 10 folks. So in order to meet those requirements for the O&M 11 we had to make those reductions in those programs. Capital 12 was not targeted, and the reason why it's not targeted is 13 because of the cost of capital is significantly much less 14 and the impact would be much less.

15 MS. O'CONNELL: Thank you.

16 MR. SPENCER: Excuse me, if I may just add one element 17 to Mr. Jesus's comments. There were in fact significant 18 capital reductions following the decision from the 2017/'18 19 proceedings, and the implementation of those changes on the 20 capital envelopes are further detailed in Exhibit C, tab 2, 21 Schedule 1, Attachment 1 in our capital performance report, 22 if you were in fact looking for those specific details. 23 But there were significant capital alterations as a result 24 of the decision as well.

MS. O'CONNELL: So you are saying in the prior proceeding, but in this proceeding there's nothing incorporated.

28

MR. SPENCER: Sorry, I couldn't catch the last part of

ASAP Reporting Services Inc.

29

1 your sentence.

2 MS. O'CONNELL: In this proceeding there's nothing 3 incorporated.

4 MR. SPENCER: That is correct. We implemented the DRO 5 from the previous proceeding as part of the plan that 6 underpins this proceeding, correct.

MS. O'CONNELL: Okay, thank you. Do you have any analysis that you can provide as to why the 2019 deferment could not be repeated in 2020?

MR. JESUS: So we see deferring it further into 2020, we made some significant O&M reductions to meet our revenue requirement and the envelopes. They cannot be deferred into 2020 -- they cannot be continued into 2020 because of the safety, environmental, and reliability risks that it would pose. Some of them are considered one-time deferments only.

17 However, we have made, rather than -- we have made 18 significant productivity and efficiency improvements as a 19 result of those cuts, and they -- from a maintenance and preventive maintenance as well as the work that we're 20 21 proposing to be reduced, they are only seen as one-time cuts, with the efficiencies and extension of maintenance 22 cycles as the productivity and efficiency improvements, so 23 24 that's why we cannot continue them on into 2020.

MS. O'CONNELL: So back to my question, does that mean that there's no analysis that you could provide me? MR. JESUS: We can certainly look at the analysis and where we've identified the least impact on the risks. So

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30

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Filed: 2019-03-21 EB-2019-0082 Exhibit B-1-1 TSP Section 1.6 Page 7 of 13

1 <b>Table 1 - Produ</b>	uctivity Savin	ngs Forecas	st Summary	v (\$Million	s)	
\$mm	2020	2021	2022	2023	2024	Total
Operations	47	52	53	53	54	259
Progressive Operations (Defined						
Capital)	6	12	12	10	10	49
Corporate	12	11	9	7	6	45
Capital Total	\$65	\$74	\$73	\$70	\$70	\$353
Operations	9	10	9	9	9	45
Information Technology	6	9	10	10	10	44
Corporate	7	6	5	4	3	25
OM&A Total	\$22	\$25	\$23	\$23	\$22	\$114
Total Defined	\$87	\$99	\$97	\$93	\$92	\$468
Progressive Operations (Undefined						
Capital)	11	27	49	68	81	237
Grand Total	\$98	\$126	\$146	\$161	\$173	\$704
	<i><b>4</b>70</i>	<i><b>4</b>120</i>	<i><b>4</b>110</i>	4101	<i><b>4</b>170</i>	<i>47</i> <b>•</b> 1
Progressive Productivity						
Progressive Operations (Defined						
Capital)	6	12	12	10	10	49
Progressive Operations (Undefined						
Capital)	11	27	49	68	81	237
Progressive Productivity Placeholder	17	39	61	78	91	286

As noted in the table above, Hydro One has identified savings opportunities totalling 2 approximately \$704M over the 2020-2024 TSP period. This reflects Tier 1 Productivity 3 savings only. There are \$353M in capital productivity savings, \$114M in OM&A 4 productivity savings and \$237M in undefined capital savings. This latter category of 5 savings falls within "Progressive Productivity". Progressive Productivity is a further 6 reduction in cost that Hydro One has included in the final Transmission Business Plan in 7 response to concerns that were raised in the OEB's decision in the Prior Proceeding 8 regarding the level of investment. It represents a commitment from Hydro One to find 9 further efficiencies over the planning period when executing the necessary planned 10

Witness: Joel Jodoin, Andrew Spencer

Filed: 2019-08-02 EB-2019-0082 Exhibit I Tab 01 Schedule 201 Page 1 of 1

1		<b>OEB INTERROGATORY #201</b>
2		
3	Re	ference:
4	F-(	01-07 p.4, TSP-01-06 p.7
5		
6	Int	errogatory:
7 8	At	the above noted reference, Hydro One stated the following:
9 10	Hy his	dro One's aim is to execute its annual O&M work strategy at a lower cost relative to torical costs through improved productivity
11	Δt	the above noted second reference. Hydro One stated that \$22 million of $OM\&A$
12	nrc	ductivity savings have been estimated for 2020
13	pre	Adenvity savings have been estimated for 2020.
15	a)	Please confirm that the above \$22 million of forecasted OM&A productivity savings
16	)	have been incorporated into Hvdro One's requested OM&A for 2020 of \$375.8
17		million. If this is not the case, please explain.
18		
19	b)	Are the forecasted productivity savings a key factor in keeping the 2020 OM&A at
20		the requested level of \$375.8 million? Please explain.
21		
22	<u>Re</u>	sponse:
23	a)	Confirmed.
24		
25	b)	Achieving sustained productivity gains in OM&A is a key factor in keeping OM&A
26		at the requested level. Key OM&A initiatives are related to IT Renegotiation,
27		Corporate Cost Reductions, Wrench Time Improvements and Tx Brush Control.
28		
29		These initiatives are discussed further in the TSP Section 1.6. Hydro One has
30		embedded the OM&A productivity savings forecast into the business plan supporting
31		this filing application and in the compensation scorecards. As a result, Hydro One
32		bears the risk of achieving these savings with no risk being put on the ratepayer.

Filed: 2019-08-28 EB-2019-0082 Exhibit JT 1.9 Page 1 of 1

#### **UNDERTAKING - JT 1.9**

- 1
- 2

#### 3 **Reference:**

- 4 I-01-OEB-002
- 5

#### 6 **Undertaking:**

- 7 To provide an update for progressive productivity.
- 8

#### 9 **Response:**

- 10 Below is an update on Hydro One's draft defined progressive productivity initiatives,
- 11 which would include undefined progressive productivity that has been defined since the
- 12 filing of this Application.

13 14

\$ in mi	llions				
Working Draft - Defined Savings					
Initiative	2020	2021	2022	2023	2024
Reduce perimeter Hydro Vac excavations in Stations	1.9	2.2	2.3	2.6	2.6
Temporary portable access roads	2.5	3.0	3.1	2.8	3.2
Control Optimization Capital Savings	2.0	2.0	2.0	2.0	2.0
Cadweld vs DMC Connectors	3.0	1.0	1.0	1.0	1.0
A&B Cable Trench Separation employing a single route	1.0	1.0	1.0	1.0	1.0
MTU deployment	1.0	1.0	1.0	1.0	1.0
Total Defined	11.5	10.1	10.4	10.5	10.8

15

<sup>16</sup> By giving the benefit of these savings to customers upfront, the Company has taken on

17 financial and execution risk to deliver its planned work program within a reduced funding

18 envelope. The initiative results in a further push towards a productive culture through the

19 development of more initiatives.

Filed: 2019-08-28 EB-2019-0082 Exhibit JT 2.27 Page 1 of 1

#### **UNDERTAKING - JT 2.27**

1

#### 2

#### 3 **<u>Reference:</u>**

4 I-07-SEC-026

5

#### 6 <u>Undertaking:</u>

To advise on Hydro One's position regarding SEC's request to provide the Hydro One
Networks Inc. aggregated distribution and transmission totals for each initiative listed in
SEC-026.

10

#### 11 **Response:**

Please see response to JT 2.26, which confirms that most of the productivity initiatives in 12 SEC-26 are subject to direct assignment to the Transmission work program. Additionally 13 JT 2.26 also provides the allocation methodology and allocations applied to items that are 14 not subject to direct allocation. Having provided the information in JT 2.26, the 15 additional information requested in this undertaking regarding the Hydro One Networks 16 Inc. aggregated distribution and transmission totals for other remaining productivity 17 initiatives would provide no additional value in connection with evaluating the present 18 application. 19

Filed: 2019-08-02 EB-2019-0082 Exhibit I Tab 07 Schedule 26 Page 1 of 2

1	SEC INTERROGATORY #26
2	
3	Reference:
4	TSP-01-06 p.7
5	
6	Interrogatory:
7	With respect to 'defined' savings:
8	
9	a) Please provide a table that breaks all actual and forecast productivity savings beginning
10	in 2017 (or earlier if tracked) to 2024, by initiative.
11	
12	b) Please explain how the savings for each initiative was calculated.
13	
14	Response:
15	Please see below for response to parts a) and b).
16	
17	Note: The allocation of Common initiatives to OM&A and Capital can be found in TSP
17	Note: The allocation of Common initiatives to OM&A and Capital can be found in TSP

18 Section 1.6 Table 1.

Filed: 2019-08-02 EB-2019-0082 Exhibit I Tab 07 Schedule 26 Page 2 of 2

					Updated Savings																	
	v	Category	Initiative Grouping	Measurement and Expected Benefit	2	016A	2	017A	20	18A	20	19	2	020	2	021	2	022	20	023	20	)24 ~
			Engineering	Cost Reduction from Software Implementation Estimated by quantifying the expected FFE reductions in Engineering through the implementation of EDM software enhancements	\$	-	\$	_	\$		\$	0.4	\$	0.9	\$	1.1	\$	1.4	\$	1.4	\$	1.4
			Fleet Telematics and Right- Sizing	Fleet Rationalization - Unit Based Capital Plan Reduction Estimated by utilizing Telematics data on fleet utilization and then measures the expected unit based reduction in the capital plan	\$	-	\$	1.9	\$	10.2	\$	10.6	\$	11.0	\$	11.1	\$	11.4	\$	11.6	\$	11.3
			Transmission and Stations	Cost Reduction based on Historical spend Expected Capital allocation based on historical spend for Transmission and Stations efficiencies and Temporary work HQ. Calculated by measuring expected benefit tery occurrence	s	-	Ś	1.8	Ś	0.6	Ś	0.7	s	0.7	s	0.7	Ś	0.7	Ś	0.7	Ś	0.7
			OT Reductions	Overtime Reductions Targeted effort to reduce the number of relative OT hours worked as a % vs prior year baseline	¢		¢	1.0	¢	0.5	÷	0.7	¢	0.7	¢	0.7	¢	0.5	¢	0.5	¢	0.7
	Capital	Operations	Procurement	Lower Cost per Unit - Historical Baseline vs Actual Savings are estimated at a category level based on historical spend, expected and achieved negotiated savings, and updated per business nana assumings (Canital anaram scend)	Ş	- 12	ç	1.5	ş	27.9	Ş	25.1	Ş	20.3	Ş ¢	34.9	Ş	35.8	ş	35.7	Ş	37.1
			Progressive Defined	Targeted Efficiencies - Defined Efficiencies that have been allocated to specific Operating initiatives that are not yet proven. Allocations taken in Business Plan based on preliminang estimates Fx + Madin Var graduting Term Arcses Rands	ş	-	Ś	-	Ś	-	Ś	5.0	ş	6.1	ş	11.6	ş	11.6	ş	10.1	ş	10.1
			Progressive Undefined	Targeted Efficiencies - Undefined Escalating commitment of 1-3% of capital work program to be allocated to future initiatives as they are defined. Included as a Top Line capital reduction	Ś	-	Ś	-	ŝ	_	\$	-	ŝ	10.9	ŝ	27.4	\$	49.4	Ś	67.9	\$	80.9
			Scheduling Tool	Cost Reduction from Software Implementation Estimated by quantifying the expected FTE reductions in Scheduling Staff through the implementation of software enhancements	s	-	Ś	_	Ś	0.2	Ś	0.9	s	0.9	ŝ	0.9	Ś	0.9	Ś	0.9	Ś	0.9
			Wrench Time	Lower Cost Per Unit of Operation Utilize unit reporting to compare like for like work in actuals vs baseline year to determine \$ savings per operation.	¢	_	ć	_	ć		ć	0.5	¢	0.5	¢	0.5	¢	0.5	¢	0.5	¢	0.5
		Information Technology	Contract Reductions	Cost Reduction Based on Historical Spend Lower cost resulting from Inergi Π Contract renegotiation. Measured against baseline spend for same scope of work	ç	2.0	¢	2.2	¢		, ,	6.2	¢	6.4	¢	0.5	ç	0.5	ç	0.5	¢	0.5
			Engineering	Cost Reduction from Software Implementation Estimated by quantifying the expected FTE and contractor reductions in Engineering through the implementation of PCMIS software enhancement	Ļ	2.0	ć	2.5	¢	0.7	÷	0.5	¢	0.4	¢	0.0	Ļ	0.0	ç	0.0	¢	0.0
			Fleet Telematics and Right- Sizing	Fleet Rationalization - Unit Based Capital Plan Reduction Estimated by utilizing Telematics data on fleet utilization and then measures the expected unit based reduction in the capital plan	Ş	-	Ş	-	Ş	0.7	Ş	0.0	Ş	0.6	Ş	0.0	Ş	0.6	Ş	0.6	Ş	0.0
			Forestry Initiatives	Lower Cost per KM Estimated based on reductions in cost due to staff policy for inclement weather and expected overall unit volume reduction in trouble calls	ç	-	ç	0.5	Ş	1.2	ş	-	ç	2.0	Ş	2.4	ç	2.0	ç	2.4	ç	1.0
	Ą		Transmission and Stations	Cost Reduction based on Historical spend Expected OM&A allocation based on historical spend for Transmission and Stations efficiencies and Temporary work HQ. Calculated by meanuring emoted the media trans occurrance	Ş	-	Ş	-	Ş	1.5	Ş	2.1	Ş	2.0	Ş	3.4	Ş	2.0	Ş	1.2	Ş	1.9
	OM8	Operations	Network Operating Efficiencies	Operational Program Efficiencies Unit cost reduction in completing Load Transfer studies through Network Operating group	ç	-	Ş	0.8	Ş	0.4	ş	1.2	ç	1.2	Ş	1.2	ç	1.2	ç	1.2	ş	1.2
			OT Reductions	Overtime Reductions Targeted effort to reduce the number of relative OT hours worked as a % vs prior year baseline	¢		ć	15	ć	0.5	÷	1.0	¢	0.5	¢	0.5	ć	0.5	¢	0.5	¢	1.0
			Procurement	Lower Cost per Unit - Historical Baseline vs Actual Savings are estimated at a category level based on historical spend, expected and achieved negotiated savings, and updated per business nana assumations	¢	1.8	¢	2.9	¢	17	¢	0.9	¢	0.5	¢	0.8	¢	0.9	ç	0.5	¢	0.8
			Scheduling Tool	Cost Reduction from Software Implementation Estimated by quantifying the expected FTE reductions in Scheduling Staff through the implementation of software enhancements	¢		¢		¢	0.2	¢		¢	_	¢		¢		¢	-	¢	
			Wrench Time	Lower Cost Per Unit of Operation Utilize unit reporting to compare like for like work in actuals vs baseline year to determine \$ savings per operation.	¢	_	¢	_	¢	1.5	¢	23	¢	23	¢	23	¢	23	¢	23	¢	23
	0	Corporate	Corporate Initiatives	Corporate Cost Initiative Identified reductions in vacancies and contractor and consulting spending	¢	23	¢	12	¢	1.0	¢	20.1	¢	10.1	¢	16.5	¢	13.6	ç	11.3	¢	0.4
	βC	Operations	Procurement	Lower Cost per Unit - Historical Baseline vs Actual Savings are estimated at a category level based on historical spend, expected and achieved negotiated savings, and updated per business nan assumptions (Compared Allocation)	ç	2.3	د ب	1.2	ب د	I.4	ė	2.2	\$	1.7.1	د د	20.3	ې د	3.0	ç	22.3	÷	2.4
L			1	Total Capital Total Capital Total Common	\$ \$	0.1 1.2 3.8 2.3	\$	18.0 8.0 3.1	\$ \$ \$	5.4 39.4 14.8 6.8	\$ \$ \$	43.6 14.7 22.4	\$ \$ \$	2.3 61.7 14.7 21.5	> \$ \$ \$	2.3 88.7 18.6 18.8	\$ \$ \$	2.3 112.2 17.9 16.0	> \$ 1 \$ \$	2.3 129.2 18.3 13.6	\$ \$ \$ \$	2.3 .43.4 17.8 11.7

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Filed: 2019-08-28 EB-2019-0082 Exhibit JT 2.28 Page 1 of 1

#### **UNDERTAKING - JT 2.28**

1

2

#### 3 **<u>Reference:</u>**

- 4 SEC-026
- 5

#### 6 **Undertaking:**

7 Regarding SEC 26, to consider if further level of details can be provided beyond what is

<sup>8</sup> currently provided in evidence regarding the base number for each one of the initiatives.

9

#### 10 **<u>Response:</u>**

<sup>11</sup> Please see Attachment 1 to this Exhibit.

#### Findings

Detailed OEB findings regarding benefit sharing are addressed under Issue 15. Benchmarking is addressed under Issues 10, 11, 12 and 30 of this Decision and Order.

On the issue of productivity gains, Hydro One provided a detailed breakdown of specific initiatives where it claimed that a total of \$398 million of productivity gains over the 5-year planning period were identified during the investment planning process (approximately \$185 million in capital, \$192 million in OM&A and \$21 million in corporate common costs).

The OEB commends Hydro One for making this effort to identify and quantify potential cost savings. However, the OEB finds that Hydro One's presentation of these productivity gains makes it difficult to differentiate between what is a "productivity gain" and what would be an exercise in due diligence in reviewing these potential saving areas to ensure that their costs have been appropriately budgeted.

In future applications, the OEB directs Hydro One to clearly describe the methodology by which any claimed productivity savings are determined and whether these savings represent net cost savings for the company which would translate into reduced costs for the ratepayers. In addition, as recommended by BOMA in its final argument, the OEB directs Hydro One to file, within twelve months of this Decision and Order, a report showing the status of the productivity initiatives listed in I-25-Staff-123, including actual savings, with a discussion of any deviation from plan. In its reply argument, Hydro One disagreed with BOMA's recommendation on the basis that it would be "unduly burdensome" and "would not provide any benefit to the ratepayers given that Hydro One is the party at risk for productivity targets." The OEB does not accept Hydro One's argument. The list of proposed productivity initiatives contains a number of discrete initiatives with specific metrics and target savings and, therefore, lends itself to monitoring and reporting. It is also expected that Hydro One's senior management would want some confirmation that these proposed savings are being realized.

Hydro One repeatedly mentioned the \$398 million of productivity gains as an example of the company's new approach to find ways to perform its work more efficiently and effectively. The OEB finds that this reporting requirement will inform the OEB and interested ratepayers on a key component of Hydro One's application in support of the revenue it seeks from those ratepayers. The report is to be filed on a standalone basis and will not be adjudicated. Hydro One is expected to update the report to file with its next rebasing application.

budgets. For example, it highlighted that it has been able to maintain transmission OM&A at steady levels over recent years, despite factors putting upward pressure on OM&A costs.<sup>51</sup>

### **Findings**

The OEB first implemented the use of scorecards as a component of its RRF when it developed a generic scorecard to be used by all regulated distributors. The use of a generic scorecard facilitates performance monitoring and benchmarking. For transmitters, the OEB more recently established its expectations regarding scorecards in its filing guidelines for transmission applications to the OEB.

The filing guidelines contain the expectation that transmitters will propose scorecards that reflect their individual business realities and that can be used to measure and monitor performance and, where appropriate, enable comparisons among transmitters.

Hydro One is seeking "approval" of its proposed scorecard. The OEB does not consider it necessary that Hydro One have an approved scorecard at this time. The OEB notes that Hydro One has indicated that it will continue to develop a performance management system and finds that Hydro One should include the OEB's determinations that follow to further evolve its scorecard in concert with the further development of its performance management system. The OEB expects Hydro One to propose an evolved scorecard in its next transmission rate application.

Hydro One has provided its analysis of how its proposed transmission business scorecard and key performance indicators align its business interests with those of its customers. In that respect Hydro One has met the expectations of the filing requirements. Hydro One's proposal is detailed, well-articulated and transparent. The following determinations are to inform Hydro One's continued scorecard development.

In the area of customer satisfaction, the OEB has provided its findings on Hydro One's customer engagement initiatives. Hydro One should develop performance indicators that better reflect the satisfaction level of the ultimate end use customer. The OEB does not consider the satisfaction level of directly connected local distributors to be indicative of their customers' level of satisfaction. Local distributors do not necessarily represent the interests of their customers on transmission issues nor do they suffer the same negative consequences if transmission service levels are poor.

Hydro One, as a corporate entity, has 1.3 million distribution customers. Hydro One should improve its internal institutional processes to better inform the transmission

<sup>&</sup>lt;sup>51</sup> Exhibit B2/Tab 1/Schedule 1/p. 11

performance management system of its distribution customers' satisfaction level for the purpose of gauging what, if any, elements of transmission operation are the cause of any dissatisfaction.

With respect to operational effectiveness, the OEB finds Hydro One's proposed Cost Control measures to be appropriate as the ratios proposed will provide meaningful measures of relative quantitative benchmarks that can be monitored over time. However, the measures proposed for asset management could potentially run counter to the cost control performance indicators. The asset management measures are directly linked to Hydro One's budget and "OEB-approved plan". It is important to note that the OEB does not approve capital plans, but rather a capital envelope which provides an input to the revenue requirement which in turn determines the approved rates. The capital plans that underpin the submitted revenue requirement in an application are intended to illustrate the need for the submitted revenue requirement on a prospective basis. In other words, the plan is provided to facilitate consideration of the reasonableness of the requested revenues.

In this Decision, the OEB has directed Hydro One to provide a report on the execution of its capital plan. The purpose of the report is to demonstrate that its planning process is robust and that it is capable of executing the plan. This report is to include rationale for any departure from the plan. Such rationale may include awareness that the plan is no longer considered economical. This awareness would be based on previously unknown situations, solutions or more generally, a change in the main drivers for the original plan. In other words, it becomes apparent that the execution of particular elements of the plan is no longer in the interest of the customer. The proposed scorecard does not encompass the potential for this eventuality and to the extent that this performance indicator drives employee compensation it has the potential to suppress the desired ongoing evaluation of the prospective plan. As the OEB has determined in this Decision, plan execution is important but it should not be driven by a performance indicator solely based on ensuring the level of spending originally considered reasonable is spent.

Asset management is at the core of Hydro One's business function. The OEB expects Hydro One to consider implementing broader Asset Management measures that are directly related to positive outcomes for its customers. For instance, performance measures related to improvements in Hydro One's asset diagnostics that enhance the accuracy of asset replacement schedules could result in direct benefits to customers.

With respect to Policy Response, the OEB does not consider Hydro One's proposed inclusion of North American Electricity Reliability Corporation (NERC) and Northeast Power Coordinating Council (NPCC) Standards to be aligned with the intent of this

element of the OEB's Scorecard objectives. NERC and NPCC standards are established to ensure events that impact reliability are avoided and/or planned for on a contingency basis so as to avoid the degradation in reliability to the extent it is reasonable to do so. These standards are a mandatory requirement of Hydro One's transmission business that is subject to regulatory enforcement. From a customer's perspective the measure of reliability that results, in part, from compliance with these standards is already included in the context of Hydro One's proposed system reliability measures under the operational effectiveness element of the proposed scorecard.

Hydro One should consider expanding its policy response measures to include its initiatives related to the government's stated policy objectives on the development of a Smart Grid. The scorecard element of policy response should not be limited to purely quantitative measures. A qualitative assessment of Hydro One's response performance related to the policy objectives embedded in the government's smart grid initiatives is one example of the type of measure the OEB anticipates under this element of the scorecard.

The OEB recognizes Hydro One's efforts to improve its efficiency and productivity that have resulted in the leveling of OM&A costs over recent years. The OEB directs Hydro One to establish firm short and long term targets for productivity improvements and associated reduction in revenue requirements as a means to drive continuous improvement and improve its internal and external benchmarking standings. Hydro One should put more emphasis on including performance metrics in the scorecard that provide objective year-over-year unit cost measures of productivity, safety, reliability and quality of service improvements.

The OEB directs Hydro One to continue to develop its performance management system and scorecard to reflect the OEB's observations and determinations. Ultimately, the elements of the scorecard that directly relate to the customer experience should be customer facing and tied directly to the customer experience. Hydro One should consider the merits of implementing measures that reflect outcomes of Hydro One's overall business such as gross fixed assets/unit of load serving capacity to more fully illustrate its overall cost of service provision. The OEB directs Hydro One to provide its analysis of the merits of this and similar measures with its next scorecard submission.

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- 1 Transmission Scorecard align with the Financial Ratio measures used in the Electricity
- 2 Distributor Scorecard.
- 3
- 4

Performance	Measures	Description
Category		
Financial	Liquidity: Current	Hydro One measures the ratio of current assets to
Ratios	Ratio (Current	current liabilities. Current assets are defined as cash or
	Assets/Current	other assets to be converted to cash within the year and
	Liabilities)	that can be used to fund daily operations and pay
		ongoing expenses. Current liabilities are defined as
		short term debts or financial obligations that become
		due within the year.
	Leverage: Total Debt	The debt-to-equity ratio is a measure of Hydro One's
	(includes short-term	financial leverage and serves to identify the ability to
	and long-term debt) to	finance assets and fulfill obligations to creditors, while
	Equity Ratio	remaining within the OEB-mandated 60 per cent to 40
		per cent debt-to-equity structure (a ratio of 1.5).
	Profitability:	Measures the OEB-approved Return on Equity that is
	Regulatory Return on	embedded in the transmitter's base rates. Return on
	Equity -Deemed	Equity is the rate of return that the utility is allowed to
	Return on Equity	earn through its transmission rates, as approved by the
	(included in rates)	OEB.
	Profitability:	Measures the transmitter's achieved Regulated Return
	Regulatory Return on	on Equity earned in the preceding fiscal year. The
	Equity -Achieved	reported return is calculated on the same basis that was
	Regulated Return on	used in establishing the transmitter's base rates. This
	Equity	shows the utility's actual Return on Equity earned each
		year.

#### 5 **Response to OEB Directions from EB-2016-0160**

#### 6 <u>Customer Satisfaction</u>

In the Decision, the OEB directed Hydro One to develop performance indicators that better reflect the satisfaction level of the ultimate end-use customer. The OEB also indicated that it does not consider the satisfaction level of a directly connected LDC to be indicative of the LDC customers' level of satisfaction, and that LDCs do not necessarily represent the interests of their customers on transmission issues nor do they suffer the same negative consequences if transmission performance levels are poor.

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Hydro One measures overall transmission customer satisfaction using a corporate survey.
 The measure used to indicate customer satisfaction reflects the overall satisfaction levels
 of three major transmission customer segments:

- Transmission End-Users;
- LDCs; and
- Transmission-connected Customer Generators.
- 6 7

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The survey measures these customers' overall opinion of Hydro One (whether they have 8 interacted with Hydro One recently or not). It seeks to uncover perceptions of how well 9 Hydro One is meeting customer expectations and delivering on critical success factors. 10 Additionally, Hydro One uses a service quality measure to measure satisfaction with the 11 outage planning procedures of the Ontario Grid Control Centre ("OGCC"). The OGCC 12 customer satisfaction survey relates customer satisfaction to relevant business processes 13 and transactional customer experience. This additional component provides Hydro One 14 with direct insight into how outage planning procedures impact supply to each of the 15 three transmission customer groups. Proper outage notifications provide transmission 16 customers with sufficient advanced notice to allow planning, notifications, and 17 restoration of service to Hydro One's transmission customers and, ultimately, any of their 18 end-use customers. These are described further in TSP Section 1.3. 19

20

#### 21 <u>LDC End-User Satisfaction</u>

Hydro One's transmission system is the upstream supplier of electricity to LDCs across 22 the Province of Ontario. Electricity is transmitted over the Hydro One transmission 23 system to Delivery Points ("DPs") with the LDCs. DPs are boundaries between the 24 electricity systems of Hydro One and the LDCs. Each LDC has significant power 25 requirements, unique needs, a diverse group of end-use customers, and most importantly, 26 distribution systems designed to meet their requirements and needs, to service their end-27 use customers. There is no direct link between the Hydro One transmission system and 28 the LDC's end-use customers. 29

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In Hydro One's 2017 Transmission Customer Engagement Survey, Hydro One asked LDCs to identify whether or not their responses to the survey were informed by their own customer engagement activities for the purposes of their own rate applications, or by any other customer research. Of the 28 respondents, 11 answered "yes" to this question. Additionally, Hydro One's Account Executives interact with the LDCs, and engage the LDCs in discussion regarding the needs of their ultimate end-use customers.

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For an LDC's end-use customers to be able to express their level of satisfaction with the 8 upstream electricity supply provided by Hydro One, ultimate end-use customers would 9 need to have the means or the mechanisms in place to create a positive correlation 10 between their satisfaction and Hydro One's transmission system, while also excluding 11 factors and variables relating to their LDC's distribution system. Similarly, for Hydro 12 One to gauge the satisfaction of an LDC's end-use customers, it would need to be able to 13 establish a connection beyond the DP with the LDC to create a link to the LDC's end-use 14 customers. Furthermore, to align with the guidance in the Handbook, Hydro One would 15 need to demonstrate continuous improvement in the satisfaction levels of the LDC's 16 ultimate end-use customers. This would require Hydro One to not only manage its 17 transmission system, but also to be able to exercise control and influence on the 18 distribution systems of the LDCs that it serves, and in some cases on the distribution 19 systems of LDCs that are embedded within those systems. 20

21

Section 2.1.4.2 in the OEB's Reporting and Record-keeping Requirements ("RRR") Filing Guide for Electricity Distributors outlines the requirements for reporting on system reliability<sup>6</sup>. Distributors are required to report system reliability exclusive of the impact of loss of supply, which is defined as an interruption due to problems associated with assets owned and/or operated by another party, i.e., upstream, and/or the bulk electricity

<sup>&</sup>lt;sup>6</sup> RRR Filing Guide for Electricity Distributors' Reporting and Record Keeping Requirements (RRR), Ontario Energy Board, March 2017

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supply system. In a letter<sup>7</sup> dated March 13, 2017, the OEB updated its RRR filing 1 guidelines requiring distributors to also exclude the impact of Major Events when 2 reporting on system reliability. The reasoning provided in the background section of the 3 letter was that by adjusting for the impact of not only loss of supply, but also of Major 4 Events, the reliability measures would be more indicative of a distributor's ability to 5 manage interruptions caused by circumstances that are directly within the distributor's 6 control. The principles outlined in the RRR filing guidelines recognize the limitations on 7 the control and influence of the transmitter. The general principle demonstrated by the 8 OEB's approach in the RRR filing guidelines is that customer satisfaction measures 9 should gauge satisfaction in areas which can be controlled and influenced to achieve the 10 intent of the key considerations in the Handbook. 11

12

Applying this principle to Hydro One's transmission system, there may be limited utility 13 in Hydro One reporting on measures relating to customer satisfaction levels for customers 14 served by distribution systems over which Hydro One exercises no influence or control. 15 To correlate the service satisfaction levels of ultimate end-use customers of LDCs to the 16 service performance of an upstream transmitter would require a means for LDC end-use 17 customers to clearly distinguish between the impacts of transmitter performance and the 18 impacts of distributor performance on the service they ultimately receive. Hydro One has 19 not been able to implement such a measure. 20

#### 21 Transmission System Plan Execution

In its Decision, the OEB expressed concern with Hydro One's asset management measures for "*In-Service Capital Additions as % of OEB-Approved Plan*" and "*CapEx as % of Budget*". The OEB indicated that these measures could potentially run counter to the cost control performance indicators. Notably, the OEB distinguished between the use of

<sup>&</sup>lt;sup>7</sup> Reporting of Customer Interruptions Data Related to Major Events, Ontario Energy Board, March 13, 2017

Filed: 2019-08-02 EB-2019-0082 Exhibit I Tab 07 Schedule 19 Page 1 of 1

#### **SEC INTERROGATORY #19**

#### 3 **Reference:**

- 4 TSP-01-05 p.11
- 5

1 2

#### 6 Interrogatory:

Please confirm that Hydro One did not develop a performance indicator that better
reflected the satisfaction level of the ultimate end-use customer as directed by the Board
in its EB-2016-0160 decision.

10

#### 11 **Response:**

In its 2017 Transmission Customer Engagement Survey, Hydro One asked LDCs to identify whether or not their responses to the survey were informed by their own customer engagement activities for the purposes of their own rate applications. The LDC End-User Satisfaction section of TSP Section 1.5, pages 11, 12 and 13 also addresses the OEB's direction in EB-2016-0160.

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Hydro One also contacted LDCs to solicit further approaches it could use to obtain 18 feedback from LDC end-users, in the future. The feedback from LDCs included: (i) 19 suggestions to continue using the account executive model to serve the needs of LDC 20 customers, a program Hydro One has expanded as described above; (ii) that Hydro One 21 meet with the large industrial customers of other LDCs, with Hydro One executives 22 responding to customer concerns. Hydro One executed this suggestion and will facilitate 23 future meetings as requested by LDCs; and (iii) that Hydro One may review LDC survey 24 information, which it already takes into consideration during the course of its investment 25 planning process. See TSP Section 1.3, pages 28 to 30. 26

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Performance Outcomes	Performance Categories	Meaures	2014	2015	2016	2017	2018	2019 2	2020 20	021 2	022 20	23 20	024
	-	Satisfaction with Outage Planning Procedures (% Satisfied)	86	92	89	94	85	86	86	87	87	88	88
Customer Focus	Customer Satisfaction	Overall Customer Satisfaction (% Satisfied)	17	85	78	80	06	88	88	88	80	80	88
	Service Quality	Customer Delivery Point (DP) Performance Standard Outliers as % of Total DPs	11.8	14.3	9.7	9.5	10.1	12.0	11.7	11.5	11.3	11.0	10.8
	Safety	Recordable Incidents (# of recordable injuries/illnesses per 200,000 hours worked	d) 1.8	1.7	1.1	1.2	1.1	1.1	1.1	1.0	6.0	0.9	0.9
		T-SAIFI-S (Ave. # Sustained interruptions per Delivery Point)	0.60	0.59	0.46	0.65	0.83	0.55	0.54	0.53	0.52	0.51	0.50
		T-SAIFI-M (Ave. # of Momentary interruptions per Delivery Point)	0.48	0.50	0.33	0.47	0.50	0.49	0.48	0.48	0.47	0.46	0.45
	System Reliability	T-SAIDI (Ave minutes of interruptions per Deliver Point)	36.7	43.9	80.8	42.8	70.0	35.4	34.66	33.96	33.28	12.62	31.97
		System Unavailability (%)	0.48	0.63	0.70	0.69	0.71	0.48	0.47	0.47	0.46	0.45	0.44
		Unsupplied energy (minutes)	12.2	11.8	11.4	13.2	19.5	9.8	9.59	9.40	9.21	9.02	8.84
Operational Effectiveness		Transmission System Plan Implementation Progress (%)	56	105	100	94	66	100	100	100	100	100	100
		CapEx as % of Budget	96	106	105	100	98	100	100	100	100	100	100
	Asset & Project Management	OM&A Program Accomplishment (composite index)		67	66	108	108	100	100.0	0.00	.00.0	00.0	0.00.
		Capital Program Accomplishment (composite index)		122	59	88	116	100	100.0	0.00	.00.0	00.00	0.00.
		Total OM&A and Capital per Gross Fixed Asset Value (%)	8.4	0.6 1	8.6	7.9	7.7	7.3	7.8	7.9	7.7	7.3	7.0
	Cost Control	OM&A per Gross Fixed Asset Value (%)	2.7	2.9	2.5	2.3	2.3	1.8	1.8	1.7	1.6	1.5	1.5
		Line Clearing Cost per kilometer (\$/km)	2,495	2,234	1,966	2,100	2,797	2,295	2,264 2	,200	,175 2	,100 2	,100
		Brush Control Cost per Hectare (\$/Ha)	1,624	1,566	1,542	1,356	1,539	1,625	1,620 1	,630	.,608 1	,608 1	,608
	Connection of Renewable Generation	% on-time completion of renewables customer impact assessments	100	100	100	100	100	100	100	100	100	100	100
Public Policy Responsiveness	Regional Infrastructure Planning (RIP) & Long-Term Energy Plan (LTEP) Right-	Regional Infrastructure Planning progress - Deliverables met, %	100	100	100	100	100	100	100	100	100	100	100
	Sizing	End-of-Life Right-Sizing Assessment Expectation				Met	Met	Met	Met	Met	Met	Met	Met
		Liquidity: Current Ratio (Current Assets/Current Liabilities)	0.65	0.13	0.20	0.13	0.12						
Financial Performance	Cinandal Dation	Leverage: Total Debt (includes short-term and long-term debt) to Equity Ratio	1.16	1.39	1.43	1.47	1.53						
		Drofftability: Dominatory Deturn on Enuity	es) 9.36	9.30	9.19	8.78	9.00						
		rionaminy. regulatory reminion cyany	ed 13.12	10.93	10.02	9.03	11.08						
	Figu	ire 1 – Evolved Electricity Transmitter Scorecard & Targ	ets – Hy	dro On	e Netwo	rks Inc.	4						

<sup>4</sup> Satisfaction with Outage Planning Procedures survey was not performed in 2013. The return on equity achieved values for 2013 to 2015 were restated.

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#### 1 Plan Expenditures

In the Decision, the OEB also determined that plan execution is important but should not be driven by a performance indicator solely based on ensuring the level of spending originally considered reasonable is spent. Hydro One is introducing the additional measures shown in Table 5, which are directly related to expenditures. These are expected to drive Hydro One toward having a more positive and direct impact on customer outcomes.

8

# 9 Table 5 - Transmission Scorecard, Asset & Project Management and Cost Control 10 Measures

Performance Category	Measure	2014	2015	2016	2017	2018
Asset & Project	OM&A Program Accomplishment (composite index)	N/A	96.6	99.2	107.7	108.0
Management	Capital Accomplishment (composite index)	N/A	122.2	59.4	87.8	116.0

#### 11 <u>Revenue Requirement Reductions through Productivity Improvements</u>

In the Decision, the Board directed Hydro One to establish firm short and long-term targets for productivity improvements and associated reduction in revenue requirements as a means to drive continuous improvement and improve Hydro One's internal and external benchmarking standings. A discussion of these targets can be found in TSP Section 1.6.

17

#### 18 <u>Public Policy Responsiveness</u>

In the Decision, the Board did not consider the inclusion of North American Electric Reliability Corporation ("NERC") or Northeast Power Coordinating Council ("NPCC") standards to be aligned with the intent of the scorecard objectives. Hydro One has removed these measures from the evolved Transmission Scorecard.

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#### 1 Qualitative Measures of Public Policy Responsiveness

The OEB proposed that Hydro One should consider expanding its Public Policy Responsiveness measures to include a qualitative assessment of Hydro One's response performance related to the policy objectives embedded in the government's Smart Grid initiatives as one example of the type of measure the OEB anticipates under this element of the evolved Transmission Scorecard.

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For 2017 reporting and onwards, Hydro One has introduced a measure designed to 8 provide a qualitative assessment of the Hydro One's alignment with the policies set out in 9 the 2017 Long-Term Energy Plan (the "LTEP").<sup>8</sup> Section 4 of the LTEP, "Improving 10 Value and Performance for Consumers", describes the province's policies regarding the 11 need for achieving continuous efficiencies and maintaining a culture of innovation in the 12 energy sector. One component of achieving efficiencies is the right-sizing of end-of-life 13 equipment. As described in the LTEP, equipment which is reaching end-of-life presents a 14 unique opportunity to reassess needs and requirements, and to ensure that replacement 15 equipment and facilities are right-sized to reflect present or anticipated needs and 16 requirements. The assessment may identify opportunities to downgrade or eliminate 17 equipment or facilities in scenarios where demand is expected to decrease; replace with 18 similar equipment with the same or higher ratings where demand is expected to increase; 19 and provide an opportunity to consider greater system resiliency and advanced 20 technological solutions in areas of increased demand. The assessments are performed 21 with the objective of achieving continuous efficiencies and improvements in the value 22 and performance for customers. 23

24

The proposed "*End-of-Life Right-Sizing Assessment Expectation*" measure is intended to track the qualitative performance of Hydro One in making right-sizing decisions for all identified end-of-life equipment or facilities. Hydro One will assess its performance by

<sup>&</sup>lt;sup>8</sup> Ontario's Long-Term Energy Plan 2017, Delivering Fairness and Choice, Government of Ontario

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setting a target of a maximum of two (2) missed equipment right-sizing opportunities in
 annual regional planning assessments. The qualitative performance assessment is either
 "Met" or "Not Met" based on the quantitative maximum of two.

4

5 The proposed new measures are included in the evolved Transmission Scorecard in 6 Figure 1.

7

#### 8 <u>Outcomes of Hydro One's Overall Business</u>

9 The OEB proposed that Hydro One should consider the merits of implementing measures 10 that reflect outcomes of Hydro One's overall business, such as gross fixed assets per unit 11 of load service capacity, to more fully illustrate its overall cost of service provision. In 12 addressing the gross fixed assets per unit of load serving capacity measure specifically, 13 Hydro One has reviewed this recommendation and does not consider it to be an 14 appropriate measure against which to assess outcomes or against which it can 15 demonstrate continuous improvement.

16

Gross fixed assets include the price of assets, which generally experience upward trends 17 due to various factors, including inflation, whereas the unit of load serving capacity is a 18 physical measure of kW or kWh. Therefore, the ratio would have a natural tendency to 19 increase over time, due to the effects on the numerator, even if the unit of load serving 20 capacity remained constant. Additionally, the generation mix is likely to contain more 21 distributed generation than large scale generation. The gross fixed assets would grow at a 22 faster rate due to having an increased distributed generation mix over time, which would 23 be driven by an increased demand for additional transmission lines, towers, and 24 transformers to connect the distributed generators to the transmission system. These 25 distributed generation connections do not benefit from the same economies of scale as 26 connecting large scale generation. Such a measure would not be appropriate and would 27 likely not allow for opportunities to demonstrate continuous improvement and to align 28 with the key principles of the RRF. 29

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1		<b>SEC INTERROGATORY #21</b>
2		
3	Re	ference:
4	TS	P-01-05 p.18
5		
6	Int	errogatory:
7	Wi	th respect to the proposed End-of-Life Right-Sizing Assessment Expectation measure:
8		
9 10	a)	Please provide further details regarding what is considered a right-sizing decision and an opportunity.
11		
12	b)	How many right-sizing opportunities occur annually, and a forecast to occur during
13		the plan term.
14		
15	c)	Please explain why the measure is not simply a ratio of decisions to opportunities?
16	De	
17	<u>Ke</u>	Sponse:
18	<i>a)</i>	appropriate size for the requirement. Hydro One considers each end of life investment
20		as a right sizing opportunity. Hydro One as part of its role within the Regional
20		Planning Process described in Exhibit B Tab 1 Schedule 1 TSP Section 1.2 engages
21		with the IESO and Local Distribution Companies to ensure that each investment is
23		carefully considered. A detailed assessment of the multiple alternatives is undertaken
24		based on several considerations, such as but not limited to, load forecast, cost,
25		operating and maintenance flexibility, and resiliency. The decision on equipment
26		sizing is made by the Regional Planning Study Team during the Regional Planning
27		Process and documented in the Regional Infrastructure Plan report.
28		
29	b)	As mentioned in response to part (a), every end of life investment is considered a
30		right sizing opportunity. Where forecasted demand growth or decline is identified
31		during Regional Planning and where Hydro One is undertaking an end of life
32		investment, considerations will be made to right-size transmission equipment, either
33		by removing equipment in the case of decline, or upgrading equipment in the case of
34		growth.

Witness: Robert Reinmuller

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c) As outlined in Exhibit B, Tab 1, Schedule 1, TSP Section 1.5, pages 17 to 18, the
qualitative measure of "Met" or "Not Met" for the End-of-Life Right-Sizing
Assessment Expectation measure was introduced in response to the direction received
by the OEB in its Decision and Order on EB-2016-0160. In this Decision the OEB
requested Hydro One to consider expanding its Public Policy Responsiveness
measures to include qualitative assessments of the company's response performance
related to policy objectives.

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#### 1 <u>Unit-Cost Measures of Productivity, Safety, Reliability, and Quality of Service</u>

2 *Improvements* 

The OEB directed Hydro One to put more emphasis on performance measures in the scorecard so as to provide objective year-over-year unit cost measures of productivity, safety, reliability, and quality of service improvements.

6

Hydro One continues to focus on opportunities to become more efficient in the
deployment of capital and in managing costs. The measures shown in Table 6 will be
used to monitor this ability, emphasizing execution and cost performance and reflecting
the outcomes of the overall business performance.

11

In 2018, Hydro One's transmission line clearing and brush control activities accounted 12 for approximately 78 per cent of the overall transmission Forestry budget. The unit cost 13 measures are calculated by dividing the annual expenditure on a given program by the 14 number of units completed in that year. These measures are presented at a program level 15 and have not been normalized, which may lead to some variations in the annual unit costs 16 due to the mix of work undertaken throughout the year. For example, brush control unit 17 costs can be affected by vegetation density. The Forestry team incorporates integrated 18 vegetation management principles while maintaining transmission corridors on 19 vegetation clearing cycles of 4, 6 or 8 years. Cycle lengths have been set to ensure that 20 Right-Of-Ways ("ROW") are in good condition and maintain a sustainable level of 21 reliability between maintenance cycles. 22

- 23
- 24

	Table	6 -	<b>Unit-Cost</b>	Measures
--	-------	-----	------------------	----------

Performance Category	Measure	2014	2015	2016	2017	2018
	Line Clearing Cost per kilometer Completed (\$/km)	2,495	2,234	1,966	2,100	2,797
	Brush Control Cost per Hectare Completed (\$/Ha)	1,624	1,566	1,542	1,356	1,539

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- 1 Over the plan period, Hydro One aims to improve on results compared to its historical
- <sup>2</sup> average, and is targeting 1.5 per cent for the OM&A ratio.



Figure 16 - OM&A per Gross Fixed Asset Value (as %)

3 4

5 Hydro One measures the cost of the line clearing program per kilometre cleared annually. In recent years, Hydro One's vegetation management activities have migrated to 6 operating near their optimal levels in the years 2014-2018, using a six-year cycle in the 7 South, Central, and East regions and an eight-year cycle in North. During these years 8 9 (2014-2018) the main objective of the program was to get ahead on the backlog created during the period 2008-2013. The focus has also been on gaining greater control of the 10 corridors by bringing tree edges back to the original design specifications. This has 11 directly improved transmission system reliability by decreasing tree encroachments and 12 reducing future maintenance costs. Additionally, Hydro One is experiencing a spike in 13

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the volume of work in urban corridors in areas including but not limited to the Greater Toronto Area, Ottawa, Burlington, and Waterloo, where previously, vegetation was not adequately addressed due to community pressure to preserve the trees. Zero tolerance enforcement for non-compliance to NERC FAC-003 Standard regarding minimum clearances for vegetation growth, has led Hydro One to revise its urban vegetation management planning and execution strategy.

7

For 2018, Hydro One's cost per kilometer of line cleared was \$2,797, an increase of \$697
or about 33 per cent compared to 2017, primarily due to the factors discussed below (see
Figure 17).

11

Hydro One's average line clearing cost over the past five years (2014-18) was \$2,318 per 12 kilometer, and the average annual number of kilometers cleared over the same period was 13 3,200 kilometers (including the over-accomplishment years 2014 and 2015). Hydro 14 One's past performance indicates an increasing trend in the cost per kilometer, mainly 15 attributable to the increase in work required to bring back corridors to design width 16 across the province and increased work requirements to maintain urban corridors based 17 on the Transmission industry and NERC standards. Additionally, there was a NERC 18 violation in the GTA area that caused an outage on a 230kV BES line. Because of that, 19 field resources took extra caution on all the corridors planned for 2018 to make sure they 20 get as much clearance as possible to the design width standards. 21

22

Over the plan period, Hydro One aims to improve against its five-year average, targeting \$2,100 per kilometer of line cleared, and expects to clear 3,000 kilometers of line on average annually.

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Figure 17 - Line Clearing Cost per kilometer and Number of kilometers Cleared
 Annually

Hydro One measures the cost of its brush control per hectare completed in the year. For
2018, Hydro One's brush control cost was \$1,539 per hectare, completing 12,850
hectares, compared to \$1,356 per hectare in 2017 when it completed 12,040 hectares.
Similar to the line clearing program, brush control programs are also being managed near
optimal levels, using the same cycles as line clearing, by minimizing program deferrals.

Hydro One's average brush control cost over the past five years (2014-18) was \$1,525 per
 hectare, and the average annual number of hectares completed over the same period was
 12,203 hectares. Hydro One's performance trend indicates a modest decrease in the cost
 per hectare, mainly attributable to increased use of herbicide and mechanical means to

1

4

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control ROW areas (see Figure 18). Hydro One continues to invest in vegetation
 management on all of the transmission corridors to maintain adherence to design
 standards and decrease backlog conditions.

4

5 Over the plan period, Hydro One is targeting \$1,608 per hectare completed (including 6 cost escalations due to inflation) and expects to complete 12,500 hectares on average 7 annually.

8

Unit costs for line clearing for the rate period (2020 to 2022) are forecasted to be higher 9 than the five-year average, but generally lower during the plan period (2020 to 2024). 10 Unit costs for brush control over both the rate period and the plan period are forecasted to 11 be higher than the five-year average. Hydro One's focus has been on gaining greater 12 control of its corridors by bringing tree edges back to the original design specifications, 13 making progress on backlogs, and ensuring its activities operate near their optimal cycle. 14 This work is expected to continue through the plan period and is the primary driver for 15 the forecast costs. 16

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1 2

3

#### 4 **Public Policy Responsiveness**

5

#### 6 <u>Renewable Energy: On-Time Completion of Renewables Customer Impact Assessments</u>

#### 7 <u>(as per cent)</u>

8 For transmission-connected generators, Hydro One completes customer impact 9 assessments and measures its performance in the successful completion of these 10 assessments against a period of 150 days. In 2018, for the fifth consecutive year, Hydro 11 One completed 100 per cent of the customer impact assessments within the allotted time 12 (see Figure 19). Hydro One attributes its consistent performance mainly due to its well 13 defined internal processes and closely coordinating and managing these activities with 14 the Independent Electricity System Operator ("IESO").

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1	<b>ENERGY PROBE INTERROGATORY #12</b>
2	
3	Reference:
4	TSP-01-05 p.16 Table 6, p.45-47 Figures 17 and 18
5	
6	Interrogatory:
7	Preamble:
8	In 2018, Hydro One Transmission line clearing and brush control activities accounted for
9	approximately 78 per cent of the overall transmission forestry budget. The unit cost
10	measures are calculated by dividing the annual expenditure on a given program by the
11	number of units completed in that year.
12	
13	a) Please provide a projection of unit costs for 2019-2024 by adding bars to the
14	referenced figures. Please ensure consistency with Evolved Transmission Scorecard.
15	
16	b) Please provide a chart showing the annual cycle times for brush control and line
17	clearing for the historic period showing if/when the cycles were changed.
18	
19	c) Are the cycle times now consistent with the recommendations of the CNUC
20	Benchmarking Study filed in the prior case (EB-2014-0160)?
21	
22	d) How do the cycle times compare to those accepted by the Regie for Hydro Quebec?
23	(CNUC Survey 2016 HQD Doc 1; Decision R-4011-2017)

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#### 1 Response:

21





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2018 and 2019 Line Clearing unit costs are higher than average due to Hydro One's efforts to ensure that corridors are cleared to design width and increased work requirements to maintain urban corridors to Transmission industry and NERC standards. As this work is completed, unit costs are expected to return to the historical average. 2020-2024 Brush Control unit costs are expected to gradually increase, due to efforts to ensure that maintenance is completed on-cycle.

- b) The line clearing and brush control cycle times for Hydro One's Transmission
  Vegetation Management Program have not changed. Please refer to Exhibit B-1-1,
  TSP Section 2.2.2.5, pages 92-93 for information regarding Hydro One's
  transmission vegetation management cycle lengths.
- 12

c) The CNUC Benchmarking Study refers to Hydro One's Distribution Vegetation
 Management Program and is not applicable to the Transmission Vegetation
 Management Program discussed in this Application.

16

d) CNUC Survey 2016 HQD Doc 1; Decision R-4011-2017 refers to Hydro Quebec's distribution system. Due to differences in design requirements and vegetation clearance distances, distribution vegetation management cycle times cannot be compared to Hydro One's transmission system.

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with the objective of achieving continuous efficiencies and improvements in the value
 and performance for customers.

3

The proposed "*End-of-Life Right-Sizing Assessment Expectation*" measure is intended to track the qualitative performance of Hydro One in making right-sizing decisions for all identified end-of-life equipment or facilities. Hydro One will assess its performance by setting a target of a maximum of two (2) missed equipment right-sizing opportunities in annual regional planning assessments. The qualitative performance assessment is either "Met" or "Not Met" based on the quantitative maximum of two.

10

The proposed new measures are included in the evolved Transmission Scorecard in
 Figure 1.

13

#### 14 Outcomes of Hydro One's Overall Business

The OEB proposed that Hydro One should consider the merits of implementing measures that reflect outcomes of Hydro One's overall business, such as gross fixed assets per unit of load service capacity, to more fully illustrate its overall cost of service provision. In addressing the gross fixed assets per unit of load serving capacity measure specifically, Hydro One has reviewed this recommendation and does not consider it to be an appropriate measure against which to assess outcomes or against which it can demonstrate continuous improvement.

22

Gross fixed assets include the price of assets, which generally experience upward trends due to various factors, including inflation, whereas the unit of load serving capacity is a physical measure of kW or kWh. Therefore, the ratio would have a natural tendency to increase over time, due to the effects on the numerator, even if the unit of load serving capacity remained constant. Additionally, the generation mix is likely to contain more distributed generation than large scale generation. The gross fixed assets would grow at a faster rate due to having an increased distributed generation mix over time, which would

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be driven by an increased demand for additional transmission lines, towers, and transformers to connect the distributed generators to the transmission system. These distributed generation connections do not benefit from the same economies of scale as connecting large scale generation. Such a measure would not be appropriate and would likely not allow for opportunities to demonstrate continuous improvement and to align with the key principles of the RRF.

7

#### 8 Continued Development of Hydro One's Performance Management System

The OEB directed Hydro One to continue to develop its performance management 9 system and scorecard to reflect the OEB's observations and determinations. Hydro One 10 believes that the evolved Transmission Scorecard and the associated, updated 11 Performance Reporting Governance Framework (TSP Section 1.5, Attachment 1) 12 demonstrate Hydro One's commitment to continue to develop its performance 13 management system and scorecard to reflect the OEB's observations and determinations. 14 In doing so, Hydro One has considered the merits of implementing measures that reflect 15 the overall business and which are expected to positively impact outcomes. 16

17

#### 18

1.5.3

19

# (5.2.3 C, D) PERFORMANCE MEASUREMENT OUTPUTS AND PERFORMANCE UPDATE

20

The following sections provide updates on Hydro One's performance trends since its last 21 transmission rate proceeding, organized by the corresponding performance outcomes (i.e. 22 Customer Focus, Operational Effectiveness, Public Policy Responsiveness and Financial 23 Performance). As shown in Figure 1, where available at the time of filing, Hydro One 24 has provided results for 2018 and aligned the discussions in the section below to reflect 25 the 2018 results. For the majority of the measures however, 2018 results were not 26 available at the time of filing and will be provided in an update to this application. For 27 these measures, the discussions below are focused on 2017 results. 28