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Joanne Richardson
Acting Director – Major Projects and Partnerships
Regulatory Affairs

BY COURIER

February 12, 2015

Ms. Kirsten Walli
Ontario Energy Board
Suite 2700, 2300 Yonge Street
Toronto, ON.
M4P 1E4

Dear Ms. Walli:

EB-2013-0421 – Hydro One Networks' Section 92 – Supply to Essex County Transmission Reinforcement Project – Hydro One Updates to Prefiled Evidence

In accordance with Procedural Order 3, dated January 30, 2015, I am attaching two paper copies of Hydro One Networks' updated Application and Prefiled Evidence that was filed with the Board on January 22, 2014. The following exhibits were revised to reflect the result of the Board's Decision and Order on the threshold questions (dated December 16, 2014), 2015 approved Transmission rates and updated economic assumptions:

Exhibit A, Tab 1, Schedule 1	
Exhibit A, Tab 3, Schedule 1	Pages 1 and 2
Exhibit B, Tab 4, Schedule 2	Pages 2-5
Exhibit B, Tab 4, Schedule 3	
Exhibit B, Tab 5, Schedule 1	
Exhibit B, Tab 5, Schedule 2	

An electronic copy of the updated evidence has been filed using the Board's Regulatory Electronic Submission System (RESS) and the confirmation of successful submission slip is provided with this letter.

Sincerely,

ORIGINAL SIGNED BY JOANNE RICHARDSON

Joanne Richardson

Attach.
cc. EB-2013-0421 Intervenors (electronic only)

APPLICATION

ONTARIO ENERGY BOARD

In the matter of the *Ontario Energy Board Act, 1998*;

And in the matter of an Application by Hydro One Networks Inc. for an Order or Orders granting leave to construct new transmission facilities ("Supply to Essex County Transmission Reinforcement "**SECTR**" Project") in the Windsor – Essex region in southwestern Ontario.

1. The Applicant is Hydro One Networks Inc. ("**Hydro One**"), a subsidiary of Hydro One Inc. The Applicant is an Ontario corporation with its head office in the City of Toronto. Hydro One carries on the business, among other things, of owning and operating transmission facilities within Ontario.

2. Hydro One hereby applies to the Ontario Energy Board ("**the Board**") pursuant to Section 92 of the *Ontario Energy Board Act, 1998* ("**the Act**") for an Order or Orders granting leave to construct approximately 13 kilometers of transmission line facilities in the Windsor – Essex area. These facilities are required to:
   a) address electricity supply capacity needs in the Windsor – Essex area;
   b) minimize the impact of major transmission outages to customers in the area; and
   c) ensure that Hydro One is compliant with the IESO's Ontario Resource and Transmission Assessment Criteria.

3. The proposed transmission project, between Leamington Junction (located along the Chatham Switching Station to Keith Transmission Station 230 kV corridor)

and a new transmission station, Leamington TS, in the municipality of Leamington, includes:

- Construction of approximately 13 km of new 230 kV double-circuit line on steel lattice towers on a new ROW;
- Installation of optic ground wire ("**OPGW**") for system telecommunication purposes on top of the new 230 kV towers serving Leamington TS as well as new OPGW on the existing towers near Leamington Junction;
- Construction of a new Leamington TS.

A map showing the general location of the proposed facilities is provided in **Exhibit B, Tab 2, Schedule 2.**

The proposed in-service date is March 2018.

4. The Ontario Power Authority (**"OPA"**) has determined the need for the project and the alternatives that were considered as part of the integrated plan for the Windsor-Essex area. The OPA's evidence on the need for the project is filed at **Exhibit B, Tab 1, Schedule 5**.

5. The total cost of the line facilities for which Hydro One is seeking approval is estimate to be approximately $45 million. The estimated cost of associated station work with the SECTR Project is $32 million. The details are provided in **Exhibit B, Tab 4, Schedule 2**. The project economics as filed in **Exhibit B, Tab 4, Schedule 3** indicate that the project will result in no increase in the Line Connection pool rate and a maximum increase of 0.50% in the Transformation Connection pool rate ($0.01 increase). It is estimated that there is a minimal impact (0.01%) on the overall average Ontario consumer's electricity bill.

6. The OPA has provided an assessment of the appropriate apportionment of the costs associated with the SECTR Project. The analysis concludes that 22.5% should be allocated to transmission ratepayers due to system benefits and the remainder paid for by local load customers due to customer benefits. The OPA cost responsibility evidence is provided in **Exhibit B, Tab 4, Schedule 4.**

8. In regard to the customer benefits and consistent with the OEB's "beneficiary pays" principle, Hydro One has proposed an allocation of costs at the distribution level for the transmission investments associated with the SECTR Project. This methodology ensures fairness in the allocation of upstream transmission costs and avoids cross-subsidization at the distribution level among beneficiaries. Commencement of the SECTR project is contingent upon the Board endorsing the methodology as described in **Exhibit B, Tab 4, Schedule 5.**

9. The SECTR Project is expected to have no significant environmental impacts. A Class EA was completed for the Project under the *Class Environmental Assessment for Minor Transmission Facilities* ("**Class EA**") approved by the Ministry of the Environment ("**MOE**"). The Class EA process is described in **Exhibit B, Tab 6, Schedule 1**.

10. The Independent Electricity System Operator ("**IESO**") has provided a draft System Impact Assessment ("**SIA**") of the proposed facilities to assess the impact of these facilities on the IESO-controlled grid. The Draft SIA is filed as **Exhibit B, Tab 6, Schedule 3**.

11. A Customer Impact Assessment ("**CIA**") in accordance with Hydro One's customer connection procedures, is filed as **Exhibit B, Tab 6, Schedule 4**.

12. Hydro One has consulted stakeholders in the Windsor – Essex area to identify potential concerns associated with the construction of the proposed transmission facilities. The feedback received from stakeholders was considered and incorporated into the preparation of this Application. The stakeholder consultation process is described in **Exhibit B, Tab 6, Schedule 5.** Municipalities, LDCs, the WindsorEssex Economic Development Corporation, growers and their associations have provided letters of support that can be found in **Exhibit B, Tab 6, Schedule 2**. Hydro One will continue to communicate with stakeholders and the local community to ensure that potential concerns during the construction and commissioning stages of the proposed facilities are addressed.

13. Details on the Hydro One engagement process with neighbouring First Nation and Métis communities is filed in **Exhibit B, Tab 6, Schedule 6**.

14. New permanent land rights on properties from Leamington Junction to Leamington TS will be required to accommodate the proposed transmission facilities. Temporary rights for construction purposes will also be required at specific locations along the corridor. Further information regarding the real estate needs to complete this project are provided in **Exhibit B, Tab 6, Schedule 7.**

15. This Application is supported by written evidence which includes details of the Applicant's proposal for the transmission reinforcement work. The written evidence is prefiled as attached and may be amended from time to time prior to the Board's final decision on this Application. Further, the Applicant may seek meetings with Board Staff and intervenors in an attempt to identify and reach agreements to settle any issues arising out of this Application.

16. Hydro One requests a written hearing for this proceeding.

17. Hydro One requests that a copy of all documents filed with the Board be served on the Applicant and the Applicant's counsel, as follows:

a) The Applicant:

Ms. Erin Henderson
Senior Regulatory Coordinator
Hydro One Networks Inc.

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Electronic access:	regulatory@HydroOne.com

b) The Applicant's counsel:

Michael Engelberg
Assistant General Counsel
Hydro One Networks Inc.

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SUMMARY OF PREFILED EVIDENCE

Hydro One Networks Inc. ("**Hydro One**") is applying to the Board for an order granting leave to construct transmission facilities in the Windsor – Essex area pursuant to Section 92 of the *Ontario Energy Board Act*, *1998* ("**the Act**").

The proposed facilities, to be constructed, owned and operated by Hydro One are as described in **Exhibit B, Tab 2, Schedule 1**. A map showing the location of the proposed transmission facilities is provided in **Exhibit B, Tab 2, Schedule 2**.

The planned in-service date for the Supply to Essex Country Transmission Reinforcement (**"SECTR"**) Project is March 2018. A construction schedule for the project is shown at **Exhibit B, Tab 5, Schedule 2**.

The evidence identifies near-term supply capacity and other reliability needs in the Windsor – Essex region. Specifically, there is a need for additional supply capacity in the Kingsville–Leamington 115 kV subsystems, and a need to minimize the impact of supply interruptions to customers in the J3E-J4E subsystem. Currently the J3E-J4E subsystem does not comply with the IESO's Ontario Resource and Transmission Assessment Criteria restoration criteria. Further evidence on need is found in **Exhibit B, Tab 1, Schedule 4** and **Exhibit B, Tab 1, Schedule 5**.

The Independent Electricity System Operator ("**IESO**") has provided a Draft System Impact Assessment ("**SIA**") for the SECTR Project. It is filed as **Exhibit B, Tab 6, Schedule 3**.

A Customer Impact Assessment (“**CIA**”), in accordance with Hydro One’s customer connection procedures, is filed as **Exhibit B, Tab 6, Schedule 4**.

The total cost of the SECTR Line Project is estimated to be $77 million. The proposed new transmission facilities will be included in both the line connection pool and the transformation connection pool revenue requirements as the new facilities will address both system needs and load customer needs. Details of the project economics are filed in **Exhibit B, Tab 4, Schedule 3**.

In conjunction with the Hydro One application to the Board for an order granting leave to construct transmission facilities, Hydro One also requests that the Board endorse the proposed cost allocation methodology at the distribution level for the customer-related transmission investments associated with the SECTR Project provided in **Exhibit B, Tab 4, Schedule 5**. This methodology, modelled on cost responsibility provisions of the Transmission System Code, ensures fairness in the allocation of upstream transmission costs and avoids cross-subsidization at the distribution level among beneficiaries. In an effort to ensure regulatory certainty for ratepayers (including Hydro One Distribution, embedded local distribution companies and large commercial distributon customers) a decision on a methodology for allocating, at the distribution level, the upstream customer-related investment costs is required in order for Hydro One to proceed with the SECTR Project.

The design of the proposed facilities is in accordance with good utility practice and meets the requirements of the *Transmission System Code* for licensed transmitters in Ontario.

The SECTR Project is subject to the *Class Environmental Assessment for Minor Transmission Facilities* process, in accordance with the Ontario *Environmental Assessment Act*. Agency and public comments received during the draft Environmental Study Report review and comment period were addressed and documented in the final ESR, which was filed with the Ministry of the Environment in July 2010. Prior to construction, Hydro One will obtain all regulatory approvals, licences and permits, as required. Details on the environmental assessment process are filed in **Exhibit B, Tab 6, Schedule 1**.

Hydro One has consulted with affected property owners and stakeholders in the project study area. The purpose of the consultation was to identify potential concerns associated with the construction activities of the proposed transmission facilities. The feedback received from stakeholders was considered and incorporated into the preparation of this Application. Details regarding the consultation process are filed as **Exhibit B, Tab 6, Schedule 5**. Hydro One will continue to work with the local community and landowners and will ensure that potential concerns identified as part of the Environmental Approval process and during the construction phase are addressed.

Hydro One is undertaking an engagement process with neighbouring First Nations communities. In 2008 Hydro One advised the Ontario Ministry of Aboriginal Affairs ("**MAA**") and Indian and Northern Affairs Canada ("**INAC**") of the SECTR project and requested input on First Nation and Métis interests in the area. The MAA advised that the project did not appear to be located in an area where First Nation existing or asserted rights could be impacted by the SECTR Project. INAC determined that Specific Claims have been submitted by Caldwell First Nation, Walpole Island First Nation, Chippewas of Kettle and Stony Point, Chippewas of the Thames First Nation, Oneida Nation of the Thames, Munsee-Delaware Nation, and Moravian of the Thames First Nation. In addition, they recommended that Hydro One apprise Aamjiwnaang First Nation of the

SECTR Project. Further information on Hydro One's engagement process with First Nations and Métis is filed in **Exhibit B, Tab 6, Schedule 6**.

Hydro One requests a written hearing for this proceeding and submits that the evidence supports granting the requested Order based on the following grounds:

- The need for additional supply in the Windsor-Essex area and the need to minimize the impact of supply interruptions has been established;
- There are no adverse system or anticipated customer impacts from the project;
- The project will be fully compliant with the relevant codes, rules and licences;
- There will be a minor customer total bill impact (approximately 0.01%) as a result of the new line facilities.

In order for the proposed project to proceed, it must be considered to be in the "public interest". Subsection 96(2) of the Act specifies that, for section 92 purposes, "the Board shall only consider the interests of consumers with respect to prices and the reliability and quality of electricity service" and "where applicable and in a manner consistent with the policies of the Government of Ontario, the promotion of the use of renewable energy sources." Hydro One submits that the proposed facilities are in the public interest because:

- The existing capability of the transmission system in the Windsor - Essex area is not sufficient to serve the anticipated future electricity demand resulting from population growth and economic activity;
- The SECTR Project is a cost-effective solution to achieving this objective;
- The need for the SECTR Project has been determined by the OPA and the Project is supported by multiple parties in the Windsor - Essex area. The support of these parties is documented in 9 letters of endorsement provided in **Exhibit B, Tab 6, Schedule 2**;

- There will be no material impact on the price of electricity; and
- The cost responsibility methodology proposed is consistent with the Transmission System Code and the Ontario Energy Board's "beneficiary pays" principles

For the reasons provided above, Hydro One respectfully submits that the proposed transmission line facilities should be approved under section 92 of the Act. Accordingly, Hydro One requests an Order from the Board pursuant to section 92 of the Act granting leave to construct the proposed transmission line facilities. In addition, Hydro One requests that the Board endorse the methodology for allocation of upstream costs at the distribution level as set out in this Application.

PROJECT COSTS

The estimated capital cost of the Supply to Essex County Transmission Reinforcement ("**SECTR**") Project, including overheads and capitalized interest is shown below:

Table 1
Cost of Line Work

	Estimated Cost ($000's)
Planning & Estimating	$1,500
Line Protection Facilities	0
Property [1]	11,709
Project Management	630
Engineering	966
Procurement	9,736
Construction	9,724
Removals	2,268
Contingencies[2]	2,078
Costs before Overhead and AFUDC	**$38,611**
Overhead [3]	5,390
Capitalized Interest [4]	1,286
Total Line Work	**$45,287**

[1] Property includes costs for temporary rights along the ROW.

[2] Contingencies also include contingency on removal costs of $181K

[3] Overhead costs allocated to the project are for asset management and corporate services costs. These costs are charged to capital projects through a standard overhead capitalization rate. As such they are considered "Indirect Overheads". Hydro One does not allocate any project activity to "Direct Overheads" but rather charges all other costs directly to the project.

[4] Capitalized interest is calculated using the Board's approved interest rate methodology (EB-2006-0117) to the projects' forecast monthly cash flow and carry-forward closing balance from the preceding month.

Table 2
Cost of Station Work

	Estimated Cost ($000's)
Planning & Estimating	$373
Property (Land has been acquired)	$627
Project Management	$431
Engineering	$1,840
Procurement	$16,090
Construction	$5,064
Commissioning	$1,135
Removals	$0
Contingencies	$2,361
Costs before Overhead and Interest	**$27,921**
Overhead[3]	$3,431
Capitalized Interest[4]	$770
Total Station Work	**$32,122**

The cost of the line and station work provided above allows for the schedule of approval, design and construction activities provided in **Exhibit B, Tab 5, Schedule 2**.

1.0 RISKS AND CONTINGENCIES

As with most projects, there is some risk associated with estimating costs. Hydro One's cost estimate includes an allowance for contingencies in recognition of these risks.

Based on past experience, the estimate for this project work includes allowances in the contingencies to cover the following potential risks:

- Cancellation or delays in obtaining required power and telecommunications system outages (needed for the line upgrade work and commissioning activities);
- Construction equipment failures;
- Material delivery delay due to procurement or vendor issues;
- Activities or materials of a minor nature, not included in the estimate preparation;
- Labour hours deviating from the estimate.

Cost contingencies that have not been included, due to the unlikelihood or uncertainty of occurrence, include:

- Mitigation costs due to addressing any issues associated with having a Union Gas pipeline parallel to the new ROW;
- Labour disputes;
- Delays in obtaining regulatory approvals, permits and licences;
- Delays in property rights acquisitions;
- Safety or environmental incidents;
- Unexpected First Nations/Métis interests;
- Significant changes in costs of materials since the estimate preparation;

2.0 COSTS OF COMPARABLE PROJECTS

The OEB Filing Requirements for Electricity Transmission and Distribution Applications (EB-2006-0170), Chapter 4, requires the applicant to provide a cost comparable project constructed by the applicant. Table 2 below shows the cost, construction and technical comparison of the SECTR Project to the Hurontario Station and Transmission Line Reinforcement (“**HSTLR**”) Project (EB-2006-0215).

For the purpose of context, Hydro One recently (2010) placed in-service a new double-circuit 230 kV transmission line from Hurontario SS to Cardiff TS as part of the HSTLR

Project. The HSTLR Project was chosen as a good "apples-to-apples" comparison to the SECTR Project because of its similar construction conditions and design. Both projects have a double-circuit 230 kV transmission line supplying a transmission station. Key project information on the two projects is provided in Table 2 below.

The total cost per km is based on the comparable costs of the two projects. The main drivers of the variance in comparable costs are:

- The Leamington Junction to Leamington TS ROW corridor is situated adjacent to a Union Gas pipeline which introduces some risk whereas the HSTLR project was already located on land designated for utility use with no pipeline adjacent to it. This results in higher construction costs for SECTR;
- The HSTLR Project costs were incurred over the 2007 to 2010 period as compared to SECTR Project costs which reflect costs for the period 2014 to 2016. Significant increases in material and equipment prices occurred over the intervening period;
- The SECTR Project includes as a contingency a cost of relocating 6.8 km of distribution lines located in the ROW deemed as interference for the 230kV transmission lines.

Note that the HSTRL Project did not require any acquisition of additional land or land rights.

Table 2
Costs of Comparable Projects

Project	**Supply To Essex Transmission Reinforcement Project (estimate)**	**Hurontario Stn. And Transmission Line Reinforcement Project (actual)**
Technical	230 kV double circuits on single structures Generally install steel lattice tower structures	230 kV double circuits on single structures Generally install steel lattice tower structures
Length (km)	13 km	4.2 km
Project Surroundings	Mostly urban agricultural, residential & commercial	Mostly rural & urban residential & commercial
Environmental Issues	None	None
In-Service Date	2016-05-31	2010-03-30
Total Project Cost	$47,555k	$10,002K
Less: Non-Comparable Costs		
Property[1,2]	$13,752k	$0k
Planning & Estimating[1]	$1,500k	$0k
Total Comparable Project Costs	$32,303k	$10,002k
Total Cost/km	$2.5M/km	$2.4M/km

[1] Associated contingency, overhead & capitalized interest are included

[2] SECTR requires acquisition of property rights whereas no property was purchased for HSTLR as it was located on land designated for utility use already

PROJECT ECONOMICS

1.0 ECONOMIC FEASIBILITY

The proposed transmission work for the Supply to Essex County Transmission Reinforcement ("**SECTR**") Project comprises line assets and related station assets. The transformation assets, which include establishing a new Leamington TS will be included in the Transformation Connection Pool for rate-making purposes. The line assets, which include a new 230 kV double-circuit line between the new Leamington TS and new taps on 230 kV circuits between Chatham TS and Sandwich Junction, will be included in the Line Connection Pool. More details concerning the assignment of costs is provided in section 2.0 below.

See **Exhibit B, Tab 2, Schedule 1**, for detailed information on the proposed work. A Discounted Cash Flow ("**DCF**") calculation has been completed for each pool consistent with the economic evaluation requirements of the Transmission System Code to determine whether a capital contribution is required. For the Line Connection Pool capital contributions totaling $31.2 million, plus HST, are required and for the Transformation Connection Pool capital contributions totaling $8.2 million, plus HST, are required.

Capital Contribution Required *in $ millions, excluding HST*	Line Pool	Transformation Pool	Total
Hydro One Distribution	31.2	8.2	39.4
Total	**31.2**	**8.2**	**39.4**

As the sole transmission-connected customer in the project area, Hydro One Distribution is responsible for the capital contribution related to the project, as noted in the table above. In order to help recover the capital contribution from other project beneficiaries within Hydro One's distribution system (i.e., embedded LDCs and commercial customers), Hydro One is proposing a methodology for the allocation of project costs among them, See **Exhibit B, Tab 4, Schedule 5** for the proposed methodology for allocation of customer-related project costs among distribution-system beneficiaries.

2.0 COST RESPONSIBILITY

Line Connection

The line cost of the SECTR Project is $45.3M. This includes the cost of building approximately 13 km of new 230 kV double-circuit line on a new right-of-way, installation of optic ground wire, providing connections to the new circuits and right-of-way acquisition.

Transformation Connection

The transformation cost of the SECTR Project is $32.1M. This includes the cost of establishing a new Leamington TS, providing the station with two 230/27.6 – 27.6 kV 75/100/125 MVA step-down transformers, associated 27.6 kV switchgear and feeder positions and property acquisition.

Cost Allocation

The OPA has determined that the SECTR Project will address both system needs and load customer needs. In accordance with the beneficiary pays principle, the OPA has recommended that load customers pay 77.5% of the SECTR cost (see **Exhibit B, Tab 4, Schedule 4** for more details). Since the realization of the system benefit is due to both the line connection and transformation components of the SECTR Project it is recommended that 77.5% of the line connection cost of the project (77.5% of $45.3M) and 77.5% of the transformation cost of the project (77.5% of $32.1M) be assigned to the customer.

With the establishment of Leamington TS sufficient load will be transferred from Kingsville TS to Leamington TS. This will reduce the need for the current four transformers at Kingsville TS to two transformers. Three of the transformers at Kingsville TS are at end-of-life with planned replacement in 2015 (under Hydro One Transmission's Sustainment program). With the planned load transfer to Leamington TS, only one of these three transformers will need to be replaced. The estimated cost to replace three transformers is $18M, while the estimated cost to replace one transformer and reconfigure the station to a two-transformer station is $12M. This represents a $6M reduction in cost due to the SECTR Project. Given that 77.5% of the cost of SECTR is assigned to the customer, this same percentage of the savings due to SECTR is to be credited to the customer for economic evaluation purposes. Since the cost reduction is at the transformation level, the credit is to be given to the customer at the transformation pool. There would also be a net saving of OM&A costs from maintaining a two-transformer station rather a four-transformer station at Kingsville TS.

The table below indicates the cost responsibility for the elements of work to be done on the project.

Cost Responsibility *in $ million, excluding HST*	Cost of Work (per B-4-2)	Cost Responsibility		Capital Contribution
		Customers	Pool	
Transmission Line Facilities	45.3[1]	35.1	10.2	31.2
Station Facilities	32.1	20.2[2]	11.9	8.2
Total	**77.4**	**55.3**	**22.1**	**39.4**

2.1 Line Connection Pool

A 25-year discounted cash flow analysis for the Line Connection facilities is provided in Table 1 below. The results indicate that the forecast incremental revenues are expected to be insufficient to pay for the incremental capital and operating costs and therefore a capital contribution will be required. The capital contribution is estimated to be $31.2 million for Hydro One Distribution, the sole transmission connected customer.

2.2 Transformation Connection Pool

A 25-year discounted cash flow analysis for the Transformation Connection facilities is provided in Table 2 below. The results indicate that the forecast incremental revenues are expected to be insufficient to pay for the incremental capital and operating costs and therefore a capital contribution will be required. The capital contribution is estimated to be $8.2 million for Hydro One Distribution.

[1] Line costs of $45.3 million include $43.0 million of up front capital costs plus $2.3 million removal costs
[2] $20.2 million = ($32.1 million station facilities costs less $6 million Kingsville cost reduction) x 77.5%

3.0 RATE IMPACT ASSESSMENT

The analysis of the Line Connection Pool and Transformation Connection Pool rate impacts has been carried out on the basis of Hydro One's transmission revenue requirement for the year 2015, and the most recently approved Ontario Transmission Rate Schedules. As none of the costs are Network-pool-related, based on the criteria used to allocate transmission costs to the three pools as approved by the Board in its RP-1999-0044 decision, the Network Pool revenue requirement would be unaffected by the new facilities.

Line Connection Pool

Based on the Line Connection Pool incremental cash flows associated with the net capital cost of the project, $11.8 million ($43.0 million gross cost less $31.2 million capital contribution), there will be a change in the Line Connection pool revenue requirement once the project's impacts are reflected in the transmission rate base, net of capital contribution, at the projected March 2018 in-service date. Over a 25-year time horizon, the Line Connection Pool rate will remain flat at the current rate of $0.86/kW/month. The maximum revenue deficiency related to the proposed line facilities will be $0.7 million in the year 2020, which will result in a 0% (after rounding) rate impact in that year. The detailed analysis illustrating the calculation of the incremental line revenue deficiency and rate impact is provided in Table 3 below.

Transformation Connection Pool

Based on the Transformation Connection Pool incremental cash flows associated with the net capital cost of the project, $23.9 million ($32.1 million gross cost less $8.2 million capital contribution), there will be a change in the Transformation Connection Pool revenue requirement once the project's impacts are reflected in the transmission rate base, net of capital contribution, at the projected March 2018 in-service date. Over a 25-

year time horizon, the Transformation Connection Pool rate will initially rise by 1 cent/kw/month, from the current rate of $2.00/kW/month to $2.01/kW/month before falling back to the current rate. The maximum revenue deficiency related to the proposed transformation facilities will be $1.0 million in the year 2020. This will result in a maximum rate impact of 0.50% in that year. The detailed analysis illustrating the calculation of the incremental transformation revenue deficiency and rate impact is provided in Table 4 below.

<u>Impact on Typical Residential Customer</u>

Adding the costs of the new facilities to the respective pools will cause a slight increase in a typical residential customer's rates. The table below shows this result for a typical residential customer who is under the Regulated Price Plan ("**RPP**").

A. Typical monthly bill (Residential R1 in a high density zone at 1,000 kWh per month with winter commodity prices.)	$189.00 per month
B. Transmission component of monthly bill	$14.04 per month
C. Line and Transformation Pool share of Transmission component	$5.83 per month
D. Impact on Line and Transformation Pool Provincial Uniform Rates (Tables 3 and 4. Combined Impact of Line 0.00% and Transformation 0.50%)	0.37%
E. Increase in Transmission costs for typical monthly bill (C x D)	$0.02 per month or $0.26 per year
F. Net increase on typical residential customer bill (E / A)	0.01%

Notes:

1. *Values rounded to two significant digits.*
2. *Typical monthly bill reflects interim rates pending Decision & Order for 2015-2019 Distribution Custom Rate Application EB-2013-0416*

Table 1 – DCF Analysis, Hydro One Distribution, Line Pool, page

Date:	9-Feb-15
Project #	17503

SUMMARY OF CONTRIBUTION CALCULATIONS
Line Pool - Estimated cost

Facility Name:	Supply to Essex County Transmission Reinforcement
Description:	Line Pool Capital Contribution
Customer:	Hydro One Distribution

			In-Service Date	<-------	Project year ended - annualized from In-Service Date	-------->									
		Month	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31
		Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
			0	1	2	3	4	5	6	7	8	9	10	11	12
Revenue & Expense Forecast															
Load Forecast (MW)				38.2	39.2	40.1	41.0	42.0	42.9	43.9	44.8	45.8	46.8	47.7	48.7
Load adjustments (MW)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				38.2	39.2	40.1	41.0	42.0	42.9	43.9	44.8	45.8	46.8	47.7	48.7
Tariff Applied ($/kW/Month)				0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Incremental Revenue - $M				0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
Removal Costs - $M			(1.8)												
On-going OM&A Costs - $M			0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Municipal Tax - $M				(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Net Revenue/(Costs) before taxes - $M			(1.8)	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Income Taxes			0.5	0.2	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1
Operating Cash Flow (after taxes) - $M			(1.3)	0.4	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
		Cumulative PV @ 5.83%													
PV Operating Cash Flow (after taxes) - $M	**(A)**	**5.3**	**(1.3)**	**0.4**	**0.6**	**0.5**	**0.5**	**0.4**	**0.4**	**0.4**	**0.3**	**0.3**	**0.3**	**0.3**	**0.2**
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC			(29.6)												
- Overheads			(2.7)												
- AFUDC			(1.0)												
Total upfront capital expenditures			**(33.3)**												
On-going capital expenditures				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures			0.0												
Total capital expenditures - $M			**(33.3)**												
Capital Expenditures - $M															
PV CCA Residual Tax Shield - $M			**0.1**												
PV Working Capital - $M			**(0.0)**												
PV Capital (after taxes) - $M	**(B)**	**(33.2)**	**(33.2)**												
Cumulative PV Cash Flow (after taxes) - $M	**(A) + (B)**	**(27.9)**	**(34.5)**	**(34.1)**	**(33.5)**	**(33.0)**	**(32.5)**	**(32.1)**	**(31.7)**	**(31.3)**	**(31.0)**	**(30.7)**	**(30.4)**	**(30.1)**	**(29.9)**

Discounted Cash Flow Summary

Economic Study Horizon - Years: **25**

Discount Rate - % **5.83%**

		Before Cont $M		After Cont $M	Impact $M
PV Incremental Revenue		6.5		6.5	
PV OM&A Costs		(2.0)		(2.0)	
PV Municipal Tax		(1.9)		(1.9)	
PV Income Taxes		(0.7)		(0.7)	0.0
PV CCA Tax Shield		3.5		0.2	(3.3)
PV Capital - Upfront	(33.3)		(33.3)		
Add: PV **Capital Contribution**	**0.0**	(33.3)	**31.2**	(2.1)	31.2
PV Capital - On-going		0.0		0.0	
PV Working Capital		(0.0)		(0.0)	
PV Surplus / (Shortfall)		**(27.9)**		**(0.0)**	**27.9**
Profitability Index*		**0.2**		**1.0**	

Notes:
*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

Table 1 – DCF Analysis, Hydro One Distribution, Line Pool, page 2

Date:	9-Feb-15
Project #	17503

SUMMARY OF CONTRIBUTION CALCULATIONS
Line Pool - Estimated cost

Facility Name:	Supply to Essex County Transmission Reinforcement
Description:	Line Pool Capital Contribution
Customer:	Hydro One Distribution

<------- Project year ended - annualized from In-Service Date -------->

	Month	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31
	Year	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
		13	14	15	16	17	18	19	20	21	22	23	24	25
Revenue & Expense Forecast														
Load Forecast (MW)		49.7	50.6	51.6	52.6	53.7	54.6	55.5	56.5	57.6	58.6	59.6	60.7	61.8
Load adjustments (MW)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		49.7	50.6	51.6	52.6	53.7	54.6	55.5	56.5	57.6	58.6	59.6	60.7	61.8
Tariff Applied ($/kW/Month)		0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Incremental Revenue - $M		0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Removal Costs - $M														
On-going OM&A Costs - $M		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Municipal Tax - $M		(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Net Revenue/(Costs) before taxes - $M		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5
Income Taxes		0.1	0.1	0.1	0.0	0.0	0.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)
Operating Cash Flow (after taxes) - $M		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
PV Operating Cash Flow (after taxes) - $M	**(A)**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Capital Expenditures - $M														
Upfront - capital cost before overheads & AFUDC														
- Overheads														
- AFUDC														
Total upfront capital expenditures														
On-going capital expenditures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures														
Total capital expenditures - $M														
Capital Expenditures - $M														
PV CCA Residual Tax Shield - $M														
PV Working Capital - $M														
PV Capital (after taxes) - $M	**(B)**													
Cumulative PV Cash Flow (after taxes) - $M	**(A) + (B)**	**(29.7)**	**(29.5)**	**(29.3)**	**(29.1)**	**(28.9)**	**(28.8)**	**(28.6)**	**(28.5)**	**(28.4)**	**(28.2)**	**(28.1)**	**(28.0)**	**(27.9)**

1 **Table 2 – DCF Analysis, Hydro One Distribution, Transformation Pool, page 1**

Date:	6-Feb-15
Project #	17503

SUMMARY OF CONTRIBUTION CALCULATIONS
Transformation Pool - Estimated cost

Facility Name:	Supply to Essex County Transmission Reinforcement
Description:	Transformation Pool Capital Contribution
Customer:	Hydro One Distribution

			In-Service Date	<-------		Project year ended - annualized from In-Service Date		-------->							
		Month	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31
		Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
			0	1	2	3	4	5	6	7	8	9	10	11	12
Revenue & Expense Forecast															
Load Forecast (MW)				38.2	39.2	40.1	41.0	42.0	42.9	43.9	44.8	45.8	46.8	47.7	48.7
Load adjustments (MW)				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				38.2	39.2	40.1	41.0	42.0	42.9	43.9	44.8	45.8	46.8	47.7	48.7
Tariff Applied ($/kW/Month)				2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Incremental Revenue - $M				0.9	0.9	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.2
Removal Costs - $M			0.0												
On-going OM&A Costs - $M			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Tax - $M				(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Net Revenue/(Costs) before taxes - $M			0.0	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.1	1.1
Income Taxes			0.0	(0.0)	0.2	0.1	0.1	0.1	0.0	0.0	(0.0)	(0.0)	(0.1)	(0.1)	(0.1)
Operating Cash Flow (after taxes) - $M			0.0	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		Cumulative PV @ 5.83%													
PV Operating Cash Flow (after taxes) - $M	**(A)**	13.2	**0.0**	**0.8**	**0.9**	**0.9**	**0.8**	**0.8**	**0.7**	**0.7**	**0.6**	**0.6**	**0.6**	**0.5**	**0.5**
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC			(17.2)												
- Overheads			(2.4)												
- AFUDC			(0.7)												
Total upfront capital expenditures			**(20.2)**												
On-going capital expenditures				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures			0.0												
Total capital expenditures - $M			**(20.2)**												
Capital Expenditures - $M															
PV CCA Residual Tax Shield - $M			**0.1**												
PV Working Capital - $M			**0.0**												
PV Capital (after taxes) - $M	**(B)**	**(20.1)**	**(20.1)**												
Cumulative PV Cash Flow (after taxes) - $M	**(A) + (B)**	**(7.0)**	**(20.1)**	**(19.3)**	**(18.4)**	**(17.5)**	**(16.7)**	**(15.9)**	**(15.2)**	**(14.5)**	**(13.9)**	**(13.3)**	**(12.7)**	**(12.2)**	**(11.7)**

Discounted Cash Flow Summary

Economic Study Horizon - Years: **25**

Discount Rate - % **5.83%**

		Before Cont		After Cont	Impact
		$M		$M	$M
PV Incremental Revenue		15.1		15.1	
PV OM&A Costs		0.0		0.0	
PV Municipal Tax		(1.1)		(1.1)	
PV Income Taxes		(3.7)		(3.7)	(0.0)
PV CCA Tax Shield		3.0		1.8	(1.2)
PV Capital - Upfront	(20.2)		(20.2)		
Add: PV **Capital Contribution**	**0.0**	(20.2)	**8.2**	(12.0)	8.2
PV Capital - On-going		0.0		0.0	
PV Working Capital		0.0		0.0	
PV Surplus / (Shortfall)		**(7.0)**		**0.0**	**7.0**
Profitability Index*		**0.7**		**1.0**	

Notes:
*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

2

Table 2 – DCF Analysis, Hydro One Distribution, Transformation Pool, page 2

Date:	6-Feb-15
Project #	17503

SUMMARY OF CONTRIBUTION CALCULATIONS
Transformation Pool - Estimated cost

Facility Name:	Supply to Essex County Transmission Reinforcement
Description:	Transformation Pool Capital Contribution
Customer:	Hydro One Distribution

<------- Project year ended - annualized from In-Service Date -------->

		2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
	Month	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31	Mar-31
	Year	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
		13	14	15	16	17	18	19	20	21	22	23	24	25
Revenue & Expense Forecast														
Load Forecast (MW)		49.7	50.6	51.6	52.6	53.7	54.6	55.5	56.5	57.6	58.6	59.6	60.7	61.8
Load adjustments (MW)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		49.7	50.6	51.6	52.6	53.7	54.6	55.5	56.5	57.6	58.6	59.6	60.7	61.8
Tariff Applied ($/kW/Month)		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Incremental Revenue - $M		1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5
Removal Costs - $M														
On-going OM&A Costs - $M		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipal Tax - $M		(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Net Revenue/(Costs) before taxes - $M		1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4
Income Taxes		(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)
Operating Cash Flow (after taxes) - $M		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1
PV Operating Cash Flow (after taxes) - $M	**(A)**	**0.5**	**0.5**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**
Capital Expenditures - $M														
Upfront - capital cost before overheads & AFUDC														
- Overheads														
- AFUDC														
Total upfront capital expenditures														
On-going capital expenditures		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures														
Total capital expenditures - $M														
Capital Expenditures - $M														
PV CCA Residual Tax Shield - $M														
PV Working Capital - $M														
PV Capital (after taxes) - $M	**(B)**													
Cumulative PV Cash Flow (after taxes) - $M	**(A) + (B)**	**(11.2)**	**(10.7)**	**(10.3)**	**(9.9)**	**(9.5)**	**(9.1)**	**(8.8)**	**(8.4)**	**(8.1)**	**(7.8)**	**(7.5)**	**(7.2)**	**(7.0)**

Table 3 – Revenue Requirement and Line Pool Rate Impact, page 1

Revenue Requirement and Line Pool Rate Impact **(After Capital Contribution)**

Supply to Essex County Transmission Reinforcement		Project YE 31-Mar 2019	31-Mar 2020	31-Mar 2021	31-Mar 2022	31-Mar 2023	31-Mar 2024	31-Mar 2025	31-Mar 2026	31-Mar 2027	31-Mar 2028	31-Mar 2029	31-Mar 2030
Calculation of Incremental Revenue Requirement ($ millions)		1	2	3	4	5	6	7	8	9	10	11	12
In-service date	31-Mar-18												
Capital Cost	43.0												
Less: Capital Contribution Required	(31.2)												
Net Project Capital Cost	11.8												
Average Rate Base		5.8	11.6	11.4	11.2	11.1	10.9	10.7	10.6	10.4	10.3	10.1	9.9
Incremental OM&A Costs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants in Lieu of Municipal tax		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Depreciation		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Interest and Return on Rate Base		0.4	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Income Tax Provision		0.0	(0.0)	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
REVENUE REQUIREMENT PRE-TAX		**0.8**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**
Incremental Revenue		0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
SUFFICIENCY/(DEFICIENCY)		**(0.4)**	**(0.7)**	**(0.7)**	**(0.7)**	**(0.7)**	**(0.7)**	**(0.7)**	**(0.7)**	**(0.7)**	**(0.6)**	**(0.6)**	**(0.6)**
	Base Year												
Line Pool Revenue Requirement including sufficiency/(deficiency)	207	208	208	208	208	208	208	208	208	208	208	208	208
Line GW	242	242	242	242	242	242	242	242	242	242	243	243	243
Line Pool Rate ($/kw/month)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Increase/(Decrease) in Line Pool Rate ($/kw/month), relative to base year		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RATE IMPACT relative to base year		**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Assumptions		
Incremental OM&A		$1.5 k per new km of line each year.
Grants in Lieu of Municipal tax	0.42%	Transmission system average
Depreciation	2.00%	Reflects 50 year average service life for towers, conductors and station equipment, excluding land
Interest and Return on Rate Base	6.60%	Includes OEB-approved ROE of 9.3%, 2.16% on ST debt, and 4.98% on LT debt. 40/4/56 equity/ST debt/ LT debt split
Income Tax Provision	26.50%	2015 federal and provincial corporate income tax rate
Capital Cost Allowance	8.00%	100% Class 47 assets except for Land

Table 3 – Revenue Requirement and Line Pool Rate Impact, page 2

Revenue Requirement and Line Pool Rate Impact **(After Capital Contribution)**

Supply to Essex County Transmission Reinforcement		31-Mar	31-Mar	31-Mar	31-Mar	31-Mar	31-Mar	31-Mar	31-Mar	31-Mar	31-Mar	31-Mar	31-Mar	31-Mar
		2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Calculation of Incremental Revenue Requirement ($ millions)		13	14	15	16	17	18	19	20	21	22	23	24	25
In-service date	31-Mar-18													
Capital Cost	43.0													
Less: Capital Contribution Required	(31.2)													
Net Project Capital Cost	11.8													
Average Rate Base		9.8	9.6	9.4	9.3	9.1	9.0	8.8	8.6	8.5	8.3	8.1	8.0	7.8
Incremental OM&A Costs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants in Lieu of Municipal tax		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Depreciation		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Interest and Return on Rate Base		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
Income Tax Provision		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
REVENUE REQUIREMENT PRE-TAX		**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Incremental Revenue		0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
SUFFICIENCY/(DEFICIENCY)		**(0.6)**	**(0.6)**	**(0.6)**	**(0.5)**	**(0.5)**	**(0.5)**	**(0.5)**	**(0.5)**	**(0.5)**	**(0.4)**	**(0.4)**	**(0.4)**	**(0.4)**
	Base Year													
Line Pool Revenue Requirement including sufficiency/(deficiency)	207	208	208	208	208	208	208	208	208	208	208	208	208	208
Line GW	242	243	243	243	243	243	243	243	243	243	243	243	243	243
Line Pool Rate ($/kw/month)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Increase/(Decrease) in Line Pool Rate ($/kw/month), relative to base year		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RATE IMPACT relative to base year		**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Table 4 – Revenue Requirement and Transformation Pool Rate Impact, page 1

Revenue Requirement and Transformation Pool Rate Impact **(After Capital Contribution)**

Supply to Essex County Transmission Reinforcement		Project YE 31-Mar 2019	31-Mar 2020	31-Mar 2021	31-Mar 2022	31-Mar 2023	31-Mar 2024	31-Mar 2025	31-Mar 2026	31-Mar 2027	31-Mar 2028	31-Mar 2029	31-Mar 2030
Calculation of Incremental Revenue Requirement ($ millions)		1	2	3	4	5	6	7	8	9	10	11	12
In-service date	31-Mar-18												
Capital Cost	32.1												
Less: Capital Contribution Required	(8.2)												
Net Project Capital Cost	23.9												
Average Rate Base		11.7	23.2	22.7	22.3	21.8	21.3	20.9	20.4	19.9	19.5	19.0	18.5
Incremental OM&A Costs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants in Lieu of Municipal tax		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Depreciation		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Interest and Return on Rate Base		0.8	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.2
Income Tax Provision		(0.0)	(0.2)	(0.1)	(0.1)	(0.0)	(0.0)	0.0	0.0	0.1	0.1	0.1	0.1
REVENUE REQUIREMENT PRE-TAX		**1.4**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**
Incremental Revenue		0.9	0.9	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.2
SUFFICIENCY/(DEFICIENCY)		**(0.4)**	**(1.0)**	**(1.0)**	**(1.0)**	**(1.0)**	**(1.0)**	**(0.9)**	**(0.9)**	**(0.9)**	**(0.9)**	**(0.8)**	**(0.8)**
	Base Year												
Transformation Pool Revenue Requirement including sufficiency/(deficiency)	413	414	415	415	415	415	415	415	415	415	415	415	415
Transformation GW	206	207	207	207	207	207	207	207	207	207	207	207	207
Transformation Pool Rate ($/kw/month)	2.00	2.00	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.00
Increase/(Decrease) in Transformation Pool Rate ($/kw/month), relative to base year		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RATE IMPACT relative to base year		**0.00%**	**0.50%**	**0.50%**	**0.50%**	**0.50%**	**0.50%**	**0.50%**	**0.50%**	**0.50%**	**0.50%**	**0.50%**	**0.00%**

Assumptions

Incremental OM&A		Nil
Grants in Lieu of Municipal tax	0.42%	Transmission system average
Depreciation	2.00%	Reflects 50 year average service life for towers, conductors and station equipment, excluding land
Interest and Return on Rate Base	6.60%	Includes OEB-approved ROE of 9.3%, 2.16% on ST debt, and 4.98% on LT debt. 40/4/56 equity/ST debt/ LT debt split
Income Tax Provision	26.50%	2015 federal and provincial corporate income tax rate
Capital Cost Allowance	8.00%	100% Class 47 assets except for Land

Table 4 – Revenue Requirement and Transformation Pool Rate Impact, page 2

Revenue Requirement and Transformation Pool Rate Impact **(After Capital Contribution)**

Supply to Essex County Transmission Reinforcement		Base Year	31-Mar 2031	31-Mar 2032	31-Mar 2033	31-Mar 2034	31-Mar 2035	31-Mar 2036	31-Mar 2037	31-Mar 2038	31-Mar 2039	31-Mar 2040	31-Mar 2041	31-Mar 2042	31-Mar 2043
Calculation of Incremental Revenue Requirement ($ millions)			13	14	15	16	17	18	19	20	21	22	23	24	25
In-service date	31-Mar-18														
Capital Cost	32.1														
Less: Capital Contribution Required	(8.2)														
Net Project Capital Cost	23.9														
Average Rate Base			18.1	17.6	17.1	16.7	16.2	15.7	15.3	14.8	14.3	13.8	13.4	12.9	12.4
Incremental OM&A Costs			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants in Lieu of Municipal tax			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Depreciation			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Interest and Return on Rate Base			1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8
Income Tax Provision			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
REVENUE REQUIREMENT PRE-TAX			**1.9**	**1.9**	**1.9**	**1.9**	**1.9**	**1.8**	**1.8**	**1.8**	**1.8**	**1.7**	**1.7**	**1.7**	**1.7**
Incremental Revenue			1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5
SUFFICIENCY/(DEFICIENCY)			**(0.8)**	**(0.7)**	**(0.7)**	**(0.6)**	**(0.6)**	**(0.5)**	**(0.5)**	**(0.4)**	**(0.4)**	**(0.3)**	**(0.3)**	**(0.2)**	**(0.2)**
Transformation Pool Revenue Requirement including sufficiency/(deficiency)		413	415	415	415	414	414	414	414	414	414	414	414	414	414
Transformation GW		206	207	207	207	207	207	207	207	207	207	207	207	207	207
Transformation Pool Rate ($/kw/month)		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Increase/(Decrease) in Transformation Pool Rate ($/kw/month), relative to base year			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RATE IMPACT relative to base year			**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Table 5 – Derivation of Load used in DCF, page 1

		Annual Non-Coincident Peak Load Forecast for SECTR Project												
Relevant SECTR Loads		**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Kingsville TS (with 2 transformers)	MW	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
Leamington TS	MW	116.5	117.7	118.9	120.2	121.4	122.7	123.9	125.2	126.5	127.8	129.1	130.4	131.7
Load sub-total	MW	170.5	171.7	172.9	174.2	175.4	176.7	177.9	179.2	180.5	181.8	183.1	184.4	185.7
Current Capacity (Kingsville TS with 4 transformers)	MW	120	120	120	120	120	120	120	120	120	120	120	120	120
Load in excess of capacity, calendar-year basis	MW	50.5	51.7	52.9	54.2	55.4	56.7	57.9	59.2	60.5	61.8	63.1	64.4	65.7
PLI-adjustment		*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*
PLI-adjusted load in excess of capacity	MW	38.0	38.9	39.9	40.8	41.7	42.7	43.6	44.6	45.5	46.5	47.5	48.5	49.5

Adjusted for in-service month:													
Project Year*		***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***11***	***12***
		March 31, 2017 to March 30, 2018	March 31, 2018 to March 30, 2019	March 31, 2019 to March 30, 2020	March 31, 2020 to March 30, 2021	March 31, 2021 to March 30, 2022	March 31, 2022 to March 30, 2023	March 31, 2023 to March 30, 2024	March 31, 2024 to March 30, 2025	March 31, 2025 to March 30, 2026	March 31, 2026 to March 30, 2027	March 31, 2027 to March 30, 2028	March 31, 2028 to March 30, 2029
Load in excess of capacity, project-year basis	**MW**	**38.2**	**39.2**	**40.1**	**41.0**	**42.0**	**42.9**	**43.9**	**44.8**	**45.8**	**46.8**	**47.7**	**48.7**

Note:
* Project-year load = 3/12 of current year load + 9/12 of previous calendar-year load, based on March 31, 2018 in-service date

Table 5 – Derivation of Load used in DCF, page 2

	Annual Non-Coincident Peak Load Forecast for SECTR Project												
Relevant SECTR Loads	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**
Kingsville TS (with 2 transformers)	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
Leamington TS	132.9	134.2	135.6	136.9	138.3	139.4	140.7	142.1	143.5	144.9	146.3	147.7	149.2
Load sub-total	186.9	188.2	189.6	190.9	192.3	193.4	194.7	196.1	197.5	198.9	200.3	201.7	203.2
Current Capacity (Kingsville TS with 4 transformers)	120	120	120	120	120	120	120	120	120	120	120	120	120
Load in excess of capacity, calendar-year basis	66.9	68.2	69.6	70.9	72.3	73.4	74.7	76.1	77.5	78.9	80.3	81.7	83.2
PLI-adjustment	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*	*75%*
PLI-adjusted load in excess of capacity	50.4	51.4	52.4	53.4	54.4	55.2	56.3	57.3	58.3	59.4	60.4	61.5	62.6
Adjusted for in-service month:													
Project Year*	***13***	***14***	***15***	***16***	***17***	***18***	***19***	***20***	***21***	***22***	***23***	***24***	***25***
	March 31, 2029 to March 30, 2030	March 31, 2030 to March 30, 2031	March 31, 2031 to March 30, 2032	March 31, 2032 to March 30, 2033	March 31, 2033 to March 30, 2034	March 31, 2034 to March 30, 2035	March 31, 2035 to March 30, 2036	March 31, 2036 to March 30, 2037	March 31, 2037 to March 30, 2038	March 31, 2038 to March 30, 2039	March 31, 2039 to March 30, 2040	March 31, 2040 to March 30, 2041	March 31, 2041 to March 30, 2042
Load in excess of capacity, project-year basis	**49.7**	**50.6**	**51.6**	**52.6**	**53.7**	**54.6**	**55.5**	**56.5**	**57.6**	**58.6**	**59.6**	**60.7**	**61.8**

Note:
* Project-year load = 3/12 of current year load + 9/12 of previous calendar-year load, based on March 31, 2018 in-service date

Table 6 – DCF Assumptions

s

Hydro One Networks -- Transmission Connection Economic Evaluation Model
2015 Parameters and Assumptions

Transmission rates are based on current OEB-approved uniform provincial transmission rates.

Monthly Rate ($ per kW)	
Transformation	**2.00**
Line	**0.86**

Grants in lieu of Municipal tax (% of up-front capital expenditure, a proxy for property value):		**0.42%**	Based on Transmission system average
Income taxes:			
Basic Federal Tax Rate - % of taxable income:	2015	**15.00%**	Current rate
Ontario corporation income tax - % of taxable income:	2015	**11.50%**	Current rate
Capital Cost Allowance Rate:			
Class 47 costs	2015	**8%**	Current rate
After-tax Discount rate:		**5.83%**	Based on OEB-approved ROE of 9.3% on common equity and 2.16% on short-term debt, 4.98% forecast cost of long-term debt and 40/60 equity/debt split, and current enacted income tax rate of 26.5%

Other Assumptions:

Estimated Incremental OM&A: Project specific ($ k):

Overhead Line	**$1.5**	per new km of line each year

CONSTRUCTION AND PROJECT ADMINISTRATION

Hydro One can achieve a March 2018 in-service date for the proposed transmission facilities work assuming that the Board grants leave to construct approval for the proposed facilities by June 2015.

To complete the project, Hydro One will:

- Install approximately 13 kilometers of new 230 kV double-circuit steel lattice tower transmission line between Leamington Junction (located along the Chatham SS to Keith TS 230 kV corridor) and Leamington TS to provide additional load supply capacity at Leamington TS. The number and locations of the new structures will be optimized;

- Install Optical Ground Wire ("**OPGW**") on top of the new 230 kV towers serving Leamington TS as well as new OPGW on the existing C21J/C23Z towers (near Leamington Junction) to be used for tapping into the existing OPGW splice box;

- Connect the proposed new Leamington TS DESN station into the existing fiber SONET ("**Synchronous Optical Networking**") network between Chatham SS and Malden TS as part of Windsor Area Fiber Ring, for telecommunication and control purposes;

- Ensure prudent measures are taken to reduce EMF at ground levels, which is achieved via circuit phasing optimization;

- Review and update easement documents and road authority occupation agreements to meet current and future requirements;

- Obtain additional property rights where required;

- Determine the environmental approvals and/or permits required for the proposed undertaking;

- Carry out line construction activities that include setting up construction yards, construction crew mobilization at sites, building access roads and stringing pads on the existing right-of-way ("**ROW**"), installing gates and fences, clearing trees and brush from the ROW (if required), removing the existing structures and conductors, installing new reinforced concrete foundations, erecting new steel lattice towers and poles, stringing new conductors, removal of access road and stringing pads, restoration of the lands, and demobilization of construction crews.

- Carry out protection works at Leamington TS, Malden TS, Chatham SS and J.C. Keith TS by adding new line protection relays and associated devices.

- Build station facilities at the new Leamington TS. The station facilities will consist of two 75/100/125 MVA 230/27.6-27.6 kV step-down transformers, breakers, capacitor banks, disconnect switches and associated facilities, ground switches, rigid and strain buses, steel structures, foundations, protection and control building, cabling as well as grading, drainage, spill control system, and fencing.

A project schedule showing the tasks leading up to the in-service date is provided in **Exhibit B, Tab 5, Schedule 2**.

PROPOSED CONSTRUCTION AND IN-SERVICE SCHEDULE

TASK	START	FINISH
Submit Section 92		January 2014
Projected Section 92 Approval	January 2014	June 2015
Prepare and Sign CCRA	June 2015	May 2016
STATIONS		
Order Station Power Transformers	December 2015	December 2015
Detailed Engineering	May 2016	March 2017
Tender and Award Other Major Station Equipment	August 2016	November 2016
Receive Major Station Equipment	February 2017	July 2017
Construction	September 2016	February 2018
Commissioning	October 2017	March 2018
LINES		
Property Rights Acquisition	January 2016	October 2016
Detailed Engineering	May 2016	December 2016
Tender & Award Structural Steel	June 2016	October 2016
Receive Structural Steel	March 2017	April 2017
Construction	October 2016	March 2018
In Service		**March 2018**