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December 7, 2016

VIA RESS AND COURIER

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

Dear Ms. Walli:

RE: EB-2016-0160 Hydro One Networks Inc. ("Hydro One") Transmission Rates Application – Hydro One Response to Undertaking J8.1

In Day 7 of the hearing, a chronology of the evolution of Hydro One's planning process as it relates to its November 2015 draft business plan was discussed.¹ On Day 8, Hydro One committed to provide the chronology as Undertaking J8.1.²

To satisfy this request, Hydro One is submitting the following three documents:

1. a chronology of material events in the planning process, which occurred over the 2013-2016 period;
2. an explanation of the variance between the draft November 2015 capital plan for the 2017 and 2018 test years and the final capital plan filed with this application; and
3. a modified response to Exhibit J2.7, which includes the timelines associated with the stages of investment planning described therein.

Yours truly,

McCarthy Tétrault LLP

Per:

Gordon M. Nettleton

GMN

¹ Day 7 Transcript, Page 85, Line 25 to Page 88, Line 16.

² Day 8 Transcript, Page 1, Line 7 to Page 2, Line 18.

1 **UNDERTAKING – J8.1**

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3 **Undertaking**

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5 To provide a chronology.

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7 **Response**

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9 To satisfy this undertaking, please see the following three attachments:

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11 1. Attachment 1 – a chronology of material events in the planning process, which
12 occurred over the 2013-2016 period;
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14 2. Attachment 2 – an explanation of variances between the draft November 2015
15 capital plan for the 2017 and 2018 test years and the final capital plan filed with
16 this application; and
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18 3. Attachment 3 – a modified response to Exhibit J2.7, which includes the timelines
19 associated with the stages of investment planning described therein. For clarity,
20 only the timelines have been added to the originally filed document.

Witness: Mike Penstone

Date	Activity Category	Description
2012-2016	Tower Coating	EPRI worked on corrosion rate determination, corrosion zone mapping and assisted with developing coating program.
2013	Tower Coating	Became aware of Galvatech, explore suitability by assessing from health and safety and application perspectives
2014-2015	Tower Coating	Crew started using Galvatech product, on a limited basis, to gain direct practical application experience.
2015	Tower Coating	EPRI begin laboratory testing of Galvatech to quantify and verify its performance.
February 2015	Business Planning (November 2015 draft)	Initiate process to enter Candidate Investments into Asset Investment Planning (AIP) tool. Initial investments included insulator replacements, tower coatings, and line refurbishments at historical levels.
March 2015	Insulator Replacements	Insulator failure caused line drop over commercial parking lot in Etobicoke, Toronto.
April 2015	Insulator Replacements	Asset event investigation (AEI) of the March 2015 incident initiated.
May 2-15, 2015	Business Planning (November 2015 draft)	AIP optimization of candidate investments and review of output with each planning group and the COO.
May 2015	Insulator Replacements	Asset event investigation (AEI) of March 2015 incident complete. Report recommends immediate replacement of insulators on the affected circuit and to initiate replacement of all affected CP/COB insulators (1965-1982) beginning in 2017.
May - December 2015	Insulator Replacements	Crews alerted regarding risks associated with these insulators. Crews directed to pay extra attention to condition of these insulators while carrying out other works such as inspection, maintenance, and pole replacement activities. Feedback and observation from field crews revealed that deterioration of these insulators was wide spread and worse than anticipated. It became apparent that scope of the problem was significant, insulator replacement funding and pacing needed to be increased substantially.
June 2015	Business Planning (November 2015 draft)	Enterprise Engagement of Optimized Investment Plan followed by COO review of updated Investment Plan
July-August 2015	Business Planning (November 2015 draft)	Investment Plan updated to incorporate COO feedback.
July 2015	Strategic Decisions	New CFO appointed.
September 2015	Strategic Decisions	New CEO appointed.
September 2015	Strategic Decisions	Risk workshop on Investment Plan.
April - November 5, 2015	Strategic Decisions	Initial Public Offering (IPO) process occurs. Figures cited in the IPO documentation were those approved in Hydro One's last rates application 2014-0140 which were based on information known in 2013.
November 2, 4, 2015	Strategic Decisions	CEO/CFO review of the draft Investment Plan.
November-December 2015	Strategic Decisions	Discussion with Board of Directors regarding draft Business Plan. Decision made to undertake a detailed review of the organization with several goals, including a review of the potential for additional productivity and efficiencies, launching a customer consultation process, and improving analytics relating to the impact of investments on transmission reliability.
December 1, 2015	Insulator Replacements	Bulletin issued to line crews to identify and report on CP/COB insulators and exercise caution while working on them during this time when the risk of electrical flash over conditions is higher.
December 2015	External	Auditor General Report issued.
December 2015	Tower Coating	Live-line method for tower coating was approved.
December 2015 - February 2016	Lines Refurbishments	Testing identifies which additional conductors have reached end of life. Detailed review of past and recent test results confirmed that historical investment levels were insufficient to keep pace with the increasing number of conductors reaching end of life.
December 29, 2015	External	OEB issued Decision & Order on Toronto Hydro Custom IR application (EB-2014-0116), which provided guidance on the OEB's expectations of customer engagement, planning, and other matters.
January 2016	Strategic Decisions	2016 budget is approved by Hydro One's Board of Directors.
Mid-January 2016	Customer Engagement	Initiated development of customer consultation background data and intended content.
February 4, 2016	Business Planning/Customer Engagement	Initial discussions on Reliability Risk Model concept/structure to link hazard curves, asset demographics and asset contributions to reliability.
February 11, 2016	External	OEB issued new Tx rate filing requirements, including a new requirement for regulatory scorecard and an articulation of customer engagement expectations.

February 17, 2016	Business Planning (May 2016)/Customer Engagement	Finalized Reliability Risk Model.
February 17 – 19, 2016	Customer Engagement	Initial investment plan scenarios prepared for customer consultations.
February 24, 2016	Business Planning (May 2016)	Investment planning process initiated for 2017-2022 Business Plan.
February 25 – March 3, 2016	Business Planning (May 2016)	Planners input candidate investments into AIP tool, including increased investments related to insulator replacements, line refurbishments and tower coating.
February 2016	Strategic Decisions	COO departs Hydro One.
March 2016	Insulator Replacements	2016 insulator replacement budget was raised to \$30M to address the urgency of the issue.
March 7, 2016	Customer Engagement	Tx IPSOS customer consultation deck finalized.
March 9, 2016	Customer Engagement	Wave 1 of Tx IPSOS customer consultation started (individual customer one-on-one meetings).
March 11 – 14, 2016	Business Planning	Optimization of investment candidates to develop a preliminary list of prioritized investments.
March 16, 2016	Customer Engagement	Wave 2 of Tx IPSOS customer consultation started (group sessions facilitated by IPSOS).
March 21, 2016	Customer Engagement	Wave 3 of Tx IPSOS customer consultation started (online survey phase).
March 24, 2016	Customer Engagement	Wave 2 of Tx IPSOS customer consultation concluded (Group sessions, facilitated by IPSOS).
March 29, 2016	Customer Engagement	First draft of IPSOS report received with engagement results.
March 31, 2016	Customer Engagement	Waves 1 and 3 of Tx IPSOS customer consultation concluded.
March 17 – April 14, 2016	Business Planning (May 2016)	Enterprise engagement of preliminary list of prioritized investments. Investments that further mitigate reliability risk were advanced after receiving IPSOS customer feedback on reliability risk and rate impact trade-offs. (Examples: Beck1 SS, Middleport TS, and protections replacement to address second harmonic misoperations.)
April 8, 2016	Customer Engagement	Single additional Wave 1 Tx IPSOS customer consultation meeting held.
April 12, 2016	Business Planning	CEO/CFO review of the draft Investment Plan, which then becomes an input into the development of the Business Plan.
April 18, 2016	Customer Engagement	Final, formatted IPSOS report received.
April 12-19, 2016	Business Planning (May 2016)	Business plan developed, using the Investment Plan, overhead information, and productivity targets, to finalize plan figures (revenue requirement).
April 19, 2016	Business Planning (May 2016)	Business plan figures (revenue requirement) finalized and approved by executive leadership.
April 29, 2016	Business Planning (May 2016)	Rate Revenue requirement finalized and approved by executive leadership.
May 2016	Tower Coating	Final EPRI Galvatech report received.
May 6, 2016	Strategic Decisions	Board of Directors reviewed the Transmission Rate Application memorandum.
May 31, 2016	Business Planning (May 2016)	Hydro One files Transmission Rate Application with the OEB
June 2016	Insulator Replacements	Received draft report from EPRI, confirming CP/COB insulators have suffered significant deterioration and cannot be relied upon to provide safe and reliable service. <ul style="list-style-type: none"> • 37% of tested insulators failed below rated strength • 12% of tested samples have less than 84% of rated strength

Capital Forecasts for 2017 and 2018 from EB-2014-0140 onward

Investment Category	EB-2014-0140 (Approved)		November 2015 (Draft)		EB-2016-0160 (Filed)	
	2017	2018	2017	2018	2017	2018
Sustaining	597	637	644	723	777	842
Development	148	116	179	140	196	170
Operating	44	25	22	33	25	31
Common Corp Costs	58	60	74	81	78	79
Total Capital	848	839	920	978	1076	1122

Variance Analysis: Draft Business Plan November 2015 v. Filed Plan May 2016

Investment Category	Capital Expenditures - \$M – Net						Comment/Significant Investment Changes (November 2015 v. May 2016)
	November 2015		EB-2016-0160		Variance		
	2017	2018	2017	2018	2017	2018	
Sustaining	650	731	777	842	127	112	<ul style="list-style-type: none"> • Stations: Investment deferrals to partially offset increase in O/H Lines • Lines/Cables: Addressing poor condition of overhead lines and components, including increased insulator replacements (+\$56M), steel structure refurbishments (+\$81M) and line refurbishments (+\$128M). • Cyber Security: Addressing additional sites under physical security requirements, provisions to address NERC CIP V6, and replacement of end of life cyber systems
Development	185	146	196	170	12	24	<ul style="list-style-type: none"> • Local Area Supply: Deferral of Southwest GTA (-\$5M) and Merivale (-\$7M) reinforcements/ upgrades, revised capital cost recovery assumptions for Brant (-\$7M), and updated cash flow timing assumptions for M20/21D (-\$2M), South Nepean (-\$1M), Hawthorne (+\$4M) and Holland (+\$4M) • Network Transfer Capability: Advanced East-West Tie Station Work (+\$31M) and updated costing assumptions for M30A/M31A Reconductoring (-\$14M) and Bruce x Milton (-\$6M) projects • Risk Mitigation: Addition of Nanticoke Station Service Upgrade (+\$10M) • Load Customer Connections: Updated contributed capital amounts for Leamington (+\$15M) and Hanmer (+\$4M), addition of Horner (+\$5M), Lisgar (+\$10M) and Enfield (+\$5M)
Operating	22	33	25	31	3	(2)	<ul style="list-style-type: none"> • Updated detailed scheduling assumptions for the Integrated System Operations Centre (+\$3M) and Operating Hardware Refresh (+\$2M), revised costing assumptions associated with Station Local Control Equipment Sustainment (-\$3M)
Common Corp Costs and Other	63	68	78	79	14	11	<ul style="list-style-type: none"> • IT Business Solution Development: New investment requirements identified, many to meet productivity deliverables. The list of investments include expanded ECM (+\$2M), Ariba (+\$2M), HydroOne.com redesign (+\$2M), and corporate/finance application/module upgrades [SAP Treasury, SuccessFactors, SAP Fixed Assets, Corp. Performance Reporting, HR Optimization] (+\$5M) • Incorporated new compensation structure costs.
Total Capital Plan	920	978	1076	1122	156	145	

UNDERTAKING – J2.7
MODIFIED TO INCLUDE DATES

Undertaking

To provide the dollar figures.

Response

Please see below the numbers underlying the graphs on page 3 of Exhibit TCJ2.20.

Table 1: Transmission Capital Expenditures

	\$M Net							
	Candidate Investments		Optimization		Internal Stakeholder Engagement		Executive Approval	
Timeline	February 25 - March 3, 2016		March 11-14, 2016		March 17–April 14, 2016		April 19, 2016	
	2017	2018	2017	2018	2017	2018	2017	2018
Sustaining	934	1,003	748	847	777	842	777	842
Development	187	186	177	164	196	170	196	170
Operating	28	37	25	31	25	31	25	31
Common Corporate	73	80	73	84	74	74	74	74
Other	4	5	4	5	4	5	4	5
Total	1,226	1,311	1,027	1,131	1,076	1,122	1,076	1,122

Table 2: Capital Investment Trade-Offs

	% Change from Candidate Investment							
	Candidate Investments		Optimization		Internal Stakeholder Engagement		Executive Approval	
Timeline	February 25 - March 3, 2016		March 11-14, 2016		March 17–April 14, 2016		April 19, 2016	
	2017/18	2017/18	2017/18	2017/18	2017/18	2017/18	2017/18	2017/18
Sustaining	0%	-18%	-16%	-16%	-16%	-16%	-16%	-16%
Development	0%	-9%	-2%	-2%	-2%	-2%	-2%	-2%
Operating	0%	-15%	-15%	-15%	-15%	-15%	-15%	-15%
Common Corporate	0%	2%	-3%	-3%	-3%	-3%	-3%	-3%
Other	0%	0%	0%	0%	0%	0%	0%	0%

Witness: Mike Penstone