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December 11, 2016

VIA RESS AND COURIER

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

Dear Ms. Walli:

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

Hydro One filed its Response to Undertaking J8.1 on December 7, 2016, and encloses an updated version of Attachment 1 to J8.1. The following two changes have been made:

- Attachment 1 now includes row numbers for ease of reference in cross-examination; and
- Line 25 in the updated document (referring to the \$30M insulators budget) has changed. The previous version incorrectly noted that this item occurred in March 2016; this has been updated to January 2016.

Yours truly,

McCarthy Tétrault LLP

Per:



For: Gordon M. Nettleton

GMN

	Date	Activity Category	Description
1	2012-2016	Tower Coating	EPRI worked on corrosion rate determination, corrosion zone mapping and assisted with developing coating program.
2	2013	Tower Coating	Became aware of Galvatech, explore suitability by assessing from health and safety and application perspectives
3	2014-2015	Tower Coating	Crew started using Galvatech product, on a limited basis, to gain direct practical application experience.
4	2015	Tower Coating	EPRI begin laboratory testing of Galvatech to quantify and verify its performance.
5	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.
6	March 2015	Insulator Replacements	Insulator failure caused line drop over commercial parking lot in Etobicoke, Toronto.
7	April 2015	Insulator Replacements	Asset event investigation (AEI) of the March 2015 incident initiated.
8	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.
9	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.
10	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.
11	June 2015	Business Planning (November 2015 draft)	Enterprise Engagement of Optimized Investment Plan followed by COO review of updated Investment Plan
12	July-August 2015	Business Planning (November 2015 draft)	Investment Plan updated to incorporate COO feedback.
13	July 2015	Strategic Decisions	New CFO appointed.
14	September 2015	Strategic Decisions	New CEO appointed.
15	September 2015	Strategic Decisions	Risk workshop on Investment Plan.
16	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.
17	November 2, 4, 2015	Strategic Decisions	CEO/CFO review of the draft Investment Plan.
18	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.
19	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.
20	December 2015	External	Auditor General Report issued.
21	December 2015	Tower Coating	Live-line method for tower coating was approved.
22	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.
23	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.
24	January 2016	Strategic Decisions	2016 budget is approved by Hydro One's Board of Directors.
25	January 2016	Insulator Replacements	2016 insulator replacement budget was raised to \$30M to address the urgency of the issue.
26	Mid-January 2016	Customer Engagement	Initiated development of customer consultation background data and intended content.
27	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.
28	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.

	Date	Activity Category	Description
29	February 17, 2016	Business Planning (May 2016)/Customer Engagement	Finalized Reliability Risk Model.
30	February 17 – 19, , 2016	Customer Engagement	Initial investment plan scenarios prepared for customer consultations.
31	February 24, 2016	Business Planning (May 2016)	Investment planning process initiated for 2017-2022 Business Plan.
32	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.
33	February 2016	Strategic Decisions	COO departs Hydro One.
34	March 7, 2016	Customer Engagement	Tx IPSOS customer consultation deck finalized.
35	March 9, 2016	Customer Engagement	Wave 1 of Tx IPSOS customer consultatoin started (individual customer one-on-one meetings).
36	March 11 – 14, 2016	Business Planning	Optimization of investment candidates to develop a preliminary list of prioritized investments.
37	March 16, 2016	Customer Engagement	Wave 2 of Tx IPSOS customer consultation started (group sessions facilitated by IPSOS).
38	March 21, 2016	Customer Engagement	Wave 3 of Tx IPSOS customer consultation started (online survey phase).
39	March 24, 2016	Customer Engagement	Wave 2 of Tx IPSOS customer consultation concluded (Group sessions, facilitated by IPSOS).
40	March 29, 2016	Customer Engagement	First draft of IPSOS report received with engagement results.
41	March 31, 2016	Customer Engagement	Waves 1 and 3 of Tx IPSOS customer consultation concluded.
42	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.)
43	April 8, 2016	Customer Engagement	Single additional Wave 1 Tx IPSOS customer consultation meeting held.
44	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.
45	April 18, 2016	Customer Engagement	Final, formatted IPSOS report received.
46	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).
47	April 19, 2016	Business Planning (May 2016)	Business plan figures (revenue requirement) finalized and approved by executive leadership.
48	April 29, 2016	Business Planning (May 2016)	Rate Revenue requirement finalized and approved by executive leadership.
49	May 2016	Tower Coating	Final EPRI Galvatech report received.
50	May 6, 2016	Strategic Decisions	Board of Directors reviewed the Transmission Rate Application memorandum.
51	May 31, 2016	Business Planning (May 2016)	Hydro One files Transmission Rate Application with the OEB
52	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
53	July 2016	Tower Coating	Final report of EPRI Atmospheric Condition Assessments of Hydro One Structures, which mapped tower corrosion zones and corrosion rates.
54	August 2016	Insulator Replacements	Received final insulator testing report.