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January 12, 2017

VIA RESS AND COURIER

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

Dear Ms. Walli:

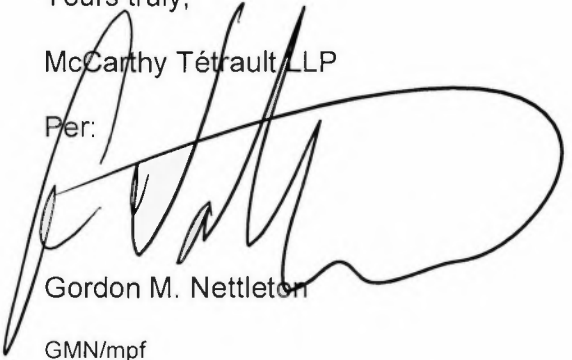
RE: EB-2016-0160 Hydro One Networks Inc. – Argument in Chief

In accordance with the schedule described at Volume 13, page 54 of the Transcript, enclosed please find the Argument in Chief and Book of Authorities of Hydro One Networks Inc..

Yours truly,

McCarthy Tétrault LLP

Per:



Gordon M. Nettleton

GMN/mpf
Enclosure

ONTARIO ENERGY BOARD

IN THE MATTER OF a cost of service application made by Hydro One Networks Inc. Transmission with the Ontario Energy Board on May 31, 2016 under section 78 of the *Ontario Energy Board Act*, 1998, S.O. 1998, c. 15, (Schedule B), seeking approval for changes to its transmission revenue requirement and to the Ontario Uniform Transmission Rates, to be effective January 1, 2017 and January 1, 2018;

OEB PROCEEDING EB-2016-0160

**APPLICATION BY HYDRO ONE NETWORKS INC.
FOR APPROVAL OF TRANSMISSION REVENUE REQUIREMENT**

**ARGUMENT IN CHIEF
OF
HYDRO ONE NETWORKS INC.**

January 12, 2017

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1 **ARGUMENT IN CHIEF OF HYDRO ONE NETWORKS INC.**

2 **A. INTRODUCTION**

3 Hydro One Networks Inc. (“**Hydro One**” or the “**Company**”) applied under Section 78 of the
4 *Ontario Energy Board Act, 1998*¹ in proceeding EB-2016-0160 for approval of the revenue
5 requirement, use of certain regulatory accounts, and rates for the transmission of electricity for a
6 two year period, effective January 1, 2017 (“**Application**”).

7 In this Application, Hydro One requests approval of:

- 8 • rates revenue requirements of \$1,487.4 million for 2017 and \$1,558.4 for 2018;²
- 9 • charge determinants by rate pools for developing Uniform Transmission Rates;³
- 10 • its proposed performance scorecard (“**Transmission Scorecard**”);⁴
- 11 • continuation of certain regulatory accounts;⁵ and
- 12 • disposition of certain regulatory accounts with a net credit balance of \$95.6 million
13 effective January.⁶

14 There is an important theme underlying this Application. It is one of change and transformation.
15 In November 2015, Hydro One’s shareholder completed the necessary steps to sell 15% of the
16 outstanding common shares in its parent company, Hydro One Limited (“**HOL**”).⁷ This was a

¹ SO 1998, c 15.

² Exhibit K6.3, Update to Exhibit A, Tab 3, Schedule 1, Page 1.

³ Exhibit K6.3, Page 1.

⁴ Exhibit B2, Tab 1, Schedule 1, Attachment 1, Page 2.

⁵ Exhibit K6.3, Pages 22-23.

⁶ Exhibit K6.3, Page 1.

⁷ Exhibit J.11.10. The total issuance of shares to the public is now approximately 29%, as discussed in Transcript Volume 1, Page 43, Line 20 to Page 44, Line 1.

1 formative step which resulted in significant and fundamental changes to the affairs of the
2 company. Hydro One is transitioning from an entirely Crown-owned corporation into one which
3 is more commercially oriented; that is, has greater focus on customers, greater corporate
4 accountability for performance outcomes, and company-wide increase in productivity and
5 efficiency. It seeks to become fully aligned with the Ontario Energy Board's ("**OEB**" or "**Board**")
6 ratemaking expectations now described in the Board's Handbook to Utility Rate Applications
7 (the "**Handbook**") including the principles and objectives of the OEB's Renewed Regulatory
8 Framework ("**RRF**").⁸

9 Implementing change and restructuring is a significant endeavour. Transitioning into an
10 organization that achieves the strategic vision and directives from Hydro One's new leadership
11 team and new independent Board of Directors is an exciting opportunity and one that takes
12 time. This endeavour and these timing challenges have had bearing on the nature and content
13 of Hydro One's Application.

14 Hydro One's new leadership re-examined existing processes and galvanized change,
15 implementing new processes to enhance disciplined decision-making. Fundamental changes
16 have been made to the transmission investment planning process to improve and refine existing
17 procedures. Consistent with the RRF Report and now the Handbook, customer engagement
18 initiatives were undertaken in order to develop a deeper understanding of customer needs and
19 preferences.⁹ Operational improvements in capital planning and execution have already been
20 observed. Significant improvements have already been made to work execution processes to
21 achieve OEB-approved in-service additions. While the full benefits of Hydro One's transition are
22 likely to be realized over a period that exceeds the two-year test period of this Application, the

⁸ Ontario Energy Board, Handbook for Utility Rate Applications (13 October 2016) ("**Handbook**"). See also: Ontario Energy Board, "Report of the Board: Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach" (18 October 2012) ("**RRF Report**"). See the Book of Authorities ("**Authorities**") at Tab 1.

⁹ Handbook, Page 2. See the Authorities at Tab 1.

1 benefits realized over the current test years will accrue to customers at the time transmission
2 rates are next rebased. Pursuing these efforts positions Hydro One to meet its objective of
3 becoming a best-in-class, customer-centric commercial utility, with a culture of continuous
4 improvement and excellence in execution.¹⁰ As Mr. Vels stated, it is transformation to a better
5 performing and improved company.¹¹

6 In this Application, the OEB must consider whether Hydro One's applied-for revenue
7 requirements and the underlying forecast costs are just and reasonable. The Board's
8 determination of whether this standard has been met will be based on the evidentiary record.
9 The evidentiary record in this proceeding is significant and appropriate for the quantum of the
10 applied-for rates revenue requirements for the test years and the justification required for such
11 amounts.¹²

12 The written and oral portions of this hearing provided considerable opportunities for Hydro
13 One's evidence to be tested. The two day Technical Conference involved 2 witness panels and
14 9 witnesses. During the 13 days of oral testimony, Hydro One presented 9 panels and 23
15 individuals to address questions regarding this evidence, including additional undertakings.

16 Very limited intervenor evidence was filed in this proceeding that contradicts the conclusions
17 made by Hydro One in its Application. The evidence submitted by Anwaatin Inc. ("**Anwaatin**")
18 and Environmental Defense ("**ED**") did not materially challenge the justness and
19 reasonableness of the applied-for revenue requirement. Rather, the narrow focus of these
20 parties was on the consultation processes used by Hydro One to develop its Application and on

¹⁰ Exhibit K1.4, "2017-2018 Transmission Rate Application", *Hydro One Networks Inc.*, filed on September 8, 2016, Slide 4.

¹¹ Transcript Volume 1, Page 45, Lines 15-16.

¹² Hydro One's Application exceeded 3,300 pages. Interrogatory Responses to 550 requests exceeded over 2,950 pages. Responses to 54 Technical Conference Undertakings exceeded 310 pages. Additional evidence from Motion Decisions and Undertakings provided during the oral portion of the hearing are estimated to exceed 500 pages. A total of 94 undertakings were provided during the oral phase of the hearing.

1 one planning element that ED asserted to be relevant to Hydro One's investment planning
2 process.

3 In all, and for the reasons described below, Hydro One submits that its evidence remains valid,
4 and appropriately allows the Board to approve the relief sought in this Application. The
5 proposed transmission rates revenue requirements for the test years meet the just and
6 reasonable standard. Approval ensures that Hydro One may continue to provide safe, reliable,
7 and cost effective transmission service appropriately informed by identified customer needs and
8 preferences.

9 Given the magnitude of the evidentiary record, the ensuing submissions are organized to
10 address those aspects of the Board's approved Issues List, which were the subject of
11 considerable interest to the Board and parties in this proceeding.¹³

12 **B. ARGUMENT**

13 **1. BILL IMPACTS**

14 Hydro One's requested rates revenue requirements reflect a year-over-year increase of 0.5%
15 for 2017 versus 2016 Board-approved levels, and an increase of 4.8% for 2018 versus 2017.
16 After adjusting for the load forecast, the requested increase is 2.6% for 2017, and the requested
17 increase remains at 4.8% for 2018.¹⁴

18 Estimated total bill increases arising from this Application are: (i) 0.1% in 2017 and 0.2% in 2018
19 for general service energy (2000 kWh/month); (ii) 0.1% in 2017 and 0.2% in 2018 for medium
20 density residential (750 kWh/month); and (iii) 0.2% in 2017 and 0.4% in 2018 for transmission
21 connected-customers (assuming transmission represents 8.3% of the average total bill).

¹³ Decision on the Issues List and Procedural Order No. 3 (12 October 2016).

¹⁴ Exhibit K6.3, Updated Cost of Capital, filed on December 2, 2016.

1 The total bill impacts related to the requested revenue requirement were carefully considered by
2 Hydro One in compiling this Application. The total bill impacts are relatively small, but reflect the
3 work necessary to maintain the transmission system in a safe, reliable condition and provide
4 service in a manner that meets the needs and preferences of customers. Mr. Vels was asked
5 how Hydro One's Board of Directors considered the impacts of its investment planning process
6 on customers. He explained that investment planning is an exercise in balance, and the bill
7 impacts of Hydro One's decisions are carefully considered in that process:

"We have had material discussions on these concerns at -- all the way through the company and particularly at the board of directors level. **We have, as I mentioned, modelled and estimated the impact on the total customer bill, because it is important to understand the context in which we are asking for revenue.** And it would be fair to say that the increases outside of our impact on the bill appear to be significant.

At the same time, we have to invest in our assets, and we have to ensure that our investments are prudent and appropriate and meet our customers' needs and preferences. As Mr. Penstone has outlined, we have an aging fleet and a deteriorating fleet, and so the amount of investment that we need to make is increasing rates for our customers.

So our approach to that has been, from a transmission perspective, is ensure that we are only putting in service the assets that we need to put in service to be proper stewards of the assets, i.e., find ways to either defer or reduce our capital spend to the point at which we still believe we can look after the system and run the system responsibly, and then, secondarily, we need to find ways to deliver our service more efficiently and at significantly less cost.

We understand, as I mentioned previously, that those efficiencies and those cost reductions will mitigate the bill impact. Those efficiencies and cost reductions will ultimately be returned to our customers.

We, as a -- we take it very seriously in our delivery charge element of the bill that whilst that delivery charge, particularly in the transmission system -- and we do look at distribution and transmission a little differently -- particularly in the transmission system is going to go up, because **we cannot neglect the assets.**

At the same time, we have to show both the OEB and our customers that we are delivering these services as efficiently as possible and, in fact, point to ways that we have mitigated the bill impact.

We believe we have done that in this transmission application, and we are going to continue to do that. And I am hoping, as we get more traction on our

efficiency, both on capital and OM&A, that we do an increasing -- or secure an increasing and larger bill mitigation as we go forward.”¹⁵

1 Mr. Vels explained that the position of Hydro One’s Board of Directors is “that it is very important
2 to ensure that we make proper decisions, but at the same time they have directed us very
3 thoroughly to only ask for the investment that we need, no more and no less.”¹⁶ The missive,
4 “no less”, is particularly important, as the Board of Directors is very mindful of their responsibility
5 as stewards of the Ontario transmission system. Careful thought and discussion prevailed with
6 respect to the rate impacts of the required capital expenditures for the test years.

7 To mitigate rate impacts to the greatest degree possible, Hydro One’s management challenged
8 its asset planners to find investments that could be deferred. The *lines* investments proposed in
9 this Application could not be deferred. To defer those investments would be to invest less than
10 is necessary to maintain safety and reliability for Hydro One’s customers, employees and the
11 public. Instead, Hydro One’s asset planners determined that certain *stations* investments could
12 be deferred, thus mitigating total bill impacts for customers while maintaining necessary
13 investments.¹⁷ The provision of safe and reliable transmission service is the cornerstone of
14 Hydro One’s Transmission Licence and the Company seeks to fulfil these obligations by
15 undertaking the proposed investments and activities during the test years.¹⁸

16 **2. BUSINESS AND INVESTMENT PLANNING PROCESSES**

17 **(a) Business Plans**

18 The last two years have seen a number of changes at Hydro One and to the environment in
19 which it operates. A dynamic, responsive business planning process was undertaken to

¹⁵ Transcript Volume 2, Page 39, Line 15 to Page 41, Line 1 [emphasis added].

¹⁶ Transcript Volume 11, Page 120, Line 25 to Page 121, Line 20.

¹⁷ Transcript Volume 11, Page 121, Lines 12-15.

¹⁸ ET-2003-0035.

1 address changes and new information that arose regarding asset condition. The development
2 of Hydro One's Transmission Business Plan was informed by the content of this Application,
3 including the filed Transmission System Plan. The 5-year Transmission Business Plan was
4 approved by Hydro One's Board of Directors on December 2, 2016 and memorializes this
5 Application and the Transmission System Plan.¹⁹

6 Recall that significant changes in circumstances were occurring while preparation of the
7 Transmission Business Plan and this Application were underway. The Initial Public Offering
8 Transaction ("**IPO Transaction**") had only been completed in November 2015. The Company
9 was in the process of addressing issues arising from the Auditor General's Report. Hydro One's
10 new senior management and a new independent Board of Directors had only recently been
11 appointed. Moreover, concerns regarding the need for significant increases in sustainment
12 capital investments were in play at the very time that Hydro One would normally be preparing its
13 Annual Business Plan for inclusion in its transmission rates Application.

14 It is worthwhile reviewing the chronology set out in Exhibit J8.1, which explains the timing and
15 resulting changes between the last OEB-approved capital expenditure levels (and which formed
16 the basis of Hydro One's IPO prospectus) and the levels contained in this Application.²⁰

17 • **February 2015:** Candidate Investments, assembled through the Needs Assessment and
18 Investment Development stages of the investment planning process, were inputted into
19 the Asset Investment Planning ("**AIP**") tool, a step which is the "kickoff" to the yearly

¹⁹ Exhibit K8.1: Transmission Business Plan.

²⁰ The figures referenced in Exhibit J8.1 (i.e. those used as the basis for the IPO prospectus and approved in EB-2014-0140) are detailed in the prospectus at Exhibit I, Tab 9, Schedule 2, Attachment 1, Page 10.

1 investment planning cycle.²¹ This set of investments was based on the historical capital
2 expenditure levels for insulator replacements, tower coating, and line refurbishments.

3 • **May 2015:** Using the AIP tool and through review by each planning group and the Chief
4 Operating Officer (“**COO**”), Candidate Investments were optimized based on the degree
5 to which they mitigate risk to business objectives, and the result was a prioritized list of
6 investments.²²

7 • **June 2015:** Enterprise Engagement of the prioritized list of investments occurred,
8 followed by COO review and adjustments reflecting his guidance which were
9 subsequently reflected in the updated Investment Plan.²³ The updated Investment Plan,
10 based on the Candidate Investments developed in February 2015, reflected historical
11 expenditure levels for insulator replacement, tower coating and the line refurbishments.

12 • **April-November 2015:** Hydro One’s Initial Public Offering (“**IPO**”) process occurred.
13 Because of the need to establish a reasonable basis for inclusion in public disclosure,
14 Hydro One used the most recent set of OEB-approved metrics for transmission and
15 distribution as the basis for its IPO prospectus.²⁴

16 • **November 2015:** The Chief Executive Officer (“**CEO**”) and Chief Financial Officer
17 (“**CFO**”) reviewed the Investment Plan. At this point, the capital expenditures in this
18 Investment Plan were substantially similar to the levels in the June 2015 Investment
19 Plan.²⁵

²¹ Transcript Volume 11, Page 95, Line 25 to Page 96, Line 10.

²² Transcript Volume 11, Page 96, Line 25 to Page 97, Line 1.

²³ Exhibit J8.1.

²⁴ Exhibit I, Tab 9, Schedule 2, Attachment 1, Page 10; see also Transcript Volume 11, Page 104, Lines 3-25.

²⁵ Transcript Volume 11, Page 98, Lines 21-28.

- 1 • **November-December 2015:** Management discussed the draft Business Plan with the
2 Board of Directors. At this point, Hydro One was in receipt of the draft 2015 Annual
3 Report of the Office of the Auditor General of Ontario (“**AG Report**”), which identified
4 several concerns that warranted further investigation, including comments that assets
5 were deteriorating and not receiving adequate investment.²⁶ The decision was made to
6 defer approval of a business plan until these matters could be examined.²⁷
- 7 • **December 2015:** The final version of the AG Report was issued.
- 8 • **January 2016:** Hydro One’s Board of Directors approved its 2016 budget. This could be
9 completed prior to review and approval of the 2016 to 2020 Business Plan, because the
10 2016 budget was based on previously approved transmission and distribution plans.²⁸
- 11 • **February-March 2016:** Candidate Investments were inputted into the AIP tool (i.e. the
12 same first step in the annual investment planning cycle as occurred in February 2015).²⁹
13 This set of investments included increased investment levels for insulator replacements,
14 tower coating and line refurbishments, relying on additional information received on each
15 of those three asset categories since the last cycle.³⁰
- 16 • **March 2016:** Candidate Investments were optimized based on the degree to which they
17 mitigate risk to business objectives, and the result was a preliminary list of prioritized
18 investments. At this point, there were still potential changes to be made, depending on
19 the results of customer consultation and the COO and business planning group review.

²⁶ Transcript Volume 11, Page 110, Lines 5-8.

²⁷ Transcript Volume 11, Page 110, Line 19 to Page 111, Line 4.

²⁸ Transcript Volume 11, Page 111, Lines 9-13.

²⁹ Transcript Volume 11, Page 112, Lines 16-17.

³⁰ The new information is discussed further in Section 3(b) of this Argument. See also Exhibit J8.1; Exhibit I, Tab 1, Schedule 106; Transcript Volume 1, Page 62, Line 20 to Page 63, Line 25; Transcript Volume 5, Page 13, Line 7 to Page 19, Line 24.

- 1 • **March-April 2016:** Enterprise Engagement of the prioritized list occurred, taking into
2 account the customer consultation activities that primarily took place in March. At this
3 point, certain investments that further mitigated reliability risk were advanced after Hydro
4 One received feedback from its customer engagement process.³¹
- 5 • **April 2016:** The CEO and CFO reviewed the draft investment plan, which became an
6 input into the development of the Transmission Business Plan. By the end of April 2016,
7 the rates revenue requirement had been finalized, including the Transmission System
8 Plan, and approved by Hydro One's executive leadership.³²
- 9 • **April-December 2016:** The Transmission Business Plan figures that were finalized in
10 April 2016 focused on the test years. To revert to a synchronized business planning
11 cycle, the Board of Directors and management agreed that the Board would approve, in
12 December, a full 5-year business plan for Transmission. This was done with the
13 understanding that there would not be any changes made between the information the
14 Board reviewed in May and the Transmission Business Plan that would be approved in
15 December 2016.³³
- 16 Any one of the significant events that took place between October 2015 and May 2016 would
17 reasonably explain the need for timing modifications to Hydro One's Annual Business Planning
18 approval process and why this process became out of step with Hydro One's traditional
19 regulatory rates application process. The combined effect of these events, and the magnitude
20 of their importance, reinforces the reasonableness and practicality of Hydro One's decision to
21 focus its attention first upon the content of its Application, and to then prepare and formalize the

³¹ Exhibit J8.1: Examples of those investments are Middleport TS, Beck1 SS, and protections replacements to address second harmonic misoperations.

³² Exhibit J8.1, Page 2.

³³ Transcript Volume 11, Page 114, Line 16 to Page 115, Line 10.

1 business plan documentation for internal approval purposes. At the end of the day, and as
2 Mr. Vels explained, Hydro One's business planning process is now back on cycle and will
3 remain so going forward.³⁴

4 **(b) Investment Planning Process**

5 Hydro One has appropriately instituted a proper and valid investment planning process. While
6 necessarily complex given the nature of Hydro One's transmission system, the process was
7 dynamic and robust. Professionals who have based their careers in the transmission asset
8 planning area have been appropriately tasked with the responsibility for its implementation. The
9 resulting investment requirements have been properly identified using a deliberate, multi-
10 faceted and systematic approach.

11 Infrastructure asset management is the combination of management, financial, economic,
12 engineering, and other practices applied to physical assets with the objective of providing the
13 required level of service in the most cost-effective manner. Hydro One's asset management
14 process is designed to identify the scope, timing and pacing of asset maintenance and capital
15 investments to mitigate incremental risk to Hydro One's business objectives, while optimizing
16 total cost and managing customer rate impacts. The size and geographical diversity of Hydro
17 One's transmission operations, among the largest in Canada, require consideration of a
18 multitude of factors and variables throughout the investment planning process.

19 It is for these reasons that Hydro One's investment planning process is a multidimensional,
20 complex process that is applied to a dynamic environment. The planning process considers
21 relevant criteria to assess the condition of transmission system assets. Hydro One carefully
22 tests and assesses the condition of its assets before repair or replacement decisions are made.

³⁴ Transcript Volume 1, Page 19, Lines 1-9.

1 The Transmission System Plan resulting from these efforts is outlined in Exhibit B1, Tabs 1-4,
2 and an overview of the investment planning process is provided in Exhibit B1-2-1. The
3 Transmission System Plan which arises from this process strikes a careful and appropriate
4 balance between various asset and customer needs, and is aligned with Hydro One's business
5 objectives and the RRF.

6 Hydro One's investment planning process is not easily distilled into a simple, entirely linear
7 description. There are many different facets of the needs identification process which interact
8 with each other and can happen concurrently.³⁵ That said, the planning process is most easily
9 described in the following seven stages:

- 10 • **Strategic Context:** Incorporation of strategic direction from Hydro One's Board of
11 Directors and Executive Leadership Team is used to focus the identification of needs
12 and appropriately prioritize the candidate investments.
- 13 • **Planning Assumptions:** Incorporation of load forecast and economic assumptions
14 guide the development of investments.
- 15 • **Needs Assessment:** Assessment of needs based on the existing assets, customer
16 needs and preferences, system requirements and other influences.³⁶
- 17 • **Investment Development:** Development of candidate investments that address
18 identified needs.

³⁵ Another illustration of this multi-dimensional process can be found in Exhibit B1, Tab 2, Schedule 1, Page 1, Figure 1, which shows the interrelation of the different aspects of the process, and the continuous role of senior management input and performance reporting.

³⁶ Hydro One's needs assessment process involves a number of processes outlined in the Application: (i) Exhibit B1-2-2 describes how needs are identified through the customer engagement process; (ii) Exhibit B1-2-3 describes how system-level needs are identified through the regional planning process; (iii) Exhibit B1-2-4 describes the methodology used to determine the Sustainment investment plan; (iv) Exhibit B1-2-5 describes how Hydro One determines asset needs, focusing on Sustainment capital spending; and (v) Exhibit B1-2-6 provides an overview of asset condition for key transmission assets.

- 1 • **Investment Optimization:** Risk-based prioritization of the proposed investments to yield
2 an optimized investment plan.

- 3 • **Investment Approval and Implementation:** Management of the investments within the
4 optimized investment plan from planning, final approval and through execution to project
5 completion.

- 6 • **Performance Reporting:** Monitoring the plan through a set of performance metrics.

7 This process is also visually represented in Figure 1 of Exhibit B1-2-7 and at TCJ1.33, which
8 consolidates the stages into a linear expression of the process.³⁷ Using this process, identified
9 investment needs are converted into candidate investments, inputted into an optimization
10 process, and ultimately one that is a fully prioritized investment plan.³⁸

11 (i) Strategic Context

12 Core values and business objectives, as outlined in Exhibit B1-1-2, are the starting point for
13 Hydro One's planning process. Hydro One's goal of becoming a best-in-class,
14 customer-centric, commercial utility and its core values permeate its investment planning
15 process. Those core values are maintaining a safe workplace, caring for customers, operating
16 as one company, being people-powered, and executing with excellence. These goals and
17 values align with the Board's RRF, and Hydro One's new executive leadership and Board of
18 Directors are committed to building a stronger performance management culture and achieving
19 excellence in execution in all aspects of the Company's work.

³⁷ See also Exhibit K1.4: Presentation Day, Slide 19.

³⁸ As described in Exhibit B1, Tab 2, Schedule 7, Page 1.

1 Hydro One's core values and business objectives are translated into business drivers at this
2 stage of the process, to ensure that its key aspirations are integrated into its investment
3 planning process. The business drivers are then weighted to provide a useful input into the
4 planning process, as described in Exhibit B1-2-7.³⁹ The alignment of RRF, Hydro One's
5 business objectives, business drivers, and outcome factors is shown in Table 1 of Exhibit
6 A-3-1.⁴⁰

7 (ii) Planning Assumptions

8 Certain economic assumptions are made which inform development of the investments. These
9 assumptions are set out in Exhibit B1-2-7, and include Transmission Cost Escalators for
10 Construction, Operation and Maintenance, the Consumer Price Index, and the Exchange
11 Rate.⁴¹

12 (iii) Need Assessments

13 Hydro One conducts need assessments on an ongoing basis. Ongoing dialogues with
14 customers, asset risk analyses, and regional and local supply planning all contribute to a fully
15 realized assessment of the needs of the Hydro One transmission system. Planners identify
16 potential investments out of this process and categorize them as "Sustainment", "Development",
17 "Operations", "Common Corporate", and "Customer Care". This process is described in
18 Exhibits B1-2-3 through B1-2-6.

³⁹ Exhibit B1, Tab 2, Schedule 7, Page 2.

⁴⁰ Exhibit B1, Tab 2, Schedule 7, Page 2.

⁴¹ Exhibit B1, Tab 2, Schedule 7, Pages 3-5.

1 Once investment candidates are identified, planners assess those candidates in the context of
2 risk. Risk to Hydro One's business objectives is considered using a structured, three-step
3 process: (i) risk/hazard identification; (ii) risk analysis; and (iii) risk treatment⁴², as follows:

- 4 • The needs assessment process described above informs planners' identification of risks
5 and vulnerabilities (e.g. asset condition).

- 6 • After sources of risk are identified, the risk analysis step also involves three sub-parts: (i)
7 evaluation of the worst credible consequence of a given risk on a specific business
8 objective; (ii) evaluation of the likelihood that a given consequence will materialize; and
9 (iii) evaluation of the effectiveness of existing controls. This process incorporates a
10 probability and consequence analysis based on the impact of Hydro One's business
11 drivers (developed in the Strategic Context stage of the overall investment planning
12 process).⁴³ Figure 3 of Exhibit B1-2-7 shows how these business drivers factor into the
13 investment planning process based on risk exposure.⁴⁴

- 14 • Finally, at the risk treatment stage, the decision to accept or treat a given risk is made.
15 This includes consideration of various inputs such as different options for treatment, the
16 "vulnerability" of the investment funding level, and "start date flexibility" for different
17 investments. This risk matrix is set out in Section 4.4 of Exhibit B1-2-7.⁴⁵

18 Hydro One does not engage in guesswork when it identifies the needs of its assets. As Mr. Ng
19 mentioned several times during his testimony, empirical testing, field assessment and the use of

⁴² Exhibit B1, Tab 2, Schedule 7, Page 8.

⁴³ Exhibit B1, Tab 2, Schedule 7, Page 2.

⁴⁴ Exhibit B1, Tab 2, Schedule 7, Figure 3, Page 11.

⁴⁵ Exhibit B1, Tab 2, Schedule 7, Pages 11-14.

1 industry-accepted analytics are the tools used to assess whether asset replacement is needed
2 or not.⁴⁶

3 It is worth noting that transmission system losses do not factor into the needs assessment
4 process in the sense of driving investments. As was discussed in Hydro One's Additional
5 Evidence, once line conductors are installed, the resistance characteristic of that conductor
6 remains constant for the life of the asset.⁴⁷ The cost trade-offs for small reductions in
7 transmission losses do not justify major costs associated with the type of reconductoring
8 investment involved.⁴⁸ In terms of considering losses as part of regular upgrading for reliability
9 or other reasons, recall Mr. Young's testimony that "for the primary purpose of losses, it's
10 difficult to make the economic case."⁴⁹ Instead, Hydro One's consideration of transmission
11 losses is embedded into its investment planning process at the procurement stage, where it
12 chooses the overall best transformer available, taking into account the potential effects of that
13 choice on transmission losses.⁵⁰

14 (iv) Investment Development

15 After the needs assessment process, planners identify what must be done with a given asset.
16 In this stage, planners identify whether a given asset must be repaired, replaced, or whether no
17 action is required. These decisions depend on asset type and condition. Consistent with Hydro
18 One's asset management strategy outlined in Exhibit B1-2-4, individual asset needs are
19 determined using an asset risk assessment ("ARA") methodology. As described in Exhibit B1-
20 2-5, the ARA methodology is an evolution of Hydro One's asset condition assessment approach

⁴⁶ Transcript Volume 6, Page 15, Lines 6-10; Page 21, Line 28 to Page 22, Line 3; Page 77, Lines 10-27.

⁴⁷ Hydro One Additional Evidence Exhibit K2.1, see generally all of Part VII, and specifically Q/A 28.

⁴⁸ Exhibit K2.1, Q/A 30 to Q/A 35.

⁴⁹ Transcript Volume 5, Page 45, Lines 2-8; Page 67, Line 14 to Page 70, Line 1.

⁵⁰ Exhibit J5.1, corrected version filed December 5, 2016.

1 described in previous filings before the Board.⁵¹ This methodology uses multiple sources of risk
2 in determining asset needs, including asset condition, demographics, criticality, performance,
3 utilization, and economics, as shown in Figure 1 of Exhibit B1-2-5.⁵²

4 The decision to repair or replace depends on the type of asset in question – for some assets,
5 repair is simply not a viable option. Repair is only a viable option for two types of assets:
6 (i) transformers; and (ii) breakers, except for Air Blast Circuit Breakers (“**ABCB**”).⁵³ Where
7 repair is a viable option (on the basis of asset condition), an economic analysis/net present
8 value (“**NPV**”) calculation is undertaken. If repair is not a viable option, there is no need to
9 undertake an economic analysis. Four examples of the ARA methodology have been provided
10 in Undertaking TCJ1.33.⁵⁴

11 In the Investment Candidate Development and Scoping stage of the overall planning process,
12 the decision to proceed with a given investment is not made yet; however, managerial review
13 occurs at this stage. Once investment candidates have been consolidated into an investment
14 portfolio and before the prioritization stage begins, Hydro One conducts a multi-level managerial

⁵¹ Exhibit A, Tab 13, Schedule 2, “Transmission 10 Year Outlook”; EB-2010-0002, Exhibit A, Tab 12, Schedule 4, “Investment Plan Development”.

⁵² Exhibit B1, Tab 2, Schedule 5, Figure 1, Page 2.

⁵³ The reasons why ABCBs are not repaired are discussed in the second example set out in Technical Conference Undertaking TCJ1.33.

⁵⁴ Technical Conference Undertaking Response TCJ1.33:

Example 1 illustrates when Hydro One undertakes a NPV assessment. In this case, the transformer at issue was repaired, as the economic assessment resulted in a NPV of \$17.2 million for repair in comparison to \$18.9 million for replacement.

Example 2 illustrates when Hydro One does not need to undertake a NPV assessment. In this case, due to deteriorating conditions, obsolescence and poor performance, a decision was made on a fleet level to replace the ABCBs.

Example 3 illustrates that when Hydro One does an integrated station component replacement process, it carefully analyses each asset using a proper assessment methodology. In that case, it had been determined that two transformers needed replacement (T1 and T4). After doing a more detailed assessment of the transformers, Hydro One determined T3 also needed replacement due a similar defect which could not be repaired. In contrast, T2 was determined to be in good condition and was not replaced.

Example 4 illustrates when a potential investment goes through the ARA process, with the result that no investment is needed in the near term. In that case, a potential concern was identified based on the demographics of major assets at the station, but a station assessment determined that the investment was not necessary at the time.

1 review.⁵⁵ Investments may be rejected at this stage and sent back to planners for edits and
2 revisions, after which the reviewed portfolio moves to the prioritization and optimization stage.

3 (v) Investment Optimization

4 All investment candidates, including alternatives, are aggregated into a consolidated investment
5 portfolio for optimization. Figure 6 of Exhibit B1-2-7 demonstrates this aggregation.⁵⁶ Using the
6 aggregated portfolio of investment candidates, pacing and timing decisions are made with
7 respect to the assembled list of investment candidates.

8 Not all investments proceed past the prioritization and optimization process. Some are deferred
9 based on timing and pacing considerations. As shown in Exhibit TCJ2.20, the optimization
10 process uses the list of investment candidates and applies budgetary constraints. As explained
11 in Exhibit B1-2-7, the core of this process is the multi-variable framework based on the business
12 drivers set out in Table 1 of Exhibit B1-2-7 and A-3-1 (as revised per Exhibit K6.3) (namely,
13 customer focus, operational effectiveness, public policy responsiveness, and financial
14 performance).⁵⁷ There are two key aspects to this analysis:

- 15 • The operating, maintenance and administration (“**OM&A**”) and capital expenditures
16 possible within the bounds of the expected rate increase (determined, in part, by the
17 results of the customer feedback process with respect to the proposed investment
18 scenarios).⁵⁸
- 19 • The extent to which the planned investments are necessary to mitigate risks to Hydro
20 One’s business objectives, including reliability and customer satisfaction. Hydro One’s

⁵⁵ Exhibit B1, Tab 2, Schedule 7, Page 14.

⁵⁶ Exhibit B1, Tab 2, Schedule 7, Figure 6, Page 15.

⁵⁷ Exhibit B1, Tab 2, Schedule 7, Page 15.

⁵⁸ As described in Exhibit A, Tab 9, Schedule 1, Attachment 1, Page 11.

1 business drivers are assigned relative weights earlier in the planning process to provide
2 useful input into this process. At this stage, Hydro One asks to what extent the
3 investment candidates are necessary to avoid reliability and customer satisfaction issues
4 caused by unplanned outages (in turn caused by deteriorated asset condition) – to what
5 extent are they necessary to avoid the “red zone” in Table 3 of Exhibit B1-2-7?⁵⁹

6 The result of the Investment Optimization process is a prioritized list of asset investments, at
7 which point the approval process begins.

8 (vi) Investment Approval and Implementation

9 Finally, corporate support costs are layered onto the investment plan, and the end product is
10 reviewed by the executive team.⁶⁰ Once the executive team has approved the overall plan,
11 individual project approvals (for those investments that are not already in execution) are
12 developed further for review and approval on a project-specific basis. Alternative approaches
13 and project risks are considered and proposals reviewed, as described in Exhibit B1-2-7.⁶¹

14 During this stage, Hydro One manages the investments within the optimized portfolio from the
15 planning stage through execution and project completion.

16 (vii) Performance Reporting

17 The performance reporting stage of the investment process is accomplished through continuous
18 reporting of results and management of the plan using a set of performance metrics. The
19 performance metrics chosen have been the result of significant scrutiny by Hydro One's

⁵⁹ Exhibit B1, Tab 2, Schedule 7, Page 11.

⁶⁰ As described in Exhibit C1, Tab 3, Schedules 3 & 4.

⁶¹ Exhibit B1, Tab 2, Schedule 7, Page 16.

1 management as well as the input of third party consultants.⁶² The metrics chosen were also
2 tested extensively in the hearing.

3 Another important aspect of Hydro One's goal of continuous improvement and excellence is its
4 internal auditing process. Hydro One's internal auditing exercise and resultant
5 recommendations are demonstrative of a robust planning process which incorporates
6 appropriate feedback in support of continuous improvement. Recommendations arising from
7 this process are detailed in Attachment 2 of Exhibit I-3-1, and the "Investment Planning" and
8 "Transmission Lines Preventive Maintenance Optimization" internal audit reports were placed
9 on the record as Exhibit K4.3.⁶³

10 Demonstrative of its constant commitment to excellence in execution, Hydro One created
11 specific action plans to implement the recommendations arising from its internal auditing
12 process, and to date has entirely finished implementing most of those recommendations. As
13 noted by Mr. Penstone:

"Hydro One's investment planning process is sound and continues to mature. The audit examined practices that existed in 2014 during the development of the 2015 to 2019 business plan; that is, processes which existed two years ago.

Specifically, its recommendations have strengthened Hydro One's investment planning process by providing planners with mandatory training and monitoring to drive a more consistent approach to risk-based investment planning."⁶⁴

14 The Investment Planning audit made 25 recommendations.⁶⁵ Of those recommendations,
15 24 have been completed, although 4 of the solutions vary from the audit's initial action plan.
16 Only 1 of the recommendations, related to developing asset strategy documentation, remains

⁶² Undertaking 3.1, as initially filed December 2, 2016, and updated on December 6, 2016.

⁶³ Exhibit K4.3: Investment Planning Audit Report and Transmission Lines Preventive Maintenance Optimization Audit Report, filed November 23, 2016.

⁶⁴ Transcript Volume 5, Page 26, Lines 2-10 [emphasis added].

⁶⁵ Exhibit K4.3: Investment Planning Audit Report and Transmission Lines Preventive Maintenance Optimization Audit Report.

1 outstanding.⁶⁶ Similarly, the Transmission Lines Preventive Maintenance Optimization audit
2 made 15 recommendations. Out of those recommendations, 8 have been completed, 6 are on
3 track to be completed by the end of 2016, and 1, which is linked to the outstanding asset
4 strategy documentation, will continue into 2017.⁶⁷

5 Hydro One has designed and continuously used a process which is predicated on frank
6 disclosure and open dialogue between management and its internal auditing function. These
7 audits have proven useful in the goal of improving internal processes over time.

8 Based on the above, Hydro One has appropriately instituted a proper and valid investment
9 planning process. The process has been entrusted to those who have built their professional
10 careers in the transmission planning field. It is a robust and dynamic process; one that has
11 considered opportunities for continuous improvement. While there can be no doubt that the
12 process itself is complex, such complexity should not be viewed as surprising or as any type of
13 weakness. Overall, the process reflects the enormity and sophistication of the transmission
14 system and how Hydro One, as a prudent transmitter, ensures investment requirements are
15 identified using a deliberate, multi-faceted and systematic approach.

16 **3. CAPITAL EXPENDITURES AND TRANSMISSION SYSTEM PLAN**

17 **(a) Customer Engagement in Developing the Transmission System Plan**

18 Consistent with the RRF and Handbook requirements, Hydro One's Transmission System Plan
19 was informed by a customer engagement process appropriately structured to identify customer
20 needs and preferences.⁶⁸ This was carried out in addition to its ongoing customer interactions.

⁶⁶ Transcript Volume 5, Page 26, Lines 11-15.

⁶⁷ Transcript Volume 5, Page 26, Line 27 to Page 27, Line 5.

⁶⁸ Exhibit A-3-1, Table 1 (K6.3); Exhibit B1-2-2; Handbook, Page 11, at Tab 1 of the Authorities.

1 Cumulatively, these activities have provided Hydro One with a solid understanding of its
2 customers' needs and preferences. Understanding transmission customers' needs and
3 preferences and delivering transmission system outcomes that are valued by customers is
4 critical to Hydro One's future success.

5 Intensified focus on customer needs and preferences and customer satisfaction is one of the
6 hallmarks of this Application. As explained by both Mr. Vels and Mr. Hubert on the first day of
7 the hearing, customer focus is taking on a greater importance at Hydro One as it moves toward
8 becoming a more commercially-oriented entity.⁶⁹ Recall Mr. Vels's description of the
9 importance that these attributes are now having at the highest levels within the organization:

"The [Board of Directors] looks at and monitors the impacts on our customers differently from the way it was previously done. So whilst the company certainly had and continues to have a strategic objective of satisfying our customers, there are many activities in place. We feel that it can do better and we can improve our customers' understanding of their power usage, improve their ability to deal with their bills, deal with issues that they have raised around reliability and quality in a more structured and cohesive way throughout the company."⁷⁰

10 (i) Focused Customer Engagement – the Ipsos Engagement Process

11 Hydro One retained Ipsos Public Affairs ("**Ipsos**") to conduct a focused engagement process
12 ("**Ipsos Engagement**") so that the observations and insights resulting from that process could
13 be reflected in this Application and in a manner consistent with the requirements of the RRF.⁷¹
14 This initiative was intentionally structured so that information regarding customer needs and
15 preferences could be used to inform the applied-for Transmission System Plan.

⁶⁹ Transcript Volume 1, Page 25, Lines 11-14.

⁷⁰ Transcript Volume 1, Page 46, Line 27 to Page 47, Line 10.

⁷¹ Transcript Volume 2, Page 17. See Handbook Page 11, at Tab 1 of the Authorities.

1 A concern was raised during the hearing with respect to the level of participation in this focused
2 process. The evidence shows Hydro One's efforts in this regard. While Hydro One cannot
3 control its customers' decisions to participate, it can control the opportunity for participation. To
4 that end, as shown in the "Customer Consultation Report" produced by Ipsos ("**Ipsos Report**")
5 and clarified during the hearing, every one of Hydro One's 188 transmission customers were
6 given the opportunity to participate in one or multiple waves of this focused engagement
7 process.⁷² Each wave was carefully chosen to provide every Hydro One transmission customer
8 with the opportunity to participate in a meaningful way.

9 The first wave of one-on-one meetings involved a "cross-section of transmission-connected
10 customers" which represented at least 5% of transmission revenue for Hydro One.⁷³ The
11 second wave of group sessions was held in various locations across the province in order to
12 maximize customers' ability to attend, and all of Hydro One's transmission customers were
13 invited to these sessions and able to opt for the most convenient location. As Hydro One is well
14 aware of the importance of time to its customers,⁷⁴ a third wave was provided as an additional,
15 convenient method for customers to participate with less interruption from their schedules.⁷⁵

16 The evidence also shows that while the numbers alone seem to indicate less participation,
17 "business to business" engagement initiatives generally have lower rates of participation than
18 general consumer type research or engagement.⁷⁶ As indicated by the Ipsos experts, the
19 participation level for this type of qualitative, business to business exercise was reasonable.⁷⁷

⁷² Transcript Volume 4, Page 180, Line 13 to Page 182, Line 5.

⁷³ Exhibit B1, Tab 2, Schedule 2, Attachment 1, Page 7.

⁷⁴ Transcript Volume 4, Page 171, Lines 107.

⁷⁵ Transcript Volume 3, Page 167, Lines 5-7 and 21-22.

⁷⁶ Exhibit B1, Tab 2, Schedule 2, Attachment 1, Pages 7, 8 and 10: (i) a total of 29 individuals representing 14 customers were selected and invited in Wave 1, of which 42 individuals representing 12 customers participated; (ii) a total of 263 individuals from 188 customers were invited in Wave 2, of which 33 individuals representing

1 Another consideration discussed in the hearing was whether Local Distribution Company
2 (“LDC”) connected customers, should have been invited to participate in this focused process.
3 LDCs are directly connected transmission customers. LDCs are accountable to their customers
4 and have a direct relationship with their customers.⁷⁸ The Ipsos Engagement process was
5 designed for the purposes of this transmission rates Application. It was therefore appropriate to
6 include LDCs in the Ipsos Engagement process and not their customers. As explained by Mr.
7 Hubert, clear, coordinated processes relating to the responsibility to consult and represent
8 customers are necessary in this industry, given the volume of ongoing consultation that occurs
9 at different levels and the consequent potential for confusion.⁷⁹

10 The qualitative results of the Ipsos Engagement process provided directional guidance
11 regarding Hydro One’s customer needs and preferences in relation to reliability risk, rate levels,
12 and the corresponding indicative level of investment in the transmission system. Customer
13 feedback concerning the opportunity to have these discussions was generally quite positive.⁸⁰
14 The design and execution of the Ipsos Engagement process was entirely consistent with the
15 RRF objectives as they are now found in the Handbook.⁸¹ Hydro One gained a genuine
16 understanding of its customers’ interests and preferences. The Ipsos Engagement process
17 informed the development of the applied-for Transmission System Plan. Trade-offs between
18 outcomes and costs were explored with customers. Recall that this was done through the
19 various waves of the engagement, discussion of the three hypothetical investment scenarios
20 and using the reliability risk outcome measure.

22 customers attended; and (iii) a total of 292 individuals representing 183 organizations were invited in Wave 3, of which 31 individuals representing 28 customers, and two other individuals, participated.

⁷⁷ Transcript Volume 3, Page 168, Lines 16-26.

⁷⁸ Transcript Volume 2, Page 18, Lines 3-23.

⁷⁹ Transcript Volume 2, Page 18, Line 24 to Page 19, Line 14.

⁸⁰ See Exhibit A, Tab 9, Schedule 1, Attachment 1, Page 16; for a list of customer comments on the process, see Exhibit I, Tab 1, Schedule 4.

⁸¹ Handbook, Page 11.

1 (ii) Incorporating Customer Feedback

2 Concerns were raised with respect to the short time period between the date of the Ipsos Report
3 being provided to Hydro One (draft on March 29, 2016; final on April 18, 2016) and the
4 submission of Hydro One's Application (May 31, 2016).⁸² However, the Ipsos Report was not a
5 document which only came to Hydro One's attention when it was fully formed on April 18, 2016.
6 The evidence is that Hydro One participated fully in the Ipsos Engagement process and
7 received interim reports and meeting notes from Ipsos. That was clear from Ms. Guiry, Mr.
8 McLachlan and Mr. Henderson's testimonies.⁸³

9 The Ipsos Engagement process was specifically focused on providing customers with an
10 opportunity to provide views on three key variables: capital expenditures, reliability risk and rate
11 impacts. Hydro One was intimately involved in the process which gave rise to the Ipsos Report.
12 As Ms. Guiry stated, "the delivery of the first draft report on March 29th wasn't the first time that
13 we were sharing what we were hearing."⁸⁴ Instead, feedback was received by Hydro One and
14 used to inform its planning process which was occurring in parallel. Hydro One's planning
15 management was in attendance at the Ipsos meetings and there was continuous feedback from
16 Mr. Henderson, Mr. McLachlan, and Ipsos.⁸⁵ After each customer consultation meeting, Ipsos'
17 meeting notes were available within a day of the meeting.⁸⁶ The evidence shows that there was
18 sufficient time for Hydro One to incorporate feedback received from the Ipsos Engagement
19 process into its investment plan.

⁸² Transcript Volume 4, Page 131, Lines 22-23; See e.g. Exhibit I, Tab 2, Schedule 37 for the date of receipt of the report; Exhibit B1, Tab 2, Schedule 2; see also Transcript Volume 4, Page 165, Lines 6-11.

⁸³ Transcript Volume 4 Pages 66 lines 8 to Page 68 lines 28; Page 131-135

⁸⁴ Transcript Volume 4, Page 131, Lines 27-28.

⁸⁵ Transcript Volume 4, Page 68, Line 22 to Page 69, Line 4; Page 133, Line 6 to Page 135, Line 13; Page 165, Lines 21-24.

⁸⁶ See Exhibit B1, Tab 2, Schedule 2 for a description of the timeline; see also Transcript Volume 4, Page 68, Lines 22-27.

1 (iii) Changes to Transmission System Plan from Ipsos Engagement

2 Hydro One's Transmission System Planning process commenced in mid-2015 and continued up
3 to the filing of this Application in May 2016. The Transmission System Planning process
4 occurred concurrently with the Ipsos Engagement process. As noted above, feedback from the
5 Ipsos Engagement process informed the Transmission System Planning process.

6 The ways in which the Transmission System Plan incorporated the results of the Ipsos
7 Engagement process are set out at Page 11 of Exhibits B1-2-2 and B1-2-3. Recall that
8 Mr. Penstone also discussed certain timing refinements made to the Middleport TS project and
9 included in the Transmission System Plan.⁸⁷

10 While the changes may best be characterized as refinements, this does not diminish their
11 importance nor cast doubt on the Ipsos Engagement process or to Hydro One's Transmission
12 System Planning process. In fact, it is quite the opposite case.

13 The refinements reflect additional ways Hydro One has been able to manage real and tangible
14 improvements to its Transmission Plan and to focus on customer needs and preferences.
15 Substantive changes would have been surprising given the ongoing contact and rapport that
16 Hydro One has with its transmission customers. Recall Mr. McLachlan's testimony where he
17 explained Hydro One's ongoing efforts to understand its customers' needs and preferences and
18 how the Ipsos Engagement process resulted in both validation and minor refinements to
19 address specific outage frequency and duration concerns:

"To be honest, we didn't find this was going to be much of a surprise. We know our customers very well. We have meetings with them [on] a daily basis [with] our planning group, in our asset management group, to our OGCC operations group and real-time group, our key account management staff and

⁸⁷ Transcript Volume 6, Page 64, Lines 5-7 and also described in Ex J8.1 Attachment 1 at line 42.

project managers and that, so we -- what we found was refinement, I would say, in what the key needs and preferences were, refinement from an end-user perspective of frequency over duration and duration over frequency for LDCs.”⁸⁸

1 Also recall Mr. Henderson’s discussion with Ms. Lea on this topic:

“MS. LEA: All right. And did I understand also from your discussion that in a sense you kind of heard what you anticipated your customers would tell you. In other words, **there wasn't anything startling or new in the responses you got from your customers?**

MR. HENDERSON: **I think that's an absolutely fair characterization.** As I described earlier today, we have a lot of discussions with these customers on various topics. We heard some nuances, as Scott related. The focus or greater focus on frequency than duration for industrial customers, we knew that was important, but it became clear through the consultation that it was more important than we had previously realized.

So a large part of what we heard really validated what we already believed we understood with respect to customers, but it's obviously far better to get it validated by customers.”⁸⁹

2 Utilization of solid management processes along with the high-quality knowledge that Hydro
3 One’s professionals had with regard to the Transmission System Plan was why Hydro One
4 could incorporate customer feedback from the Ipsos Engagement process into its planning
5 process in such a short time. The ongoing briefings from the Ipsos Engagement process and
6 the daily internal meetings held between members of Hydro One’s Customer Engagement team
7 and its asset planning group informed these processes. The combined effect of this approach
8 was that Hydro One was well aware of its customers’ needs and preferences and transmission
9 system asset needs. It would indeed be a poor reflection on Hydro One’s asset needs
10 assessment process if a plan was completely redesigned based solely on the results of the
11 Ipsos Engagement Process.

⁸⁸ Transcript Volume 4, Page 133, Line 20 to Page 134, Line 1 [emphasis added].

⁸⁹ Transcript Volume 4, Page 166, Lines 5-21 [emphasis added].

1 (iv) Reliability Risk Model

2 Much discussion also occurred on the issue of the reliability risk model. Reliability risk is an
3 outcome measure, a customer communication tool that was introduced and used during the
4 Ipsos Engagement process. In part, the model was intended to address prior concerns and
5 confusion over other metrics such as “estimated service life” and “end of life” concepts.⁹⁰

6 Reliability risk is a predictive measure understood by sophisticated transmission customers. As
7 a leading indicator, it is used to gauge the overall future reliability risk of the transmission
8 system by quantifying the risk of failure associated with the equipment comprising the
9 transmission system and communicating that risk to customers.

10 Hydro One’s use of the reliability risk model provides a valuable new perspective to customers,
11 as compared to lagging indicators such as the System Average Interruption Duration (“**SAIDI**”)
12 or the System Average Interruption Frequency Index (“**SAIFI**”), which show declines in reliability
13 only after they occur. Utilization of the reliability risk model is consistent with Hydro One’s
14 expressed transmission customer needs and preferences. What the Ipsos Engagement
15 process concluded was that there is a need to place greater focus upon understanding and
16 improving the *risks* affecting future system outages, rather than relying solely on historical
17 system performance.

18 As it concerns Hydro One’s investment planning process, it is important to understand how
19 Hydro One has used the reliability risk model. System reliability risk metrics should not be
20 confused with the information that underpins specific asset investments included in Hydro One’s
21 investment plan. As Mr. Penstone confirmed, it is *asset condition* that underpins the investment

⁹⁰ Transcript Volume 5, Page 122, Line 24 to Page 123, Line 2.

1 plan.⁹¹ The overall condition of Hydro One's assets is known and measured on an individual
2 basis. The criteria used to determine individual asset investments were explained in the
3 Application, and included: asset demographics, asset performance, asset condition and other
4 specific influencing factors, such as safety, technical obsolescence, innovation, equipment
5 operations and environmental impacts.⁹²

6 The reliability risk model informs the investment planning process by examining how a particular
7 set of investments will impact the overall reliability of the equipment that comprises the
8 transmission system. A "before and after" approach is used.⁹³ A reliability risk baseline level is
9 established based on the existing transmission system. The baseline level is then compared to
10 a recalculated reliability risk level after taking into account a proposed overall capital investment
11 plan. It is an outcome measure used to gauge the impact of proposed capital investments on
12 future transmission system reliability.⁹⁴

13 Hydro One is not alone in modifying its investment planning process to include transmission
14 system reliability risk. Hydro One noted that similar methods are being developed and used in
15 the United Kingdom under the Office of Gas and Electricity Markets.⁹⁵ Admittedly, these models
16 are in their nascent stages and are expected to develop with time and as historical records are
17 built. Hydro One has not back-tested or back casted its reliability risk model, as the predictive
18 basis for any back cast would have to take into account the then prevailing actual conditions of
19 the transmission system necessary to forecast the forward looking level of reliability risk. A far
20 better validation approach will be to consider outcome measures calculated now and then
21 testing these results against actual future baseline levels going forward.

⁹¹ Transcript Volume 2, Page 6.

⁹² Exhibits B1-2-5 and B1-2-6.

⁹³ Exhibit I-1-14, Parts (d)-(f).

⁹⁴ Exhibit I1-14(d)-(f); Transcript Volume 2, Page 6, Line 26 to Page 7, Line 7.

⁹⁵ Exhibit I1-14(b)-(c).

1 A concern was raised in Day 4 of the hearing as to whether the customers participating in the
2 Ipsos Engagement understood the difference between reliability performance and reliability
3 risk.⁹⁶ The reality of this focused engagement process was that the majority of participants were
4 sophisticated parties with significant industry expertise (LDCs, generators, and large industrial
5 businesses) and they understood the concept of reliability risk.⁹⁷ The pie chart located on page
6 23 of the Ipsos Report⁹⁸ shows that the majority of participants had a good understanding of the
7 difference between reliability performance and reliability risk. Qualitatively, the number of
8 people that did not understand the difference was relatively small.⁹⁹

9 The outcome identified from these discussions was that transmission customers are not
10 prepared to accept further deterioration in current service levels – that the maintenance of
11 current reliability risk is a customer priority. Reliability was the most frequently and consistently
12 mentioned “need” raised by customers in each wave of the Ipsos Engagement process.¹⁰⁰
13 Customers have made it clear that they do not want the reliability risk of the company’s
14 transmission assets to increase, indicated that they are willing to accept rate increases to
15 improve reliability risk and confirmed that they understood the quantum of capital expenditures
16 required to do so over a five-year period. Power quality issues and service disruptions cost
17 Hydro One’s customers time and money.

18 The Ipsos Report notes that a 10% increase in reliability risk was identified as unacceptable,
19 and most customers would be willing to support the investment required to at least maintain and
20 marginally improve the current level of reliability risk.¹⁰¹ As shown in Table 2 of Exhibit A-3-1

⁹⁶ Transcript Volume 4, Page 20, Lines 2-6.

⁹⁷ Exhibit B1, Tab 2, Schedule 2, Attachment 1, Page 5.

⁹⁸ Exhibit B1, Tab 2, Schedule 2, Attachment 1, Page 23.

⁹⁹ Transcript Volume 4, Page 20, Lines 7-8.

¹⁰⁰ Exhibit B1, Tab 2, Schedule 2, Page 9; Exhibit B1, Tab 2, Schedule 2, Attachment 1, Page 18.

¹⁰¹ Exhibit B1, Tab 2, Schedule 2, Attachment 1, Page 14. See also Exhibit B1, Tab 1, Schedule 3, Page 18.

1 (K6.3), the relative change in reliability risk from January 2017 to December 2018 associated
2 with the proposed investment plan is a 2% improvement. Hydro One's proposed rates revenue
3 requirement increases are 2.6% and 4.8% for 2017 and 2018, respectively. These rate levels
4 are consistent with the expressed customer priorities and tolerances regarding reliability risk.

5 In sum, the Transmission System Plan appropriately took into account the results of the Ipsos
6 Engagement process. The process was appropriately structured to identify customer needs and
7 preferences and these customer needs and preferences were identified. Hydro One has
8 ensured such identified needs and preferences are appropriately incorporated into the
9 Transmission System Plan by adopting a balanced approach and in its pursuit of becoming a
10 more improved commercial enterprise. Mr. Vels perhaps put it best this way:

"The way I would frame it is that we, when we make our decisions and apply for rates, [we] consider a combination of factors, but most materially the customer needs and preferences that we are informed by -- both by our ongoing discussions with customers and the consultations that we do, the impact on customer bills, and, thirdly, and equally importantly, the impact on the system and the reliability and the risk in that system.

So we don't focus on only one facet of our operations, which I think is the point about being excellent in everything, and we do have to balance all of those three impacts, because they are frequently opposing factors, and we need to come out and have endeavoured here to do the best we can to balance them."¹⁰²

11 (v) First Nations and Métis Communities

12 Building and maintaining effective relationships with First Nations and Métis communities is an
13 important part of achieving Hydro One's business objectives.

14 For the particular purpose of developing this transmission rates Application, Hydro One's
15 customer consultation process was focused specifically on directly connected transmission

¹⁰² Transcript Volume 1, Page 130, Lines 13-26.

1 customers. The Ipsos Engagement process took into account the definition of “customer” in the
2 Transmission System Code: “a generator, consumer, distributor or unlicensed transmitter whose
3 facilities are connected to or are intended to be connected to a transmission system”.¹⁰³

4 With respect to stakeholder consultation, Hydro One consulted with registered intervenors from
5 Hydro One’s last two transmission rates applications. This is a reasonable approach. Parties
6 who have previously expressed relevant concerns regarding transmission rate matters are
7 consulted. Anwaatin’s participation in this proceeding means that on a go-forward basis, they
8 too will be included in Hydro One’s transmission rate application stakeholder consultation
9 process.

10 Hydro One’s practice is to engage with First Nations and Métis communities when new projects
11 are planned and developed within their communities. Examples of this type of engagement with
12 certain Anwaatin communities were filed on November 30, 2016.¹⁰⁴ This approach, again, is
13 reasonable as it ensures community consultation and engagement occurs at an appropriate
14 time and the effort is reflective of the nature and type of project under consideration.

15 The evidence and recommendations presented by Dr. Richardson in the context of this
16 transmission rates application are difficult to translate into concrete rate recommendations
17 and/or action plans for Hydro One Transmission. Recall that Dr. Richardson’s evidence did not

¹⁰³ “Transmission System Code”, *Ontario Energy Board* (26 August 2013, original issued 14 July 2000), Section 2.0.18.

¹⁰⁴ Exhibit K5.2: Hydro One Letter re First Nations Communications, filed November 30, 2016. There were four letters filed on the record which were sent to First Nations communities in respect of a wood pole replacement program. Letters were sent to the MoCreebec Council of the Cree Nation, the Aroland First Nation, the Biinjitiwaabik Zaaging Anishinaabek First Nation, and Bingwi Neyaashi Anishinaabek First Nation, all of which were sent on September 22, 2016. To date, Hydro One received one response from the Biinjitiwaabik Zaaging Anishinaabek First Nation on September 23, 2016 noting that the “BZA leadership will respond accordingly.” To Hydro One’s knowledge, there has been no further correspondence in relation to this matter to date.

1 make a distinction between Hydro One's transmission and distribution segments, or between
2 those two businesses and Hydro One Remotes.¹⁰⁵

3 Significant difficulty arises in assessing the reasonableness of Dr. Richardson's primary
4 recommendation, namely, the development of a best practices guide for engagement with First
5 Nations and Métis communities. There was no evidence that Dr. Richardson had gathered
6 information or in any way assessed Hydro One's existing resources and practices.¹⁰⁶ Nor was
7 any step taken by Dr. Richardson to reasonably demonstrate how an undefined best practices
8 guide would, in the context of transmission rate-making applications, result in any reduction in
9 rates charged to ratepayers or improvements to service and reliability. Without more, Dr.
10 Richardson's recommendations would in fact appear to cause greater costs. The purpose and
11 reasonableness of such an approach remains unclear in the present rate-making approval
12 context.

13 **(b) Capital Expenditures in the Transmission System Plan**

14 While Hydro One's transmission reliability has been top quartile and remained relatively flat over
15 time, maintaining this level of reliability with aging and deteriorating assets will become an ever
16 increasing and significant challenge. Hydro One's customers have expressed the need to
17 maintain reliability. In this Application, Hydro One proposes to meet this need by making capital
18 expenditures that are no more and no less than are required to address asset condition,
19 supported by empirical testing and extensive needs assessment processes.

20 Hydro One's proposed total capital expenditures for the test years are \$1,076.1 million for 2017
21 and \$1,122.2 million for 2018. Sustaining capital is the largest component of the Transmission

¹⁰⁵ Transcript Volume 13, Page 49, Lines 17-20; Page 50, Lines 23-26.

¹⁰⁶ See, for example, Transcript Volume 13, Page 51, Lines 1-16.

1 System Plan, with Development, Common Corporate Costs, and Operations capital following in
 2 decreasing order.¹⁰⁷

Sustainment		Development		Common Corporate Costs		Operations	
2017	2018	2017	2018	2017	2018	2017	2018
\$776.8M	\$842.1M	\$196.4M	\$170.2M	\$77.6M	\$79.1M	\$25.4M	\$30.8

3 In this Application, Hydro One is focused on the significant increases in Sustainment capital.
 4 Hydro One has consistently made efforts to extend the life of assets wherever possible in order
 5 to avoid unnecessarily increasing rates as a result of premature asset replacement. While
 6 investment planning is always a matter of trade-offs, evaluation of justness and reasonableness
 7 of forecast costs cannot simply be based on quantum. The reasons underlying the increase
 8 must be evaluated and understood.

9 The Sustainment capital investments, including the changes in forecasted expenditures since
 10 Hydro One's last transmission rates application, are due to pressing developments that have
 11 recently occurred with respect to existing assets: (i) a severe manufacturer's defect found
 12 across Hydro One's transmission system; (ii) evolving information and new test reports showing
 13 the deteriorated condition of conductors; and (iii) technological advancements allowing for a
 14 cost-effective, proactive, NPV-positive investment in tower structures to avoid the significant
 15 future costs of replacement.¹⁰⁸

¹⁰⁷ Total capital expenditures proposed for the test years are outlined in Exhibit B1, Tab 3, Schedule 1, and were summarized by Mr. Penstone at the outset of the Planning Panel's appearance. See Transcript Volume 5, Page 11, Line 18 to Page 12, Line 1.

¹⁰⁸ Forecast Sustaining capital expenditures in the test years are 30% and 32.3% higher than the corresponding forecasts for Sustaining capital expenditures in its 2014 filing: EB-2014-0140. The factors contributing to this increase are outlined in Exhibit I, Tab 1, Schedule 106, Page 1.

1 The Sustainment capital expenditures are primarily attributable to lines investments, and the
2 increase since Hydro One's last transmission rates application is attributable to new information
3 on asset condition.¹⁰⁹ There are three categories of needed lines investments: (i) replacement
4 of transmission line insulators to address safety concerns; (ii) refurbishment of deteriorated
5 conductors; and (iii) application of new zinc protective coating to steel towers.¹¹⁰

6 The proposed line investments are driven by asset needs and are consistent with Hydro One's
7 business objectives and customer feedback. The proposed line investments are supported by
8 the analysis and expertise brought to bear by a group of over 60 engineers and asset
9 managers.¹¹¹ The proposed line investments are supported by technical assessments, the
10 purpose of which is to determine whether assets will fail. Hydro One is then faced with
11 two choices as delineated by Mr. Penstone: either replace the assets, or defer their replacement
12 and hope that they do not fail, although "[a]sset managers and professional engineers don't like
13 to rely on hope."¹¹² The risks posed by unsafe assets are significant.

14 In Hydro One's respectful submission, the evidence supporting the proposed line investments is
15 clear and convincing. To depart from the conclusions reached by Hydro One's experienced and
16 dedicated professionals suggests that either real doubt has been cast upon Hydro One's
17 conclusions or that better evidence has been submitted and appropriately tested in this
18 proceeding. Neither is the case in these circumstances. The matters in question concern public
19 safety and system reliability. Deferral of projects based upon historic spending "trend lines" is

¹⁰⁹ Exhibit B1, Tab 3, Schedule 2, Pages 3 and 31 (Table 14); Transcript Volume 1, Page 62, Lines 20-25. Hydro One was asked during the Hearing about the new information since its last application which justifies the changes in its Sustainment capital expenditures: Exhibit I, Tab 1, Schedule 106; Transcript Volume 1, Page 63, Lines 8-9.

¹¹⁰ Exhibit B1, Tab 3, Schedule 2, Pages 2-3; see also Exhibit B1, Tab 3, Schedule 1, Asset Needs Overview, for assessments of the assets to be replaced; Transcript Volume 1, Page 28, Line 18 to Page 29, Line 4.

¹¹¹ Transcript Volume 5, Page 157, Line 12.

¹¹² Transcript Volume 5, Page 157, Lines 6-7.

1 an inappropriate and simplistic way to evaluate the evidence that is before this Board and the
2 obligations and risks that are at stake.

3 (i) Replacing Unsafe Insulators

4 The need to address insulators located throughout the transmission system was precipitated by
5 an incident in March 2015, when an insulator failed and caused a conductor to fall over a public
6 parking lot in the west end of Toronto.¹¹³ The issue of line drops due to insulator failures is an
7 ongoing challenge. In 2015, nine line drops were recorded. In 2016, the reported number
8 was 4.¹¹⁴ On January 2, 2017, Hydro One recorded its first line drop of this year.¹¹⁵

9 In all cases, the insulators in question were manufactured by Canadian Ohio Brass (“**COB**”) and
10 Canadian Porcelain (“**CP**”) and subject to a defect called cement expansion, which can cause
11 the insulator to crack. Although the defect has been known in the industry since the 1980s¹¹⁶
12 and has arisen in other jurisdictions, different utilities have taken different approaches in dealing
13 with the insulators at varying points in time.¹¹⁷ In the present case, Hydro One took the
14 approach of waiting until there was objective evidence that the insulators had to be replaced,
15 instead of potentially replacing the conductors prematurely.

16 Until the Etobicoke line drop incident and the investigation that followed, there was no reason
17 for Hydro One to believe that replacement of its insulators needed to occur on a more urgent

¹¹³ Transcript Volume 1, Page 63, Lines 10-14; Exhibit I, Tab 1, Schedule 55, Pages 3-4.

¹¹⁴ Exhibit J5.3.

¹¹⁵ The event occurred on a normal weather day and the line in question was under a low-tension span. The line drop occurred across a public roadway in the Hamilton area.

¹¹⁶ Transcript Volume 4, Page 164, Lines 17-21.

¹¹⁷ *Re Newfoundland and Labrador Hydro, Newfoundland and Labrador Board of Commissioners of Public Utilities*, 2003 Carswell Nfld 389 at paras 66-69. This rates decision makes it clear that although an “immediate problem does not appear to exist” (as of 2003) the failure statistics were increasing, and it was prudent to totally replace the defective insulators over time. Similarly, BC Hydro was directed to reduce its proposed investments for COB insulator replacements in 2005 because there was no test data to support the investment at the time (unlike the testing described by Mr. Ng): *In the Matter of British Columbia Transmission Corporation Transmission System Capital Plan F2006 to F2015 Application*, British Columbia Utilities Decision, September 23, 2005 at Page 58. Each of these cases is found in the Authorities at Tab 2.

1 basis than in the past.¹¹⁸ As noted in Exhibit J5.3, the exceptional circumstance of the
2 Etobicoke line drop prompted Hydro One to manually review the past ten years of trouble call
3 reports in order to get a system-wide view of the issue. The result of this exercise was
4 summarized by Mr. Penstone as follows:

“The subsequent investigation of that incident revealed the shortcomings and deterioration in a class of insulators that had been installed over a number of years by Ontario Hydro. These insulators are in such a state that they now have to be replaced, and they need to be replaced both from a reliability perspective, but also from a public health and safety perspective, as a number of our lines traverse public areas. So that was what prompted the need to address insulators.”¹¹⁹

5 The number of COB and CP insulators in Hydro One’s system is much higher than in other
6 jurisdictions given that they were manufactured in Ontario and COB/CP were the sole suppliers
7 in this region at that time. Consequently, the cost of replacement is much higher.¹²⁰ Hydro One
8 has deferred that cost for as long as possible. Cost impacts to ratepayers have been deferred
9 for as long as reasonably possible. The clear and convincing evidence is that the replacement
10 of these insulators can no longer be deferred. .

11 In Day 5 of the hearing, Mr. Ng set out a timeline of how and when Hydro One gained its
12 knowledge of the full extent of the insulators problem.¹²¹ A summary of this timeline is as
13 follows:

- 14
- The line drop incident occurred in March 2015.

¹¹⁸ Past rates of replacement are shown in Exhibit B1, Tab 3, Schedule 2, Table 16, Page 35; Exhibit B1, Tab 2, Schedule 6, Table 12, Page 59. See also Exhibit D1, Tab 1, Schedule 2, Table 2, which demonstrates that \$23 million was spent based on the new information of the emerging need for insulator replacements across the system.

¹¹⁹ Transcript Volume 1, Page 63, Lines 15-23.

¹²⁰ Transcript Volume 5, Page 166, Lines 1-6.

¹²¹ Transcript Volume 5, Page 162, Lines 7-8 and 10-11.

- 1 • Immediately following the incident, Hydro One conducted an Asset Event Investigation
2 (“**AEI**”) that was completed in May 2015.
- 3 • Two recommendations arose from the AEI: (i) immediately replace all of the insulators
4 on the line where the conductor dropped; and (ii) formulate a plan to replace the entire
5 population of suspect COB/CP Insulators.
- 6 • Between May and December 2015, Hydro One required its work crews to assess the
7 condition of these insulators on an ongoing basis, as they were out on lines performing
8 inspections, conducting pole replacements, or executing any other work. The results of
9 this continuous feedback were that the problem is widespread, and this information
10 significantly increased Hydro One’s understanding of the severity and urgency of the
11 issue.¹²²
- 12 • Knowing now that the rate of replacement of the COB/CP insulators must be
13 accelerated, Hydro One commissioned an independent testing report from EPRI in
14 early 2016 to confirm the condition of the insulators and implemented an accelerated
15 insulator replacement strategy in order to address the public health and safety risks
16 posed by the failure of these insulators (“**EPRI Report**”).¹²³

17 The urgency and severity of the issue was confirmed by EPRI in its June Report. These results
18 were described by Mr. Ng in the hearing: 37% of the COB/CP Insulators tested fell below
19 ratings.¹²⁴ What is more troubling about the results of the EPRI Report is that 12% of the tested

¹²² Transcript Volume 5, Page 163, Lines 4-8; see also Transcript Volume 5, Page 17, Line 3 to Page 18, Line 14.

¹²³ Exhibit I, Tab 1, Schedule 106, Page 3; Exhibit I, Tab 1, Schedule 55, Page 4; Transcript Volume 5, Page 163, Lines 9-16.

¹²⁴ Transcript Volume 5, Page 163, Lines 22-23.

1 sample showed less than 84% rated strength.¹²⁵ What compounds this result further is that the
2 units are strung together, so that every string of 230 kV line consists of 14 individual units. It
3 only takes one of those units to cause the line to drop.¹²⁶

4 A significant portion of the overall increase in Sustainment capital investments is attributable to
5 the need to replace these insulators.¹²⁷ As discussed in the Investment Summary Document
6 (“ISD”) for insulator replacements, and as was made abundantly clear by the line drop incident,
7 failure to proceed with this investment “will negatively impact system reliability, causing an
8 increased number of customer interruptions, and more importantly a public safety risk.”¹²⁸

9 As Mr. Ng characterized the issue, this type of problem is not critical when nothing happens.
10 The problem is that these insulators hang over parking lots, roads, highways, and schoolyards.
11 When one line drops, “it’s one too many.”¹²⁹

12 In the light of this evidence, it can hardly be said that the proposed expenditures for insulator
13 replacement are unwarranted or in some way represent an unjust or unreasonable investment.
14 Hydro One has deferred this investment as long as it can. Ratepayers have benefitted from the
15 deferral but the question is whether it is now time to act, to address real and substantial risks to
16 public safety. Hydro One submits it is.

17 (ii) Replacing Deteriorated Conductors

18 Transmission line conductors are one of the most critical elements of a transmission line.¹³⁰
19 The evidence is clear that Hydro One’s proposed Sustainment capital expenditures to replace

¹²⁵ Transcript Volume 5, Page 162, Lines 26-28.

¹²⁶ Transcript Volume 5, Page 163, Lines 6-14.

¹²⁷ See also Exhibit I, Tab 1, Schedule 55.

¹²⁸ Exhibit B1, Tab 3, Schedule 11, Reference S79.

¹²⁹ Transcript Volume 5, Page 167, Lines 5-12; Exhibit J5.3, filed December 6, 2016.

1 conductors are necessary. Hydro One does not rely on estimates or assumptions when it
2 decides to replace conductors. Instead, it relies on objectively tested data. Hydro One
3 assesses conductors by removing samples from the line and sending those samples for
4 laboratory testing, or by using a new, non-destructive assessment tool.¹³¹ Recall the exchange
5 between Ms. Lea and Mr. Ng in this regard and how conductor end-of-life (“EOL”)¹³² test reports
6 support Hydro One’s proposed lines refurbishment program:

“MS. LEA: **And how do you know when these conductors are at the end of their life? Is it an assumption based on age, the demographics?**”

MR. NG: **No, there is no assumption at all.** We do not replace assets based on age. What we do is -- in fact, if I may point you to one of the attachments -- let me see, hang on.

It's the CME IR number 6. In it, one of the attachment is a survey of Hydro One -- the conductor assessment program. **The survey basically highlights the fact that Hydro One has one of the best conductor assessment programs out there.**

What we do is we will actually go to the in-service circuit and remove a section of conductor from the line. Then that section of conductor will be sent to a laboratory. We put them through a whole series of testing to look at the remaining strength, to look at totality, to look at corrosions, and a couple of factors, and a combination of those factors will determine if the conductor has reached end of life.

MS. LEA: Do you use these lab tests before choosing your replacement candidates in every case?

MR. NG: **Every conductor refurbishment project that we propose is underpinned by a conductor end-of-life testing report.**¹³³

7 Conductors which have been tested and have been shown to be in fair condition are not
8 proposed to be replaced.¹³⁴ Conductors which have been tested and shown to be at a high risk
9 of failure will be replaced.

¹³⁰ Exhibit B1, Tab 3, Schedule 2, Page 32. Hydro One proposes to undertake the transmission lines refurbishment projects as set out in Exhibit B1, Tab 3, Schedule 2, Table 15, Page 33.

¹³¹ Exhibit B1, Tab 3, Schedule 2, Page 32; Transcript Volume 5, Page 14, Lines 12-19.

¹³² Defined as the “likelihood of failure, or loss of an asset’s ability to provide the intended functionality, wherein the failure or loss of functionality would cause unacceptable consequences”: Exhibit B1, Tab 3, Schedule 2, Page 2.

¹³³ Transcript Volume 5, Page 171, Lines 2-26 [emphasis added].

1 The results of laboratory testing revealed that, from a fleet perspective, out of all of Hydro One's
2 conductors, 19% are currently beyond their expected service life and 9% fall within the high risk
3 category as described in Exhibit B1-2-6.¹³⁵ There were a number of questions with respect to
4 the necessity of these conductor replacements, given relatively stable past performance
5 statistics.¹³⁶ The difficulty with using past reliability as justification for failing to replace
6 conductors is that it ignores that these conductors have been tested and proven to be at their
7 end-of-life.

8 Knowing that conductors are at their end-of-life, and yet failing to replace them, would be
9 inconsistent with Hydro One's responsibility as a prudent steward of its assets. End-of-life
10 conductors cannot meet their design load. As explained by Mr. Ng, the only reason the
11 conductors in question have not yet failed is that they have not been subjected to their design
12 load. When they are faced with their design load, they will fail.¹³⁷ Mr. Ng provided an example:
13 a person living under a 30-year old roof designed to withstand 1 metre of snow, that can now
14 only handle 0.8 metres of snow, is hoping that the snow does not fall. As a prudent steward of
15 its assets, Hydro One cannot wait and see if the snow falls; it must ensure that its assets can
16 handle it when it does.¹³⁸

17 (iii) Preventing Corrosion with Protective Coating

18 New technology has enabled an investment to occur today which provides for future benefits to
19 ratepayers in the form of avoided costs. The choice is simple: ratepayers can bear the relatively

¹³⁴ Exhibit B1, Tab 2, Schedule 6, Page 35.

¹³⁵ Transcript Volume 5, Page 15, Lines 20-23; Exhibit B1, Tab 2, Schedule 6, Page 35; see also Exhibit B1, Tab 2, Schedule 6, Page 35.

¹³⁶ Transcript Volume 6, Page 110, Line 4-26.

¹³⁷ Transcript Volume 6, Page 110, Line 27 to Page 111, Line 6.

¹³⁸ Transcript Volume 6, Page 111, Lines 7-15.

1 small cost of coating tower infrastructure now, or they can bear the comparatively high costs of
2 replacing tower infrastructure later.

3 The tower coating program is an NPV-positive investment, supported by corrosion zones
4 mapping, corrosion rate determination, tower condition assessment, and coating product
5 performance verification. This investment is very much designed with rate impacts in mind.
6 This opportunity to protect infrastructure has arisen due to new technology and will extend the
7 useful life of Hydro One's assets, thereby mitigating higher capital spending requirements for
8 asset replacements in the future.¹³⁹ The new Galvatech coating system is more economical
9 than the options previously available, due to the relative ease in its application. EPRI's report
10 on the proposed Galvatech tower coating system was provided as Attachment 3 to Exhibit I-9-6.

11 The timing of the tower coating program is about utilizing a limited window of opportunity to
12 avoid significant and unnecessary rate impacts in the future.¹⁴⁰ There is an optimal time to coat
13 structures: after the zinc protective layer has worn off the structures and before heavy corrosion
14 and metal loss set in.¹⁴¹ Once metal loss reaches 10%, it is too late. After this point, towers
15 must be refurbished or replaced at a significantly higher cost. This timeline was ascertained
16 using the empirical results of Hydro One's work with EPRI to define corrosion zones in the
17 province.¹⁴² The goal of the tower coating program is to re-coat as many towers as possible
18 before corrosion and metal loss thresholds are exceeded and coating is no longer an option. In
19 order to avoid significant future rate impacts, Hydro One's proposed timeline must be followed.

20 (iv) Necessity and the Costs of Deferral

¹³⁹ Exhibit A, Tab 3, Schedule 1, Page 12, Lines 25-26 (K6.3).

¹⁴⁰ Transcript Volume 6, Page 117, Lines 19-25.

¹⁴¹ Transcript Volume 6, Page 172, Line 23 to Page 173, Line 10.

¹⁴² Exhibit I, Tab 9, Schedule 3, Attachment 2: "EPRI Report on Atmospheric Condition Assessments of Hydro One Structures"; Transcript Volume 5, Page 173, Lines 11-21.

1 The evidence on the record demonstrates that not only are Hydro One's proposed increases in
2 Sustainment capital reasonable, but they are absolutely necessary in order to continue the level
3 of reliability required and requested by its customers.

4 The fact of the matter is that Hydro One's proposed investments, particularly its Sustaining
5 capital investments, are not a matter of choice. They are pressing needs, and deferral of these
6 investments will not make the need disappear.¹⁴³ There are a number of serious adverse
7 consequences which could result from a reduction in Hydro One's Sustaining capital, including
8 reduction in reliability at transmission stations, risk of noncompliance with applicable
9 environmental legislation and regulations, risk of noncompliance with NPCC and NERC
10 standards, increased power outages attributable to lines facilities, and public safety risks.¹⁴⁴

11 The evidence shows that the proposed increase in Sustainment capital is not only necessary,
12 but it is vitally important to transmission system integrity. It is necessary to ensure continued
13 reliability in the face of an aging asset base, and to ensure the safety and security of Hydro
14 One's employees and the public.¹⁴⁵

15 The issue is not whether ratepayers will bear the cost of doing the work necessary to maintain
16 the system in a proper and safe condition, but rather when ratepayers will bear this cost.¹⁴⁶ The
17 evidence is clear and convincing that the investments are necessary. There is no basis to
18 support a view that Hydro One's assessment of the condition of those assets is flawed. Again,

¹⁴³ Transcript Volume 2, Page 7, Line 28 to Page 8, Line 12.

¹⁴⁴ Exhibit B1, Tab 3, Schedule 2, Pages 3-4; see also Transcript Volume 2, Page 12, Lines 1-6; see also Transcript Volume 5, Page 15, Lines 10-16.

¹⁴⁵ The Navigant Report also supports the investment plan in its identification of need for additional spending for Sustainment of its transmission assets. According to the Navigant Report, Hydro One's capital investment in stations and lines, and its OM&A expenditures on these asset types, have been notably lower than most of its comparators, and well below the median. Navigant specifically noted that the relative age of Hydro One's assets creates an expectation that capital expenditures "will need to increase in order to maintain reliability", see: Exhibit B1, Tab 2, Schedule 4, Page 16, Lines 18-20, citing Exhibit B2, Tab 2, Schedule 1, Attachment 4.

¹⁴⁶ Transcript Volume 2, Page 8.

1 no party has sponsored evidence contradicting Hydro One's professional and technical
2 judgment respecting the condition of its assets.

3 The issue of timing encompasses not only when the work must be undertaken, "but also under
4 what circumstances."¹⁴⁷ There are costs to deferral. If work is deferred and an asset fails, the
5 costs of the unplanned work are very likely to be higher than if they were planned. As Mr.
6 Penstone put it, if you defer the work, "[y]ou are compounding the amount of work that we have
7 to do and the execution challenges to execute larger amounts of work in future periods."¹⁴⁸

8 Perhaps the best illustration of a specific consequence of deferral in this Application is the tower
9 coating investment. The cost of deferral is the cost to replace tower infrastructure. Recall that
10 the tower coating program provides for an NPV-positive investment of approximately \$184
11 million.¹⁴⁹

12 Deferral impacts customers both through service interruptions and electricity bill impacts. Hydro
13 One does not take lightly the impact of its investment planning on its customers. As was made
14 clear by Mr. Vels, Hydro One's senior management and its Board of Directors had significant
15 discussions on this topic.¹⁵⁰ Consideration was given to what extent capital could be deferred or
16 reduced and in the context of total bill impacts.

17 The resulting applied-for Transmission Plan reflects the informed judgment of Hydro One's
18 professional engineers within its asset planning group. The Plan reflects the optimum level of
19 required investment. It reflects a balanced decision-making approach which takes into account
20 bill impacts. Deferral of non-essential projects has been appropriately factored into the

¹⁴⁷ Transcript Volume 2, Page 8, Lines 21-23.

¹⁴⁸ Transcript Volume 2, Page 11.

¹⁴⁹ Exhibit TCJ2.3, Page 3, Table 3; Transcript Volume 5, Pages 172-174.

¹⁵⁰ Transcript Volume 2, Page 13, Lines 3-15.

1 investment planning process. The Transmission Plan has been tested and accepted by senior
2 management and the Board of Directors. In Hydro One's submission it is both reasonable and
3 necessary.¹⁵¹ It is precisely because of this that Hydro One submits that the Sustainment
4 capital envelope presented in this Application is appropriate and satisfies the just and
5 reasonable standard.

6 **4. PRODUCTIVITY & EFFICIENCIES, SCORECARD AND ALIGNMENT WITH RRF**

7 **(a) Productivity and Efficiency Improvements**

8 Hydro One's transformation to being more commercially oriented includes initiatives designed to
9 create corporate accountability for outcomes as well as increased productivity and efficiency.¹⁵²
10 As iterated by Ms. McKellar, Hydro One is "looking at efficiencies, productivities, driving more
11 accountability through management ranks", and all of these things are aligned with Hydro One's
12 commercial focus.¹⁵³ Hydro One's executive leadership and Board of Directors are committed
13 to building a strong performance management culture, and the ability to measure and track
14 performance is essential to this vision. Hydro One has already taken significant actions to
15 identify and quantify productivity improvements to date, as well as improvements that will be
16 seen in the future.

17 Over the past year, Hydro One completed a company-wide internal evaluation seeking to
18 reduce costs without compromising service quality or work outputs. The purpose of the
19 evaluation was to assess operations for potential efficiency gains and to align the company with
20 industry best practices, freeing up additional resources that could be used to improve RRF
21 performance outcomes. This initiative was described by Mr. Vels in the hearing as follows:

¹⁵¹ Transcript Volume 2, Page 13, Lines 16-19.

¹⁵² Exhibit K1.4: Presentation Day, Slide 29.

¹⁵³ Transcript Volume 12, Page 60, Lines 25-28.

“... the new board and management, including myself, decided that it was appropriate to undertake a detailed review of the organization at that time with several goals in mind that would potentially enhance the draft business plan and result in an improved transmission rate application. **These goals included an exhaustive review of the potential for further productivity and efficiency over and above what was included in the draft business plan, a customer consultation process, preparation of a comprehensive OEB scorecard, and improved analytics relating to the risk underlying the transmission reliability assumptions.**”¹⁵⁴

1 This evaluation resulted in several recommendations which were subsequently investigated in
2 order to determine their feasibility. Quantifiable improvements were then embedded in the
3 budgets used to inform this Application and tied to relevant work programs.

4 Key sources of potential productivity savings were in the following areas:

- 5 • **More effective procurement programs, including investments in new processes**
6 **and tools.** Refinement of procurement practices has enabled Hydro One’s Supply
7 Chain division to identify and take advantage of various areas of opportunity for
8 productivity cost savings, as illustrated in TCJ1.17.¹⁵⁵ As noted by Mr. Vels in Day 2 of
9 the Hearing, Hydro One challenged its procurement group to achieve savings:

“... we challenged our procurement group to segment all of their procurement activity and the assets and the services that they procure and identify potential opportunity in those asset classes. And then, through a combination of either changes in process, for example, on RFPs or systems, or negotiating techniques, they have isolated certain elements that they believe they can improve and purchase at a lower cost for 2017 and 2018, and they do have projections that go beyond that. They committed to a certain level of improvements and savings in those areas and those commitments that they have made, and, where they have shown us that they have plans to achieve them, have been included in the relevant cost drivers and in the relevant cost centres in the company.”¹⁵⁶

¹⁵⁴ Transcript Volume 1, Page 17, Lines 7-18 [emphasis added].

¹⁵⁵ See also Exhibit I, Tab 13, Schedule 9.

¹⁵⁶ Transcript Volume 2, Page 34, Lines 8-22.

- 1 • **Reductions in administrative expenditures through improved processes and**
2 **optimization of internal staff skills.** Hydro One is in the process of validating the
3 magnitude of this and other specific opportunities for decreasing OM&A costs. Fully
4 executing on these opportunities should allow Hydro One to meet the OM&A
5 commitments in its Application for the test years.
- 6 • **Rationalization of Hydro One’s IT spending.** Hydro One’s information solutions
7 division has also been a significant contributor to OM&A savings, through initiatives such
8 as infrastructure and database decommissioning where there is limited or no utilization,
9 alignment to industry best practices for frequency of backup and storage optimization,
10 and negotiated rate reductions with third party contractors.
- 11 • **Improved field efficiency through improved work planning.** Hydro One’s stations
12 services organization has undertaken a number of initiatives, such as reconditioning oil,
13 completing cable vault inspections by camera, and undergoing wrench time studies to
14 improve workplace efficiencies. These efforts have resulted in forecasted savings of
15 \$2.9 million in 2017 and \$3.5 million in 2018.¹⁵⁷ Hydro One also commits to reduce its
16 spending on overtime labour by increasing controls, reducing trouble calls performed on
17 overtime, and improved scheduling of work through collaboration with customers.¹⁵⁸
- 18 • **Improved execution through the consolidation of stations work.** Integrated station
19 replacements have enabled Hydro One to reconfigure and standardize the system
20 allowing for a reduction in the number of assets on the system. Elimination of

¹⁵⁷ Exhibit C1, Tab 2, Schedule 6, Page 7; Exhibit I, Tab 1, Schedule 116; Technical Conference Undertaking Response TCJ1.17.

¹⁵⁸ Exhibit B2, Tab 1, Schedule 1, Page 12.

1 transformers and breakers has allowed productivity savings through avoidance of capital
2 expenditures associated with those assets.¹⁵⁹

3 With this Application, Hydro One is committed to reducing transmission OM&A expenses
4 despite the existence of factors placing upward pressure on those expenses. Factors placing
5 upward pressure on OM&A include: (i) inflation of approximately 2% per year; (ii) increased
6 operating and maintenance requirements of a growing asset base; and (iii) the costs of
7 compliance with new regulatory standards, including NERC, cyber security, PCB regulation and
8 new vegetation management standards.¹⁶⁰

9 Exhibit I-9-13 sets out examples of where Hydro One has built productivity into its 2017 and
10 2018 budgets. The examples related to budgeted saving estimates for four purchase
11 categories: (i) equipment rentals; (ii) general hardware; (iii) construction services; and
12 (iv) construction materials. The estimated budgeted savings just from these four purchase
13 categories are \$6.01 million in 2017 and \$9.14 million in 2018.¹⁶¹

14 Undertaking TCJ1.17 further elaborated on this example, and sets out the OM&A related
15 savings which are currently built into the investment plan. This includes procurement OM&A
16 savings of \$2.1 and \$2.8 million in 2017 and 2018 respectively, procurement capital savings of
17 \$11.2 and \$21.4 million in 2017 and 2018 respectively, as well as OM&A savings from the
18 information solutions division of \$3.4 million and \$4.5 million in 2017 and 2018 respectively, and
19 OM&A savings from stations of \$2.9 million and \$3.5 million in 2017 and 2018 respectively.
20 Total OM&A savings already built into the Application, as set out in TCJ1.17, are \$8.4 million in
21 2017 and \$10.8 million in 2018, and total capital savings already built into the Application are

¹⁵⁹ See, for example, Exhibit B1, Tab 2, Schedule 3, Page 7; Exhibit I, Tab 1, Schedule 24.

¹⁶⁰ Exhibit B2, Tab 1, Schedule 1, Page 11.

¹⁶¹ Exhibit I, Tab 13, Schedule 9, Page 1.

1 \$11.2 million in 2017 and \$21.4 million in 2018.¹⁶² These estimates are conservative as they do
2 not include the positive effect of lower pension costs (since these were not defined as
3 productivity savings) and nor do they include expected savings in other areas, such as the
4 significant future avoided costs stemming from the tower coating program and the avoided costs
5 associated with integrated stations replacement.

6 Hydro One is confident that it can deliver on its stated outcomes with a declining trend in OM&A
7 costs. This will occur due to new management's sharpened focus on productivity
8 improvements. The initial productivity improvements demonstrated and embedded in this
9 Application are positive steps in the right direction.

10 **(b) Transmission Scorecard & RRF**

11 Hydro One's proposed regulatory Transmission Scorecard provides a suite of metrics which are
12 appropriate to measure Hydro One Transmission's business performance and which reflect
13 necessary and appropriate outcomes, including outcomes desired by Hydro One's customers.
14 Execution and performance start with defining relevant key performance indicators ("**KPIs**"),
15 measuring those KPIs regularly, and ensure that the Company is committed to achieving those
16 KPIs.¹⁶³ Hydro One has aligned its planning, execution and reporting functions around
17 performance outcomes that are consistent with the Board's RRF outcomes. This alignment is
18 reflected in Hydro One's proposed Transmission Scorecard found at Attachment 1 of Exhibit B2-
19 1-1, and the four outcome categories of the RRF are reflected in that Transmission Scorecard:
20 (i) Customer Focus; (ii) Operational Effectiveness; (iii) Policy Responsiveness; and (iv) Financial

¹⁶² Technical Conference Undertaking TCJ1.17, Page 1.

¹⁶³ Exhibit K1.4: Presentation Day, Slide 29.

1 Performance.¹⁶⁴

2 The Transmission Scorecard will be used to determine whether the execution of the company's
3 investment and operating plans creates outcomes that are valued by customers. Performance
4 outcomes are tied directly to the variable or "at risk" portion of management compensation,
5 ensuring that there are incentives to achieve or exceed performance outcomes, and
6 demonstrating Hydro One's commitment to achieve outcomes aligned with customers' needs
7 and preferences. Management compensation is linked to the performance outcomes in the
8 proposed Transmission Scorecard.¹⁶⁵

9 Hydro One has chosen a variety of metrics to measure the impact of cost reduction strategies
10 associated with implementing industry best practices and strategic initiatives. As noted in
11 Exhibit I-1-104, significant focus was placed on the selection of KPIs which appropriately
12 measure productivity in the deployment of capital and execution of operations, as well as
13 maintenance and administrative activities, in order to evaluate cost efficiency progress and the
14 delivery of increasing customer value. While developing its Transmission Scorecard, Hydro
15 One re-evaluated the use of KPIs in measuring performance across the organization, and
16 developed more robust KPIs in order to facilitate performance management.¹⁶⁶ Metrics chosen
17 for the Transmission Scorecard had to meet the criteria of being relevant, objective, measurable
18 and actionable.¹⁶⁷

19 Hydro One's Transmission Scorecard commitments are further shown in the 22 KPIs used in
20 the proposed Transmission Scorecard, and the additional Tier 2 and Tier 3 KPIs that have been

¹⁶⁴ Exhibit 1, Tab 3, Schedule 1, Table 1; see also Exhibit K1.4: Presentation Day, Slide 31.

¹⁶⁵ Transcript Volume 1, Page 184, Line 21 to Page 185, Line 25.

¹⁶⁶ Exhibit I, Tab 1, Schedule 104, Page 1.

¹⁶⁷ Transcript Volume 1, Page 119, Lines 9-17.

1 developed in order to augment the metrics in the scorecard.¹⁶⁸ There are 3 KPIs included in the
2 scorecard to address productivity and cost efficiency.¹⁶⁹ The productivity metrics selected are
3 listed under “Operational Effectiveness: Cost Control in Hydro One’s Transmission
4 Scorecard”.¹⁷⁰

- 5 • Total OM&A and Capital per Gross Fixed Asset Value (%).
- 6 • Sustainment Capital per Gross Fixed Asset Value (%).
- 7 • OM&A per Gross Fixed Asset Value (%).

8 Another key metric included in the proposed Transmission Scorecard is located under
9 “Operational Effectiveness: Asset Management” and is designed to track in-service additions as
10 a percentage of the Board-approved plan.¹⁷¹ Hydro One manages its capital investments and
11 asset needs on a portfolio basis, allowing for reactions to unexpected conditions or demand
12 work changing needs at the time. As pointed out by Mr. Vels, “...we have been provided a
13 revenue requirement that is linked to the amount of assets put in service. So we endeavour to
14 put the same assets in service, of course, that we have planned, but given the complexity of the
15 system, that's not always possible.”¹⁷²

16 The in-service additions metric is designed to provide accountability while allowing for such
17 variations by tracking in-service additions in aggregate. This metric will not necessarily capture
18 efficiency initiatives. Instead, it was chosen for its purposes amongst a suite of metrics on the

¹⁶⁸ Exhibit B2, Tab 1, Schedule 1, Table 2: Tier 2 and Tier 3 Metrics, Pages 9-10; see also Exhibit K1.4: Presentation Day, Slide 30.

¹⁶⁹ Exhibit K1.4: Presentation Day, Slide 35.

¹⁷⁰ Exhibit B2, Tab 1, Schedule 1, Attachment 1, Page 2.

¹⁷¹ Transcript Volume 2, Page 29, Lines 17-23.

¹⁷² Transcript Volume 2, Page 29, Lines 9-16.

1 proposed Transmission Scorecard: it is the combination of a variety of metrics which will provide
2 a holistic view of Hydro One's operations.

3 Hydro One is committed to enhancing accountability by using KPIs to manage its business as a
4 commercial utility.¹⁷³ A comprehensive framework to track all the proposed metrics and KPIs is
5 currently under development, and some of the proposed Transmission Scorecard metrics and
6 KPIs are currently tracked on a decentralized basis in Hydro One's various lines of business.
7 One of Hydro One's initiatives to transition into an outcome-focused corporate culture is to align
8 outcome measures with compensation plans. RRF-aligned KPIs and outcome measures are
9 now directly linked to non-union compensation plans.¹⁷⁴ For 2017, transmission KPIs will be
10 included, as appropriate, in compensation targets.¹⁷⁵

11 Use of KPIs is part of Hydro One's ongoing transformation, and many of the metrics are new.
12 Hydro One will continue to evaluate and refine those metrics on an ongoing basis.¹⁷⁶ Once the
13 metrics have been appropriately considered and refined, Hydro One will consider publicly
14 including and reporting these as against targets. Until then, Hydro One intends to track and
15 trend its metrics while providing targets for compensation purposes for one year forward.¹⁷⁷

16 **5. COMPENSATION**

17 Hydro One has taken significant steps to ensure its human resources related costs are
18 appropriate and reasonable. Hydro One acknowledges and has carefully considered past
19 concerns of the Board and stakeholders respecting its human resources related costs, and has
20 made significant gains in this area. These gains are outlined in Exhibit C1-4-1 of its Application.

¹⁷³ Exhibit K1.4: Presentation Day, Slide 33.

¹⁷⁴ Exhibit K1.4: Presentation Day, Slide 33.

¹⁷⁵ Exhibit K1.4: Presentation Day, Slide 33.

¹⁷⁶ Exhibit I, Tab 1, Schedule 92, Page 1.

¹⁷⁷ Exhibit I, Tab 1, Schedule 92, Page 1.

1 It is critical that Hydro One attract a highly skilled, high-performing workforce so it may achieve
2 its business objectives through accomplishing its work program reflected in the Application.¹⁷⁸
3 Hydro One continues to execute its plans and goals through employment of a number of
4 employee categories: (i) Management Compensation; (ii) Power Workers' Union (“**PWU**”); (iii)
5 Society of Energy Professionals (“**Society**”); and (iv) casual workers.¹⁷⁹

6 Hydro One employs a number of strategies to manage its human resources costs in a way that
7 is reasonable from a cost perspective while ensuring that its business objectives are
8 accomplished through execution of its work programs. Hydro One uses an integrated workforce
9 for its transmission and distribution businesses, which allows it to take advantage of economies
10 of scale and efficiencies. From 2016-2018, the total Transmission and Distribution work
11 program is expected to increase by approximately 6.0% while the regular headcount is expected
12 to decrease by 3.9%.¹⁸⁰ As it concerns the Transmission work program, recall Mr. Ng's
13 testimony that in all areas of the Sustainment Capital Program, more units of work are expected
14 to be completed in the test period but with fewer dollars of capital expenditure relative to the
15 units of work and costs incurred in the 2014 to 2016 time frame.¹⁸¹

16 (a) **Management Compensation**

17 Hydro One has undergone, and continues to undergo, a rigorous process of transformation to
18 execute its vision of being a best-in-class, customer-centric commercial utility, with a culture of
19 continuous improvement and excellence in execution.¹⁸² This includes greater focus on
20 customers, corporate-wide accountability for outcomes, and productivity and efficiency. To

¹⁷⁸ To accomplish this goal, Hydro One uses the talent management process outlined in Exhibit C1, Tab 4, Schedule 1, Figure 1, Page 2.

¹⁷⁹ Exhibit C1, Tab 4, Schedule 1, Page 4.

¹⁸⁰ Exhibit C1, Tab 4, Schedule 1, Page 6.

¹⁸¹ Transcript Volume 6, Pages 125-129.

¹⁸² Exhibit K1.4: Presentation Day, Slide 4.

1 achieve this increased commercial orientation, Hydro One needed to attract new executive
2 talent with specific track records of results in these areas. Certain key attributes are necessary
3 for management of a best-in-class entity which provides utility service. As explained by
4 Ms. McKellar, management must be able to create or develop “an engaged workforce that can
5 deliver on all the corporate objectives.”¹⁸³ Management must have transformational leaders.
6 Management must be able to bring out the best in its workforce, and must be accountable for
7 outcomes.¹⁸⁴

8 Clear benefits flow to ratepayers from a well-run enterprise. Productivity savings have already
9 been demonstrated, as described further below, and are a quantifiable value proposition to
10 ratepayers.

11 (i) Compensation Packages Consistent with Market

12 Hydro One has retained management at a level of compensation consistent with the market, in
13 terms of both quantum and composition of compensation packages.¹⁸⁵ The appropriateness
14 and reasonableness of compensation for its new CEO and CFO positions was objectively
15 assessed by Hugessen Consulting.¹⁸⁶ Hugessen Consulting provided a report to Hydro One’s
16 Board of Directors in April 2015 discussing an appropriate compensation framework, as well as
17 more broad advice on a new compensation structure to be established in 2016 (“**Hugessen**
18 **Report**”). The Hugessen Report was provided as Attachment 1 to Exhibit I-6-57.¹⁸⁷

¹⁸³ Transcript Volume 12, Page 61, Lines 26-27.

¹⁸⁴ Transcript Volume 12, Page 61, Line 28 to Page 62, Line 4.

¹⁸⁵ Exhibit I, Tab 11, Schedule 23, Pages 2-3; Technical Conference Undertaking Response TCJ1.6; EB-2016-0160, Exhibit I, Tab 11, Schedule 29.

¹⁸⁶ Transcript Volume 8, Page 107, Lines 6-14.

¹⁸⁷ See also Exhibit I, Tab 11, Schedule 23.

1 The Board of Directors sought individuals with “experience running large, publicly traded
2 companies and would be an appropriate person to handle the complexities that Hydro One
3 would represent as a publicly traded company.”¹⁸⁸ Simply put, the Board of Directors wished to
4 “make sure they had the right talent to lead the organization.”¹⁸⁹ In order to accomplish this
5 goal, a new and appropriate compensation philosophy was needed.

6 In a similar, yet separate vein, Hydro One also retained Willis Towers Watson (“**WTW**”) to
7 independently evaluate compensation programs for other members of the management team.
8 Specifically, WTW provided ongoing advice to Hydro One’s management in the development of
9 its compensation philosophy, and the design and implementation of various compensation
10 programs.¹⁹⁰ The Willis Towers Watson Report (“**WTW Report**”) provided peer group market
11 data with respect to salary, annual incentives, and long term incentives and it also examined
12 pension and other benefits.¹⁹¹ The purpose of the WTW Report was to objectively benchmark
13 Hydro One’s compensation levels against a peer group of 21 companies who would notionally
14 compete for similar management talent.¹⁹²

15 For continuity, the peer group used by WTW, included the same peer group used by Hugessen.
16 However, this group was broadened to include 13 additional companies. The rationale for this
17 step was explained by Mr. Resch, WTW’s Executive Compensation Practice Group Leader and
18 qualified in this proceeding as an expert in the field of executive compensation.¹⁹³ The purpose
19 of the WTW exercise was to assess several management positions and levels. A larger peer
20 group provided a more reliable and valid data set because talent potentially recruited for Hydro

¹⁸⁸ Transcript Volume 8, Page 110, Lines 6-9.

¹⁸⁹ Transcript Volume 8, Page 109, Line 28 to Page 110, Line 1.

¹⁹⁰ Transcript Volume 9, Page 114, Lines 14-26.

¹⁹¹ Exhibit I-6-57, Attachment 2.

¹⁹² Exhibit I-6-57, Attachment 2, Page 2.

¹⁹³ Transcript Volume 9, Page 117, Lines 5-25.

1 One's Bands 3-4 executives was expected to be recruited from a broader talent pool and market
2 of companies having a more diverse set of executives with different roles.¹⁹⁴

3 A key aspect of creating a compensation scheme consistent with other large, publicly traded
4 companies is creating a total compensation package with a mix of elements. This mix includes
5 base salaries, at-risk short term incentive (“**STIP**”) and long term incentive (“**LTIP**”) programs,
6 Employee Share Ownership Program, Share Grants, benefit plans, and pension plans.¹⁹⁵ This
7 mix, and particularly the at-risk STIP and LTIP programs, aligns employee goals with
8 organizational goals. The benefits of this alignment are pervasive in the organization and create
9 alignment with ratepayer interests and outcomes.

10 A significant portion of management's total compensation envelope is variable, dependent on
11 performance. LTIP and STIP have been included in compensation packages to align with the
12 market and to incentivize continuous improvement through “at risk” compensation. These
13 variable aspects of total compensation are aligned with Hydro One's proposed Transmission
14 Scorecard and the principles of the RRF.

15 While this type of total compensation package is a recent change for Hydro One, it is not
16 unfamiliar to the OEB in respect of regulated businesses. Similar variable compensation
17 packages have been considered and accepted by the Board in the past, in the context of natural
18 gas utilities such as Union Gas Limited (“**Union**”) or Enbridge Gas Distribution Inc.
19 (“**Enbridge**”).

¹⁹⁴ Transcript Volume 9, Pages 112-114.

¹⁹⁵ As described in Exhibit C1, Tab 4, Schedule 1, Page 16.

1 For example, in a proceeding for Union's rates commencing in 2004, the OEB agreed that
2 Union's incentive programs were a reasonable part of its revenue requirement.¹⁹⁶ The Board
3 agreed "with Union's use of incentive payments as a legitimate element of a total compensation
4 package offered to retain qualified managers and staff in a competitive market for human
5 resources".¹⁹⁷ The Board also stated that "the use of incentive payments is a reasonable
6 element of Union's employee compensation and benefits ratepayers over the longer term by
7 allowing Union to compete for high quality human resources, leading to a more efficient
8 operation of the utility".¹⁹⁸ The Board stated that "unless the incentive programs can be shown
9 to be extravagant or otherwise objectionable, they should be supported as part of the revenue
10 requirement".¹⁹⁹ The Board noted that it would be "perilous" to create a situation where the
11 utility could not attract and retain quality employees through the offering of reasonable incentive
12 programs.

13 By making a significant portion of management compensation variable, Hydro One has aligned
14 its management's goals with its business objectives and the RRF, and as such has aligned its
15 management's goals with ratepayer interests. During the hearing, the question was raised
16 whether there was a value proposition to ratepayers embedded in certain metrics for variable
17 compensation, such as earnings per share.²⁰⁰ On its face, earnings per share only align
18 management and shareholder interests. However, this is an overly simplistic analysis.
19 Earnings per share is a metric that reflects a well-run utility. If the utility is run safely, capital is
20 deployed as proposed in rate applications, and overall, the Company is operated in a manner

¹⁹⁶ RP-2003-0063/EB-2003-0087/EB-2003-97, Union Gas Limited, Rates for the sale, distribution, transmission and storage of gas commencing January 1, 2004: Decision with Reasons, *Ontario Energy Board* (18 March 2004) ("**Union Rates 2004**"). See the Authorities at Tab 3.

¹⁹⁷ Union Rates 2004, Page 89. See the Authorities at Tab 3.

¹⁹⁸ Union Rates 2004, Page 90. See the Authorities at Tab 3.

¹⁹⁹ Union Rates 2004, Page 90. See the Authorities at Tab 3.

²⁰⁰ Transcript Volume 8, Page 148, Lines 18-26.

1 that is consistent with the Board's orders, the ratepayer interests are met and consistent
2 earnings per share will result over time, which is an outcome valued by shareholders. Inclusion
3 of LTIP therefore provides for an alignment of ratepayer and shareholder interests.

4 (ii) Productivity Improvements Precipitated by New Management

5 Under the auspices of its new management team, Hydro One has already seen productivity and
6 efficiency improvements. These savings are sustainable, recurring, and more than offset the
7 increase in executive compensation. For instance, even after filing this Application, Hydro One
8 reduced its requested revenue requirement to reflect a drop in pension costs precipitated by the
9 CFO's decision to advance the pension valuation and to pass the resultant savings to
10 transmission customers.

11 These savings are quantified in Exhibit I-13-9 and in TCJ1.17. Exhibit I-13-9 shows how Hydro
12 One has built in productivity savings into its budgets for 2017 and 2018. The examples
13 provided in Exhibit I-13-9 were only a few examples of the procurement related savings
14 embedded in the investment plan; TCJ1.13 demonstrates the forecasted savings in aggregate.
15 Savings are in the areas of procurement and information technology as detailed in TCJ1.17, and
16 in stations as detailed in Exhibit I-1-116.

17 The incremental cost associated with retaining Hydro One's new executive talent is outlined in
18 Exhibit I-4-12: \$3.5 million between 2015 and 2017. The corresponding benefits, *only counting*
19 *immediate savings*, are those associated with reduced pension costs caused by the accelerated
20 pension valuation report commissioned by Hydro One's new CFO. As noted in Hydro One's
21 June 2016 MD&A Report filed as TCJ1.8, Attachment 2, "[t]he updated actuarial valuation
22 resulted in a \$15 million decrease in revenue for the three and six months ended June 30, 2016,

1 with a corresponding decrease in OM&A costs, which will be refunded to ratepayers through the
2 pension cost variance deferral account in future rate applications.”²⁰¹

3 Other cost savings, including those OM&A savings realized through procurement initiatives,
4 have been outlined in Exhibit I-13-9 and TCJ1.17. Hydro One has already built these savings
5 into its Application, and as such, Hydro One bears the risk of failing to realize them.

6 (iii) Reasonableness of Management Compensation

7 As a result of its compensation philosophy, including benchmarking performed by independent
8 third party experts, Hydro One has retained management at a level of compensation consistent
9 with the market.²⁰² Meeting market expectations with respect to a total compensation package
10 is necessary to attract a high calibre of management.²⁰³ The value proposition of this cost is
11 justified by the productivity improvements and savings described above. The way in which the
12 Company’s commercial affairs will be improved is through management’s adoption and focus on
13 managing and measuring performance, delivering real, quantifiable benefits to ratepayers by
14 using structured approaches that focus on customers, new outcome measures contained in the
15 corporate team, individual ELT and proposed transmission scorecards.²⁰⁴ Those are all
16 outcomes that follow from Hydro One’s decision to seek and retain a new management team,
17 and they are outcomes that provide benefit to ratepayers.

²⁰¹ Technical Conference Undertaking TCJ1.8, Attachment 2, Page 8: “In June 2016, Hydro One filed an actuarial valuation of its Pension Plan as at December 31, 2015. Based on this valuation and projected levels of pensionable earnings, the estimated total employer annual pension contributions for 2016, 2017 and 2018 are approximately \$108 million, \$105 million and \$102 million, respectively. The estimated 2016 annual employer contributions have decreased by approximately \$72 million from \$180 million based on improvements in the funded status of the plan and future actuarial assumptions, and also reflect the impact of changes implemented by management to improve the balance between employee and Company contributions to the Pension Plan. The updated actuarial valuation resulted in a \$15 million decrease in revenue for the three and six months ended June 30, 2016, with a corresponding decrease in OM&A costs, which will be refunded to ratepayers through the pension cost variance deferral account in future rate applications.”

²⁰² Exhibit I, Tab 11, Schedule 23, Pages 2-3; Technical Conference Undertaking Response TCJ1.6; Exhibit I, Tab 11, Schedule 29.

²⁰³ Transcript Volume 8, Page 149, Lines 12-17.

²⁰⁴ Exhibit B2 Tab 1 Schedule 1 and Attachments 1 & 2; Exhibit J1.2 Attachments 1 & 2.

1 **(b) Labour and Other Compensation**

2 Another area in which Hydro One will see significant improvement is in relation to its non-regular
3 casual employees. Supplementing regular workforce with non-regular employees is a useful
4 strategy to reduce compensation costs due to the reduced costs of benefits programs for those
5 employees, and the flexibility of such labour for seasonal work programs.²⁰⁵

6 The 2013 Hydro One compensation benchmarking report by Mercer (Canada) Limited ("**Mercer**
7 **Report**") is summarized in Table 3 of Exhibit C1-4-1.²⁰⁶ Hydro One filed an update concerning
8 the most recent benchmarking study being conducted by Mercer which attached a presentation
9 of the new study's results.²⁰⁷ This filing contained important context with respect to the new
10 Mercer study, including that it was conducted for the purpose of filing Hydro One's upcoming
11 Distribution rates application later this year. As such, the job classifications and head count in
12 the study are those more prevalent in Hydro One's distribution business.²⁰⁸

13 After the 2013 Mercer report was issued, Hydro One made significant gains in its collective
14 bargaining in 2015. Hydro One's strategy in negotiating collective agreements is to negotiate
15 fair and reasonable collective agreements with a view to the long-term implications of
16 negotiations.²⁰⁹ Reasonable settlements have been achieved with moderate incremental cost
17 reductions and increased flexibility in a variety of areas in every round of collective bargaining
18 since 2001 – examples of this can be found at Page 14 of Exhibit C1-4-1.

²⁰⁵ Exhibit C1, Tab 4, Schedule 1, Pages 8-9.

²⁰⁶ Exhibit C1, Tab 4, Schedule 1, Table 3, Page 27.

²⁰⁷ Exhibit K9.8, "Letter re Mercer Total Cost Benchmarking Study Presentation dated November 30, 2016", filed December 5, 2016.

²⁰⁸ Transcript Volume 10, Page 26, Line 25 to Page 28, Line 6.

²⁰⁹ Exhibit C1, Tab 4, Schedule 1, Page 13.

1 In 2015, Hydro One's most recent round of collective bargaining with PWU and the Society
2 resulted in significant gains in three areas:

- 3 • Base wage increases below inflation (e.g. 1.27% for 2017), which is also below market,
4 with lump sum payments. Increases to base wages below inflation affect other
5 compensation components such as overtime premiums, pensionable credit and other
6 allowances (lump sum payments do not impact such benefits), thereby reducing overall
7 compensation costs.²¹⁰
- 8 • Introduction of "ownership" type compensation in the form of share grants and employee
9 share ownership opportunities, thereby engaging employees and aligning their interests
10 with Hydro One's goals and success.²¹¹
- 11 • Continuation of increasing employee pension contributions and a reduction in future
12 pension benefits. This reduction in pension costs will result in savings of \$35.7 million in
13 the test years, and \$138.5 million over 13 years.²¹²

14 Hydro One's significant improvements in compensation cost management, its commitment to
15 continuous improvement, and the necessity of retaining a highly skilled workforce to execute its
16 vision of being a best-in-class, customer centric commercial utility, demonstrate the
17 reasonableness of its requests in this Application relating to compensation costs.

18 **6. EXCLUSION OF IPO COSTS AND BENEFITS INCLUDING TAX BUMP**

19 Exhibit C1-8-1 explains that as a result of HOL's shareholder selling more than 10 percent of the
20 outstanding shares of HOL (through an initial public offering), Hydro One ceased to be subject

²¹⁰ Exhibit C1, Tab 4, Schedule 1, Page 14.

²¹¹ See Exhibit I, Tab 1, Schedule 128 for discussion of the interrelation of share grants and base wage adjustments.

²¹² Exhibit C1, Tab 4, Schedule 1, Table 4.

1 to the provincial Payments-In-Lieu of taxes regime (the “**PILS** regime”) provided for in the
2 *Electricity Act*²¹³ and its regulations (“**PILS Regulation**”)²¹⁴ and became liable for federal income
3 tax under the *Income Tax Act* (Canada) (“**ITA**”)²¹⁵ and provincial income tax under the *Taxation*
4 *Act, 2007* (Ontario) (“**OTA**”).²¹⁶

5 The departure from the PILS regime resulted in Hydro One actually paying \$2.271 billion of
6 payments in lieu of taxes under the PILS regime (“**Departure Tax**”). This occurred through
7 five separate wire transfers made on November 4, 2015.²¹⁷

8 Offsetting this Departure Tax was the creation of an allowable deferred tax asset. Under the
9 PILS Regulation and subsection 149(10) of the federal ITA, the Departure Tax and the creation
10 of the deferred tax asset were based on a deemed disposition and re-acquisition of Hydro One’s
11 assets at fair market value. The resulting increase in the cost of Hydro One’s depreciable
12 assets will allow it to claim higher capital cost allowance deductions in computing income for tax
13 purposes.

14 One of the issues raised during the oral phase of the hearing appeared to be whether payment
15 of the Departure Tax and creation of the deferred tax asset should be included or excluded from
16 Hydro One’s applied-for revenue requirement.

²¹³ *Electricity Act, 1998*, SO 1998 c 15 (“**Electricity Act**”).

²¹⁴ O Reg 207/99 (“**PILS Regulation**”).

²¹⁵ RSC 1985, c 1 (5th Supp).

²¹⁶ SO 2007, c 11, Sch A.

²¹⁷ See Exhibit J11.16, Attachment 2, wherein description of the five wire transfers made to the Ontario Electricity Financing Corporation (“**OEFC**”) by Hydro One’s Manager, Treasury Operations occurred on November 4, 2015.

1 (a) **Governing Legal Principles: Stand-alone and Benefits Follow Costs**

2 The determination of just and reasonable rates made pursuant to section 78 of the OEB Act are
3 informed by three key regulatory principles: (i) cost causation, (ii) the stand-alone principle and
4 that (iii) “benefits should follow costs”.

5 The cost causation principle is well understood. Simply put, costs should be “borne by those
6 who cause them to be incurred.”²¹⁸

7 The purpose of the stand-alone principle “is to notionally isolate and categorize – for accounting
8 and rate-making purposes – the costs incurred in the operation of a discrete business function
9 of a utility.”²¹⁹ In so doing, ratepayers bear only the costs of the utility providing the regulated
10 service.²²⁰

11 Application of the stand-alone principle is frequently relied upon in utility regulation.²²¹ Canadian
12 regulators have consistently held that “only those costs and risks that pertain to the activities of
13 the regulated utility in respect of the provision of service to ratepayers are reflected in the
14 revenue requirement.”²²² Conversely, the benefits that pertain to the activities of the
15 non-regulated business are not subsidies given to the regulated utility.²²³

²¹⁸ Lowell E Alt Jr, *A Practical Guide to the Retail Rate-Setting Process for Regulated Electric and Natural Gas Utilities* (Utah: Lowell E Alt Jr, 2006) at 72. See the Authorities at Tab 4.

²¹⁹ *ATCO Electric Limited v Alberta (Energy and Utilities Board)*, 2004 ABCA 215 at paras 171 & 176 (“**ATCO 2004**”). See the Authorities at Tab 5. For a comprehensive discussion of the stand-alone principle, see: Kathleen C McShane, “The Disposition of Tax Savings on Disallowed Expenses”, submitted on behalf of the Coalition of Issue Three Distributors in EB-2004-0188 (12 January 2005) at Pages 6-15 (“**McShane Report**”). See the Authorities at Tab 6. The McShane Report was cited with approval in British Columbia Utilities Commission, Generic Cost of Capital Proceeding (Stage 1), Decision, (10 May 2013).

²²⁰ ATCO 2004 at paras 171-172. See the Authorities at Tab 5.

²²¹ ATCO 2004 at paras 171 & 176. See the Authorities at Tab 5.

²²² McShane Report at Page 2. See the Authorities at Tab 6.

²²³ See, for example, AUC Decision 2011-399, EPCOR Distribution & Transmission Inc., Determination of Whether an Audit of Corporate Costs is Required (7 October 2011) at paras 42-44, citing with approval EUB Decision 2003-061, AltaLink Management Ltd. and TransAlta Utilities Corporation Transmission Tariff for May 1, 2002 – April 30, 2004, TransAlta Utilities Corporation Transmission Tariff for January 1, 2002 – April 30, 2002 (3 August 2003):

1 The stand-alone principle has been upheld by this Board in several instances, including the
2 *2006 Electricity Distribution Rate Handbook*, the *Filing Guidelines for March 1, 2002 Distribution*
3 *Rate Adjustments*, its *Natural Resource Gas Limited*²²⁴ and *Consumers Gas*²²⁵ decisions,
4 among others.

5 In the context of whether tax allowances should or should not be included in a regulated utility's
6 revenue requirement, the stand-alone principle has been framed as follows by this Board:

“In the Board's view, fairness in ratemaking requires adherence to the principle
that a party who bears a cost should be entitled to any related tax savings or
benefits.”²²⁶

7 In EB-2009-0408, the Board considered and applied the cost causation and stand-alone
8 principles to circumstances where the tax liability in question arose outside of the regulated
9 business and regulated costs of providing service to ratepayers.²²⁷ The issue in that case
10 concerned whether the calculation of income taxes by the regulated entity, Great Lakes Power
11 Limited (“**GLPT**”), should be reduced or take into account the tax losses that had been incurred
12 by an affiliated but non-regulated entity. The Board found as follows:

Tax losses or deductions from outside the regulated business may result in no
tax being paid by a particular entity (depending upon the corporate structure), but
that does not mean the tax liability is not a real cost to the regulated business.
The benefit of the tax losses arise from expenditures which remain outside the
regulated business. *Ratepayers have not borne those expenses, and therefore
are not entitled to the benefits arising.* The Board has addressed this issue in a
number of different circumstances in the past. The most recent case involved
Great Lakes Power Limited (“**GLPL**”), a predecessor company to **GLPT**, and the

“The underpinning of the stand-alone principle is that the regulated utility should not be subsidizing its non-utility operations or operations of members of its corporate family, neither should the non-regulated activities subsidize the utility operations.” See the Authorities at Tab 7.

²²⁴ EBRO 496 (20 August 1998).

²²⁵ EBRO 376 I and II (30 January 1981).

²²⁶ Great Lakes Power Limited, EB-2007-0744, Decision and Order (30 October 2008) at Page 40. See Authorities at Tab 8.

²²⁷ Great Lakes Power Transmission Inc., EB-2009-0408, Decision with Reasons (21 July 2010) (“**EB-2009-0408**”). See the Authorities at Tab 9.

treatment of tax losses arising from the unregulated business of a different division within the same corporation. In that decision, the Board stated:

The pre-2007 expenses and losses of GLPL's unregulated businesses were borne by GLPL's shareholder, not ratepayers. It would be fundamentally unfair to take such tax losses into account when setting rates for regulated service. To abandon the stand alone principle in this case would give rise to the inappropriate result that rates for regulated service would be affected by the income or loss of a non-regulated business.²²⁸

1 Fairness in ratemaking requires adherence to the principle that a party who bears a cost should
2 be entitled to any related tax savings or benefits. The concept is "benefits follow costs". If the
3 ratepayer does not bear the cost, but nevertheless receives the benefit of the related tax
4 savings, then the ratepayer achieves an unfair "double dip" result.

5 In RP-2004-0188, the Board also considered application of both the "stand-alone" and "benefits
6 follow costs" principles.²²⁹ In that case, the Board was dealing with the consequences of the
7 introduction of the PILS regime, which provided that all tax-exempt distribution utilities were
8 deemed to acquire their assets at fair market value as of October 1, 2001. As a consequence of
9 this "fair market value bump" ("**FMV Bump**"), the distributors became entitled to increased
10 deductions in computing their income subject to PILS. No adjustments to rate base were made
11 for regulatory purposes. The Board expressly stated that, because rates are based on book
12 value and not market value, application of the stand-alone principle would disregard the FMV
13 Bump.

14 The Board went on to apply the stand-alone principle to those facts and stated, "[h]owever, the
15 shareholder has not incurred any cost related to the change in value for tax purposes ... so the

²²⁸ EB-2009-0408 at Pages 9-10 [emphasis added]. See the Authorities at Tab 9.

²²⁹ RP-2004-0188, "2006 Electricity Distribution Rate Handbook", *Report of the Board* (11 May 2005) ("**RP-2004-0188**"). See the Authorities at Tab 10.

1 “benefits follow costs” principle is not applicable.”²³⁰ Instead, the Board found that when
2 distributors entered into the PILS regime, the tax or PILS saving arising from the FMV Bump
3 would be provided to ratepayers. However, on exiting the PILS scheme, the Board agreed that
4 the ratepayers, who had benefitted from the FMV Bump tax saving, should also remain
5 responsible for subsequent recapture. A balance was therefore struck. Disadvantage was not
6 caused to either the shareholder or the ratepayer, and balance was achieved in the long term.²³¹

7 **(b) “Taxation” under the *Electricity Act***

8 The *1996 Report of the Advisory Committee on Competition in Ontario’s Electricity System*,
9 which recommended wholesale and retail competition for the supply of Ontario’s electricity,
10 recognized the need for a level playing field between publicly-owned operators and private
11 sector operators. To that end, it recommended, among others things, that publicly-owned
12 operators participating in the electricity market should make payments to the Ontario
13 Government equivalent to the provincial and federal income taxes payable by private sector
14 companies. The Ontario Government’s 1997 White Paper, *Direction for Change: Charting a*
15 *Course for Competitive Electricity and Jobs in Ontario*, adopted that recommendation.

16 Consequently, amendments were made to the *Electricity Act*²³², which imposed on tax-exempt
17 entities in the electricity sector an obligation to make PILS of the federal and provincial taxes
18 that the entities would have paid if they had not been exempt from tax. Regulations to the
19 *Electricity Act* set out specific rules for the calculation of PILS payable by such tax-exempt
20 entities.

²³⁰ RP-2004-0188 at Page 56. See the Authorities at Tab 10.

²³¹ RP-2004-0188 at Pages 56-57. See the Authorities at Tab 10.

²³² SO 1998, c 15, Sch A.

1 In the case of Hydro One, sections 89 and 90 of the *Electricity Act* imposed on it the obligation
2 to pay PILS to the Ontario Electricity Financial Corporation (“**OEFC**”) equivalent to the federal
3 and provincial taxes that it would have paid as a taxable entity.

4 **(c) Federal and Provincial Corporate Income Tax**

5 Subsection 149(1) of the ITA exempts certain corporations from the payment of federal tax.
6 Prior to its IPO, Hydro One was exempt from tax under subsection 149(1) of the ITA.

7 Where a corporation is exempt from tax under subsection 149(1) of the ITA, it will also be
8 exempt from Ontario corporate income taxes pursuant to subsection 27(2) of the OTA.

9 Paragraph 149(10)(b) of the ITA provides that when a corporation becomes or ceases to be
10 exempt from tax, it is deemed to dispose of its assets for an amount equal to their fair market
11 value, and to have reacquired the assets at a cost equal to that fair market value. Where the
12 tax basis of a corporation’s assets is stepped up, it will be able to reduce its income in
13 subsequent years through increased capital cost allowance or “depreciation” claims.

14 Since a corporation’s taxable income under the OTA is the corporation’s taxable income as
15 determined for the purposes of the ITA, paragraph 149(10)(b) is applicable for both federal and
16 provincial purposes.

17 Unless a corporation is operating at a loss, the increased capital cost allowance claims
18 associated with a tax basis bump will result in a reduced tax liability under the ITA and OTA.

19 **(d) Departure Tax**

20 The bump in the tax basis of a corporation’s assets to fair market value would result in an
21 uneven “tax” playing field if tax exempt entities paying PILS under the *Electricity Act* could have

1 exited that system and become subject to tax under the ITA and OTA with a cost-free step up in
2 the tax basis of their assets.

3 However, this step-up in tax basis does not come without a cost in the case of a corporation
4 liable to PILS under the *Electricity Act*. Such a corporation will pay “departure” PILS on
5 recaptured depreciation and capital gains as determined under the rules in paragraph
6 149(10)(b) of the ITA.²³³

7 Section 16.1 of the PILS Regulation contains the applicable rules when a corporation ceases at
8 any time to be exempt under subsection 149(1) of the ITA and subsection 27(2) of the *Taxation*
9 *Act, 2007* (Ontario). It provides, in part:

(2) The taxation year of the corporation is deemed to end immediately before the time that the corporation ceases to be exempt under subsection 149 (1) of the Federal Act.

(3) Subject to subsections (4) and (5), the corporation shall pay the amount determined under sections 89 and 90 of the Act calculated by reference to the deemed disposition under paragraph 149(10)(b) of the Federal Act (as that paragraph applies for the purposes of determining the amount payable under sections 89 and 90 of the Act).

...

(5) The corporation is not required to pay the amount described in subsection (3) if both of the following conditions are satisfied:

1. The corporation ceases to be exempt from the payment of tax under the Federal Act as a result of a lawful distribution to the public of shares of the corporation or a related corporation pursuant to a prospectus, registration statement or similar document filed with and, if required by law, accepted for filing by a public authority in Canada under the laws of Canada or of a province. The distribution must be the first distribution to the public of shares of the corporation or related corporation.

²³³ Pursuant to the 2015 Ontario Budget, amendments were made to the Ontario regulations to the *Electricity Act* such that corporations that cease to be tax exempt after December 31, 2015 and before January 1, 2019 are not liable for departure PILS on capital gains arising from the application of paragraph 149(1)(b) of the ITA. See PILS Regulation, s 16.1(8).

2. With the consent of the Minister, the corporation pays to the Financial Corporation an amount that, in the Minister's opinion, reasonably approximates the additional amounts, if any, that would be payable by the corporation under sections 89 and 90 of the Act if the corporation were required, but for this subsection, to pay the amount described in subsection (3)

1 Thus, the step-up in the tax basis of Hydro One's assets that occurred under paragraph
2 149(10)(b) of the ITA as part of its IPO is very different from the "costless" step-up in tax basis
3 that Hydro One obtained when it acquired Ontario Hydro's assets.

4 On a consolidated basis, Hydro One paid \$2.271 billion of departure PILS. As will be discussed
5 below, this amount was a real, actual cost and tax liability. It was incurred. The tax liability
6 incurred by Hydro One was funded by its shareholder, in connection with the step-up in the tax
7 basis of its assets when it ceased to be exempt from tax on the IPO because of the combined
8 operation of the *Electricity Act*²³⁴ and Paragraph 149(10)(b) of the ITA. However, the incurrence
9 of the tax cost and the funding of that cost are two separate and discrete matters.

10 While the Ontario Hydro assets transferred to Hydro One pursuant to Section 116 of the
11 *Electricity Act* were deemed to have been acquired by Hydro One at fair market value pursuant
12 to Section 9 of the PILS Regulation, there was no tax or other charge imposed on Hydro One in
13 connection with this step-up in the basis of the assets.

14 Ontario ratepayers therefore have had the benefit of the earlier "tax free" step-up in the basis of
15 Hydro One's assets as the tax savings from that FMV bump, being reduced taxes because of
16 higher capital cost allowance claims, were reflected in the income tax amounts recovered in
17 revenue requirements approved by the Board. Now that Hydro One is exiting the PILS regime,
18 recapture applies and these tax savings have essentially been reversed through the deemed
19 disposition of Hydro One's assets under Paragraph 149(10)(b) of the ITA. Generally, to the

²³⁴ *Electricity Act*, ss 89-90; PILS Regulation, s 16.1.

1 extent that the fair market value of a depreciable asset was greater than its undepreciated
2 capital cost, the capital cost allowance will have been recaptured and subject to PILS upon
3 Hydro One exiting the PILS regime.

4 **(e) Facts Justifying Application of the Stand-alone and Cost Follow Benefits**
5 **Principles**

6 As discussed below, Hydro One's proposed rate treatment of the Departure Tax cost and
7 resulting deferred tax asset is supported by the following: (i) the shareholder's decision to sell its
8 ownership interests caused the company to incur the Departure Tax; (ii) incurrence of this cost
9 by the company has no relationship to the provision of regulated transmission services provided
10 to ratepayers; (iii) the Departure Tax was real cost incurred by Hydro One; and (iii) Hydro One
11 funded the Departure Tax liability entirely by its shareholder and not ratepayers.

12 (i) Shareholder's Ownership Interest Disposition Caused Hydro One to Incur
13 the Departure Tax

14 The evidence before the Board is that the initial public offering process precipitated Hydro One
15 having to pay the Departure Tax and recognition of the deferred tax asset.²³⁵ But for the
16 shareholder's decision to reorganize and sell its ownership interests in HOL (the ultimate parent
17 of Hydro One) the Departure Tax liability would not have arisen. Had the shareholder not made
18 this decision, Hydro One would have remained under the PILS regime and there would have
19 been no Departure Tax liability arising.

20 The obligation to pay the Departure Tax arose from two sequential steps in the reorganization of
21 Hydro One Inc. ("**HOI**") and at the time leading up to the initial public offering.²³⁶ The first step

²³⁵ Exhibit J2.9.

²³⁶ Exhibit J11.10.

1 occurred on October 29, 2015, when HOL, a wholly owned subsidiary of the Province of Ontario
2 (“**Province**”) entered into agreements to sell 15% of its outstanding common shares to the
3 underwriters for distribution to the public. This action caused HOL to cease to be exempt from
4 federal income tax. The second step occurred on October 31, 2015 when HOL acquired all of
5 the issued and outstanding shares of HOI from the Province. This action caused HOI and its
6 subsidiaries, including Hydro One, to no longer be exempt from federal income tax, thereby
7 triggering the obligation of HOI and its subsidiaries to pay the Departure Tax to the OEFC.

8 The only possible way for these sequential steps to have taken place was through oversight and
9 direction by the Province as owner of the outstanding shares in HOI and HOL. Had the
10 Province not taken these steps, the Departure Tax obligation would not have been incurred by
11 HOI and its subsidiaries.

12 (ii) No Relationship Between the Incurrence of the Departure Tax Cost and
13 The Provision of Transmission Regulated Services

14 The obligation and payment of the Departure Tax arose due to circumstances entirely unrelated
15 to the costs and activities that Hydro One incurs to provide transmission regulated services.²³⁷
16 The Departure Tax liability and payment was caused by the shareholder’s decision to sell its
17 ownership interests in HOL, which triggered the operative provisions of the *Electricity Act* and
18 the corresponding Regulations. That is why Hydro One has not included the recovery of the
19 Departure Tax payment in its regulated rate revenue requirement.

20 Non-inclusion of the Departure Tax liability in the applied-for rates revenue requirement is
21 consistent with the stand-alone principle. Moreover, non-inclusion provides for the equivalent
22 result described in RP-2004-0188 as it concerns rate-payers being obligated to recover the

²³⁷ Exhibit J2.9.

1 recapture of an FMV bump. If the deferred tax asset was recognized in the rates revenue
2 requirement recovered from ratepayers then a “double dip” would be created. Ratepayers have
3 historically received the CCA benefit. Exiting the PILS scheme (as opposed to the entry into it)
4 gives rise to the recapture of this historical benefit. What RP-2004-0188 contemplates is that
5 ratepayers must cover the costs giving rise to that recapture (i.e. payment of the Departure Tax)
6 in order to receive the FMV bump. Such a result would have obvious and material adverse
7 effects to rates.

8 Acknowledging that the Departure Tax liability bears no relationship to the costs Hydro One
9 incurs for the provision of transmission regulated services, the recapture impact is avoided
10 entirely and ratepayers are kept whole by the Board acknowledging that the Departure Tax
11 liability has been incurred by the Company, financed by the shareholder and outside of the rate
12 regulated entity, based on the stand-alone construct. In so doing, the deferred tax asset benefit
13 must also remain outside of the rates revenue requirement so that fairness is maintained and
14 the principles of stand-alone and “benefits follow costs” are applied.

15 (iii) The Departure Tax was a real cost incurred by Hydro One

16 The evidence before the Board is that Hydro One paid the Departure Tax amount of
17 \$2.271 billion to the OEFC on November 4, 2015.²³⁸ The payment was real. Wire transfer
18 information and Hydro One’s bank statements provide indisputable evidence that the cost was
19 real and actually incurred.²³⁹

²³⁸ Exhibit J11.10.

²³⁹ Exhibit J11.16, Attachment 1.

1 (iv) HOL incurred a \$2.6 billion tax liability funded entirely by the shareholder

2 In order to fund payment of the Departure Tax liability, recapitalization of HOI and its
3 subsidiaries including Hydro One, was necessary. As noted in Exhibits J11.11 and J11.14
4 several transactions occurred on November 4, 2015, the effect of which was that Hydro One
5 received cash proceeds from the trickle down recapitalization and in the amount of
6 \$2.271 billion. This investment was reported in the Unconsolidated Financial Statements of HOI
7 and Hydro One for the period ending October 31 and November 4, 2015. At Page 35 of the
8 HOL Financial Statements, reference is made that Hydro One used the proceeds of the share
9 subscription to pay the Departure Tax.²⁴⁰ These transactions and method of financing the
10 Departure Tax liability was also subsequently recorded in HOL's 2015 Annual Report and
11 audited financial statements.²⁴¹ The unassailable evidence is that a real cost was incurred by
12 Hydro One and its shareholder in carrying out this recapitalization financing requirement.

13 Recall Mr. Vels's testimony that while other financing options existed, namely, raising debt or
14 seeking recovery from rate-payers, the choice made by Hydro One was an equity injection and
15 recapitalization.²⁴² This decision was made because the other available alternatives would have
16 adversely affected the financial well-being of the Company, which would be damaging to both
17 the Company and its shareholder, particularly given the intention of the shareholder to sell its
18 interests to the public.

19 The recapitalization of the Company by the shareholder following the payment of the Departure
20 Tax by each of the HOL's legal entities did not increase the book value or equity value of HOL; it
21 reinstated the value of HOL to what it was immediately prior to the payment of the Departure

²⁴⁰ Exhibit J11.16, Attachment 2, Page 35.

²⁴¹ Notes 7 and 18 to HOL's 2015 Consolidated Financial Statements, found at Pages 68 and 91-92 of Exhibit A8-01-01.

²⁴² Transcript Volume 1, Page 29, Line 25 to Page 35, Line 23; Transcript Volume 11, Page 15, Line 21 to Page 78, Line 28.

1 Tax.²⁴³ The shareholder incurred a cost to preserve the market value of the company.²⁴⁴ The
2 shareholder's ultimate disposition of its ownership interests was not the source of funds used to
3 finance the necessary recapitalization. That is because the cost to recapitalize the company
4 occurred before the time at which the shareholder ultimately sold shares to the public under the
5 terms of the initial public offering. The only relationship between the recapitalization costs and
6 proceeds from the initial public offering was the shareholder's desire to ensure that the
7 Company's valuation at the time of the IPO was not harmed by the Company incurring the
8 Departure Tax liability.

9 **(f) Applying Rate Making Principles to the Present Circumstances**

10 The evidence before the Board demonstrates that costs incurred by Hydro One for the
11 Departure Tax do not pertain to the provision of regulated transmission service. The provision
12 of regulated transmission services is not what caused Hydro One to incur the Departure Tax
13 costs. The deferred tax asset similarly has not resulted from the provision of regulated
14 transmission services. But for the IPO and the related incurrence of the Departure Tax, there
15 would be no deferred tax asset. Given this, Hydro One submits it would be unreasonable to
16 allocate any of the Departure Tax costs or the deferred tax asset benefits to the regulated
17 transmission services and the rates charged for such services as determined through
18 calculation of the rates revenue requirement.

19 The evidence before the Board demonstrates that Hydro One has incurred a real cost.
20 Ratepayers have not borne these expenses. Consistent with the EB-2009-0408 Decision, there
21 is good reason to consistently find that cost causation and stand-alone principles should be
22 applied in the same manner. It is appropriate to have ratepayers remain unaffected by the

²⁴³ Exhibit J1.3.

²⁴⁴ Exhibit J1.3.

1 transactions that gave rise to the Departure Tax payment and the deferred tax asset benefits
2 because none of these matters relate at all to the provision of rate regulated transmission
3 services.

4 With regard to the costs follow benefits principle, the present circumstances are distinguishable
5 from those arising in RP-2004-0188. Here, there should be no ratepayer windfall given that
6 Hydro One and the Province have incurred real costs for the actual payment and the financing
7 of the Departure Tax. As the costs are real and they do not pertain to regulated services,
8 benefits arising from those costs should accrue to the paying party.

9 **C. CONCLUSION**

10 Hydro One has expended considerable time and effort to ensure that its Application reflects its
11 values and business objectives consistently with the RRF. Hydro One's Application reflects the
12 RRF's goals of continuous improvement, robust integrated planning and asset management,
13 strong incentives to enhance utility performance, ongoing monitoring of performance against
14 targets, and customer engagement to ensure utility plans are informed by customer
15 expectations.²⁴⁵

16 For the reasons outlined above, the forecasted expenditures and timing of such are necessary
17 to achieve Hydro One's goals and business objectives which are consistent with the RRF and
18 aligned with the needs of the transmission system and the needs and preferences of customers.
19 The Board's approval of its revenue requirement, cost allocation, and rates for the test years

²⁴⁵ Handbook, Page 2; RRF Report. See the Authorities at Tab 1.

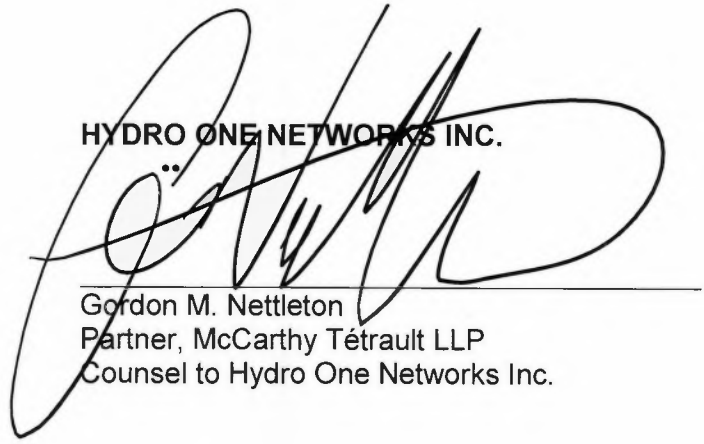
1 2017-2018 is a crucial step in achieving the overarching goal of being a best-in-class, customer-
2 centric commercial utility which continues to deliver safe, reliable power and supports the
3 sustainable development of Ontario's economy.

4 All of which is respectfully submitted this 12th day of January 2017.

5

6

HYDRO ONE NETWORKS INC.

A large, stylized handwritten signature in black ink, written over a horizontal line. The signature is highly cursive and loops around the text below it.

Gordon M. Nettleton
Partner, McCarthy Tétrault LLP
Counsel to Hydro One Networks Inc.