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July 20, 2018

**VIA RESS, EMAIL AND COURIER**

Ms. 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-2017-0049 – Hydro One Networks Inc.'s Argument-in-Chief**

Pursuant to Procedural Order No. 7 in this proceeding, please find enclosed Hydro One Networks Inc.'s Argument-in-Chief.

Please contact the undersigned with any questions in regards to the foregoing.

Yours truly,

**McCarthy Tétrault LLP**

Per: *Signed in the original*

Gordon M. Nettleton

GMN
cc: EB-2017-0049 All Parties

**ONTARIO ENERGY BOARD**

**OEB PROCEEDING EB-2017-0049**

# APPLICATION FOR ELECTRICITY DISTRIBUTION RATES BEGINNING JANUARY 1, 2018 UNTIL DECEMBER 31, 2022

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## FINAL ARGUMENT OF HYDRO ONE NETWORKS INC.

**July 20, 2018**

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## INTRODUCTION

Hydro One Networks Inc. ("Hydro One") seeks approval for distribution rates for the period January 1, 2018 to December 31, 2022.

Hydro One has filed a Custom Incentive Rate ("Custom IR") application (the "Application") on the basis that it is required to make large and recurring capital investments over the plan term. The Application follows the Ontario Energy Board ("OEB" or the "Board")'s directions on the goals of the Renewed Regulatory Framework ("RRF") in a way that aligns the service needs of customers and the business interests of distributors.

The alignment of these needs is encapsulated in the goals of Hydro One being a responsible steward of the assets, meeting customer needs and preferences, and achieving an acceptable rate impact.[1] Prioritizing these factors is reflected in the level of capital spending in the Distribution System Plan as addressed in the discussion in Issues 23-30 below.

With respect to the 2018 rebasing, the Application represents a focus on controlling and reducing costs within Hydro One's control. As a result, proposed 2018 OM&A costs are $16.3M below Board approved 2017 OM&A costs.[2]

The largest factor impacting rates is reduced load, which accounts for approximately half of the proposed 2018 distribution rate increase.[3] The other drivers of revenue requirement are depreciation and amortization at 0.6%, income taxes at 1.2% and return on capital at 2.7%.

Hydro One's investment planners were challenged to balance customer needs and preferences, and the significant investment need required to maintain the condition of Hydro One's assets. Hydro One's customers have expressed that keeping costs low is their top priority.[4] However, the evidence in the Application demonstrates that Hydro One has a significant need for capital expenditures driven by asset condition. For example, Hydro One has over 100,000 wood poles

1 Transcript, Day 7, June 21, p 30, ll 17 to 20.
2 I-38-SEC-70.
3 Q-1-1, p 3, Table 1, ll 6-13.
4 Distribution System Plan, Section 1.3, Attachment 1, p 7.

that need to be replaced, and Hydro One has the oldest population of wood poles in its peer group.[5] Furthermore, Hydro One has reliability issues that it needs to address, including 87,000 customers who have 50 hours or more of interrupted power each year,[6] and "significant worse" overall reliability than its peers.[7]

Finding ways to address these existing circumstances - and those expected to arise over the course of the next 5 years - and doing so in a manner that has minimal rate impact to customers, is the main challenge that this Application seeks to address.

The chosen investment plan – Plan B-Modified – is the result of Hydro One's efforts to strike the right balance between the above concerns. The plan was developed through an iterative process that directly involved the senior leadership team and the Board of Directors. The level of applied for expenditures was not Hydro One's asset planners' preferred plan. Rather, expenditures which asset managers and planners believe are appropriate have been deferred in order to address rate impacts. Moreover, Plan B-Modified smooths out rate impacts over the course of the plan, and keeps investment levels as low as possible, while still maintaining the condition of Hydro One's assets. Reliance on innovation and continuous improvement in regards to how long-standing programs are carried out is how Hydro One is proposing to address reliability issues. The improved vegetation management program exemplifies this change in approach.

Hydro One has also committed to significant and quantifiable levels of productivity and efficiency savings. Embedded in the proposed rates are forecast savings (that Hydro One is at risk for) that total approximately $398M. This includes 69.8 million in the 2018 rebasing year.[8]

To ensure this commitment continues over the remainder of the term, Hydro One is proposing a framework that has incentives to achieve improved performance. The framework is similar to the one approved by the Board in the Toronto Hydro decision, which the Board characterized as

[5] See Issue 30 and I-35-BOMA-31. I-33-SEC-067 Attachment 1: OEB Account 1830 "Poles, Towers, and Fixtures" comprise approximately 30% of rate base.

[6] I-35-BOMA-31, p 5.

[7] I-35-BOMA-31, p 6.

[8] I-25-Staff-123, p 1.

being "structured so as to support the achievement of RRF objectives."[9] In that decision, the Board stated that, "regulatory predictability is a necessary component of an effective regulatory framework."[10] In this proceeding in Procedural Order No. 8, the Board stated that "While the OEB is not bound by past decisions, consistency of regulatory decisions is an important consideration. Past decisions are therefore relevant and can be persuasive when the same matter is being considered by the OEB."[11]

In that light, Hydro One has proposed components of that framework that the Board has endorsed and has ensured to address the areas where the Board identified the need for improvement. Specifically, this Application includes the following features that the Board has approved:

- A five year term;
- An annual adjustment index for OM&A reflecting inflation minus productivity;
- A 'C factor' method of funding its capital plan that is intended to correspond to Hydro One's capital program execution over the life of the plan and that is customized to its business needs and customer preferences; and
- An Earnings Sharing Mechanism ("ESM") providing 50% sharing of revenues in excess of 100 basis points over approved Return on Equity ("ROE").

The Application also includes the following features which the Board identified as wanting in previous applications, namely:

- Evidence of the corporate policy that went into developing the capital plan, in particular, Hydro One's consideration of different cost/reliability scenarios to inform its plan and its ultimate decision, based on customer feedback, to pursue "Plan B modified";
- A capital plan based on the impact of asset performance on reliability, as opposed to just asset age;
- Extensive bench-marking and performance monitoring;
- Ongoing customer engagement, including the customer feedback that went into the selection of Plan B modified; and

[9] Decision, EB-2014-0116, p 6.
[10] Decision, EB-2014-0116, p 4.
[11] EB-2017-0049, Procedural Order No. 8, p 4.

- Ongoing productivity requirements, which are backed up by incentives and where employees are evaluated on that basis.

In addition, the Application includes unique features that are driven by Hydro One's unique situation, namely, the integration of the Acquired Utilities (defined below). This integration is being done in accordance with OEB policies, namely, ensuring that the rates for the customers of the Acquired Utilities reflect the cost of serving them. To this end, when the Acquired Utilities are integrated in 2021:

- the integration largely follows OEB-approved cost allocation methodologies;
- Hydro One proposes to update key inputs of the cost allocation model in its 2021 application, namely those related to load forecast and all components of the cost of capital; and
- Hydro One is proposing a revenue cap because the new acquired classes being established in 2021 for customers of the Acquired Utilities will not have existing rates in 2020 that can be adjusted in 2021 via a price cap index.

As addressed in greater detail below, Hydro One submits that the Application presents a five year plan to meet the needs of its customers in a way that is consistent with the goals of the RRF.

## A. GENERAL:

### Issue 1. Has Hydro One responded appropriately to all relevant OEB directions from previous proceedings?

In the EB-2013-0416 proceeding, the OEB provided Hydro One with 13 directions for its next rate distribution application.[12] Hydro One has responded appropriately to each of those directions. The Application lists each directive and Hydro One's response at A-2-2.[13] For the purpose of these submissions, each of the OEB directions follows along with Hydro One's response in italics:

1. A total factor productivity study of Hydro One's own productivity, including data from 2002 and following years at a minimum. *Hydro One obtained a total factor productivity study from Power Systems Engineering (PSE).*[14] *Submissions on the appropriateness of this study are contained in response to Issues 7 and 8.*

2. A compensation study similar to the study filed as part of this Application to allow benchmarking to comparable companies. *Hydro One has filed a compensation study from Mercer to comply with this direction.*[15] *Hydro One has also filed six additional compensation studies to support its Application. Those compensation studies are addressed in response to Issues 40-42.*

3. A comprehensive trend analysis of the vegetation management program showing year over year comparisons in unit costs. *Hydro One has filed a benchmarking study from CN Utility Consulting Inc. ("CN Utility") which shows year over year comparisons of unit costs.*[16] *Hydro One has also proposed a new vegetation management program with significantly lower unit costs and significant projected reliability improvements. That new program is outlined in the report of Clear Path Utility Solutions LLC ("Clear Path") and in*

[12] Decision, EB-2013-0416, p 61.
[13] A-2-2.
[14] A-3-2.
[15] C1-2-1, Attachment 5.
[16] Distribution System Plan, Section 1.6, Attachment 2.

*Q-1-1.*[17] *It is also discussed throughout these submissions, in particular in response to Issue 38.*

4. A best practices study, if undertaken, for vegetation management similar to the CN Utility study filed in EB-2009-0096. *As discussed above, Hydro One has filed reports from CN Utility and Clear Path, which address best practices for vegetation management.*[18]

5. An updated depreciation study. *Hydro One filed an updated depreciation study from Foster Associates. It is discussed in response to Issue 44.*[19]

6. A consolidated Distribution System Plan, with either an independent third party review of the Plan if conducted, or an explanation of the decision not to conduct such a review. *Hydro One has prepared a consolidated Distribution System Plan, and has obtained an independent third party review of the Plan from AESI Inc. Details of that review are addressed under this Issue 1, below.*

7. Annual capital in-service additions, with explanations of any variance from approved levels (as required by the OEB Filing Requirements). *Historic annual capital in-service additions are outlined in D1-1-2 along with variance explanations.*[20] *This information complies with the OEB Filing Requirements. Further explanation of Hydro One's in-service addition variances is provided in response to Issue 22.*

8. An external benchmarking study on the unit cost of the pole replacement program. *Hydro One has filed an external benchmarking study from Navigant and First Quartile Consulting ("Navigant") that examines the unit cost of the pole replacement program.*[21] *It found that Hydro One's pole replacement costs are in-line with its peer group. Further details of Hydro One's pole replacement program is provided in response to Issue 30.*

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17 Q-1-1, Attachment 2.

18 Distribution System Plan, Section 1.6, Attachment 2, and Q-1-1, Attachment 2.

19 C1-6-1, Attachment 1.

20 D1-1-2.

21 Distribution System Plan, Section 1.6, Attachment 1.

9. An internal trend analysis to show the variability of the unit costs of the pole replacement program year over year. *The Navigant study reviewed the pole replacement costs over a three year period.*[22] *Further, Hydro One's scorecard contains a pole replacement cost metric, which provides trend data over a longer period of time and will continue to do so in the future.*[23]

10. An external benchmarking study on the unit cost of the station refurbishment program. *Hydro one has filed an external benchmarking study from Navigant that examines the unit cost of the station refurbishment program.*[24]

11. An internal trend analysis to show the variability of the unit costs of the station refurbishment program year over year. *The Navigant study reviewed the station refurbishment costs over a three year period.*[25]

12. A report on an updated customer classification review. *Hydro One has filed a report on updated customer classification review.*[26]

13. A study on Hydro One's miscellaneous service charges, assessing whether the charges reflect underlying costs. *Hydro One completed a miscellaneous service charges study and incorporated the results into the plan by seeking to update its miscellaneous service charges to reflect the underlying costs found by that study.*[27] *Further details are provided in response to Issue 54.*

Regarding the AESI report, AESI was retained by Hydro One to "perform a thorough review of its DSP [Distribution System Plan] at various stages of its development" including all of the following:

[22] Distribution System Plan, Section 1.6, Attachment 1.
[23] I-18-SEC-29.
[24] Distribution System Plan, Section 1.6, Attachment 1.
[25] Distribution System Plan, Section 1.6, Attachment 1.
[26] G1-2-1.
[27] H1-2-3, Attachment 1.

1. Provide best advice on the structure and format of the stand-alone Distribution System Plan document to show direct and clear alignment of the various components, explicitly showing how the process steps lead to an optimized Distribution System Plan and corresponding capital and OM&A investment programs;

2. Demonstrate expertise and capability in identifying areas of opportunity to meet the requirements of the RRF and Chapter 5 of the OEB's Filing Requirements regarding Distribution System Plans;

3. Showcase that the Hydro One business planning process is based on its business values and strategic objectives, which consider the balance of its work programs and associated risks;

4. Ensure evidence demonstrates alignment between the proposed investment levels, customer engagement results and asset needs; and

5. Identify any inconsistencies throughout the Distribution System Plan including but not limited to the terminology for the different stages of the investment planning and optimization process.[28]

The scope and purpose of AESI's report satisfies the Board's direction for an independent third party review of the Distribution System Plan. Recall that the issue giving rise to the need for an independent review arising in the EB 2013-0416 proceeding was lack of conformity of Hydro One's then filed Distribution System Plan to the subject-matter content set forth in the Board's Filing Requirements. This has been addressed in the current Application.

Hydro One's current Distribution System Plan reflects a marked and substantive difference to its prior version. The current Distribution System Plan has addressed all prior shortfalls and reflects considerable improvement in both its organization and content.

[28] I-24-SEC-46, Attachment 1, p 2.

During the oral hearing, the School Energy Coalition ("SEC") questioned the Asset Management Panel concerning the scope of AESI's review, however, no party requested an AESI witness attend the oral hearing to answer questions about the AESI report.[29]

Based on its review, AESI concluded that the Distribution System Plan "was prepared in accordance with Good Asset Management Practice, Industry Best Practices and the current Chapter 5 Filing Requirements."[30] AESI also concluded that it was "impressed with the reliability and robustness of the Asset Management Process", and that "Hydro One has also illustrated an appropriate alignment between the proposed investment levels, customer engagement results and asset need."[31]

**Issue 2. Has Hydro One adequately responded to the customer concerns expressed in the Community Meetings held for this Application?**

Following the filing of Hydro One's Application in March, and the June "blue page" update, the OEB Staff and Hydro One conducted a series of 10 community meetings between June 15 and July 13, 2017 across Ontario.[32] At those meetings, both the OEB Staff and Hydro One made presentations to the participants, and listened to community concerns.[33] At the end of the 10 meetings, OEB Staff prepared an OEB Staff Summary of Community Meetings document, dated September 7, 2017.[34] Hydro One then directly responded to the concerns raised at the community meetings at the Executive Presentation Day on December 7, 2017.[35]

The feedback from the community meetings was consistent with the feedback that Hydro One received through the customer consultation process run by IPSOS, described in detail in Issue 23, and through Hydro One's other, ongoing, customer consultation. For details concerning those processes and the feedback learned through them, please see Issue 23. As detailed in

[29] See: Transcript, Day 7, June 21, pp 63-67.

[30] Distribution System Plan, Section 1.6, Attachment 4, p 2.

[31] Distribution System Plan, Section 1.6, Attachment 4, p 2.

[32] A complete list of meetings including meeting materials and meeting locations is available on the Ontario Energy Board website for this Application: https://www.oeb.ca/participate/Applications/current-major-Applications/eb-2017-0049.

[33] The OEB Staff, and Hydro One presentations are available at: https://www.oeb.ca/participate/Applications/current-major-Applications/eb-2017-0049.

[34] Available at: http://www.rds.oeb.ca/HPECMWebDrawer/Record/582843/File/document.

[35] See: Transcript, Executive Presentation Day, December 7, 2017.

that Issue, this Application, including the Distribution System Plan, is responsive to the feedback received from customers.

The Staff Summary document identified eight issues and comments directly related to Hydro One's Distribution Application as well as three additional issues related to specific communities. Each of them was addressed either by the existing Application, or through the supplemental evidence filed after the community meetings.

Customer concerns expressed during the Community Meetings afforded Hydro One with the opportunity to address how it is transitioning to becoming a more efficient and productive organization. The Meetings provided an additional forum to demonstrate how productivity savings are embedded in the Application. It also provided an opportunity to demonstrate how Hydro One has begun to re-evaluate programs, and address ways to be more effective by not spending more but achieving better reliability outcomes.

Hydro One's executive compensation levels were also addressed in these sessions. It was made clear to those attending these sessions that ratepayer recovery of executive compensation would be determined by the last Hydro One transmission rates decision. The reductions imposed by the OEB are ones that Hydro One has accepted and implemented in the Application.

Customers also expressed concern over the need for Hydro One to continue to make large investments in its assets given that large investments have been made in prior periods. The opportunity to inform attendees about the condition of Hydro One's Distribution System assets was one of the key positive outcomes from these sessions. Explaining key facts about the Hydro One system helped to provide better and more accurate understanding of the need for additional investment. This included: the nature and size of Hydro One's service territory, differences in rural and urban settings; the varied geographies in which Hydro One provides distribution services throughout Ontario; the need for proper investment planning given the existing condition of assets; and the ongoing aging of its assets and the expected consequences if continued investments are not made in a planned and deliberate manner.

Consistent with the IPSOS Customer Engagement process,[36] impacts resulting from rate increases were top of mind to customers attending the Community Engagement Meetings. Hydro One explained that minimizing rates increases was a focus. Hydro One's Board of Directors challenged senior management on this issue during the iterative process used to develop its Distribution Business Plan, and ultimately selected the plan that did not allow further degradation of asset condition.

One significant benefit resulting from the Community Engagement Meetings was the opportunity to address how the Government of Ontario's Fair Hydro Plan would interact with the proposed rate increases. Customers were generally supportive of the Fair Hydro Plan. Since the introduction of this program customer reaction has been positive and can reasonably be said to have allayed concerns raised.

The second and third highest customer concerns arising from the IPSOS Customer Engagement process related to reliability. Those concerns were also raised during the Community Engagement Meetings, and the meetings afforded Hydro One an opportunity to discuss that concern with its customers, and explain Hydro One's commitment to continuous improvement. After the Community Engagement Meetings, Hydro One filed Q-1-1, with the new vegetation management program, which is projected to result in significant reliability improvements over the course of the plan, thereby directly responding to the concerns raised by Hydro One's customers at the Community Engagement Meetings.

Based on the foregoing, Hydro One submits it has adequately responded to all customer concerns expressed in the Community Meetings held for this Application.[37]

[36] See Issue 23 for a description of the process.

[37] Further details are contained in the Staff Summary Document: http://www.rds.oeb.ca/HPECMWebDrawer/Record/582843/File/document.

**Issue 3. Is the overall increase in the distribution revenue requirement from 2018 to 2022 reasonable?**

The submissions in this Issue address the components of the distribution revenue requirement. These submissions also contain more detailed submissions concerning each component of the revenue requirement are provided in response to other Issues as is identified below.

A summary of Hydro One's 2018 Proposed Revenue Requirement compared to 2017 OEB approved was presented in I-33-Staff-179, which incorporated the impact of Fair Hydro Plan. A similar table appears below. This table has been further updated to reflect 2017 actuals impact on rate base as discussed in the updated I-33-SEC-67, updates to external revenue as discussed further in J 11.02, and the proposed disposition of deferral and variance accounts over one year. The 2018 vs. 2017 Change (%) column represents the impact of each revenue requirement component contribution toward the overall increase of 3.5% ($1,475.5M for 2018 vs. $1,426.0M approved in 2017):

**Table 1 (updated): Revenue Requirement ($ Millions)**

| Description | 2017 OEB Approved | 2018 Forecast | 2018 vs. 2017 Change (%) |
|---|---|---|---|
| OM&A | 593.0 | 576.7 | (1.1) |
| Depreciation and Amortization | 390.2 | 398.2 | 0.6 |
| Income Taxes | 48.7 | 65.2 | 1.2 |
| Return on Capital | 435.8 | 474.0 | 2.7 |
| **Total Revenue Requirement** | **1,467.6** | **1,514.2** | **3.3** |
| Deduct External Revenues and Other | (52.7) | (47.0)* | 0.4 |
| **Rates Revenue Requirement** | **1,414.9** | **1,467.2** | **3.7** |
| Regulatory Deferral and Variance Accounts Disposition | 11.1 | 8.3** | (0.2) |
| **Rates Revenue Requirement (with Deferral and Variance Accounts)** | **1,426.0** | **1,475.5** | **3.5** |

* 2018 External Revenue was updated as part of J11.02

** Regulatory Deferral and Variance Accounts Disposition is updated to reflect Hydro One's revised proposal which is detailed under Issue 58.[38]

The most recent summary of the 2018 to 2022 revenue requirement being requested by Hydro One was provided in response to J 1.10.

[38] Transcript, Day 10, June 26, p 86, l 12 to p 87, l 4.

| Line | | Reference | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|
| 1 | Rate Base | D1-1-1 | 7,649.9 | 8,009.4 | 8,412.0 | 8,940.7 | 9,306.4 |
| | | | | | | | |
| 2 | Return on Debt | E1-1-1 | 198.6 | 208.0 | 218.4 | 232.0 | 241.5 |
| 3 | Return on Equity | E1-1-1 | 275.4 | 288.3 | 302.8 | 321.7 | 334.9 |
| 4 | Depreciation | C1-6-2 | 398.2 | 419.3 | 434.1 | 453.1 | 466.8 |
| 5 | Income Taxes | C1-7-2 | 65.2 | 68.7 | 71.3 | 78.6 | 79.2 |
| 6 | Capital Related Revenue Requirement | | 937.4 | 984.3 | 1,026.6 | 1,085.4 | 1,122.4 |
| 7 | Less Productivity Factor (0.45%) | | | (4.4) | (4.6) | (4.9) | (5.1) |
| 8 | **Total Capital Related Revenue Requirement** | | **937.4** | **979.9** | **1,022.0** | **1,080.5** | **1,117.3** |
| 9 | OM&A | C1-1-1 | 576.7 | 581.1 | 585.4 | 589.8 | 605.1 |
| 10 | Integration of Acquired Utilities | A-7-1 | | | | 10.7 | |
| 11 | **Total Revenue Requirement** | | **1,514.2** | **1,561.0** | **1,607.4** | **1,681.0** | **1,722.4** |
| | | | | | | | |
| 12 | Increase in Capital Related Revenue Requirement | | | 42.5 | 42.1 | 58.5 | 36.8 |
| 13 | Increase in Capital Related Revenue Requirement as a percentage of Previous Year Total Revenue Requirement | | | 2.80% | 2.70% | 3.64% | 2.19% |
| 14 | Less Capital Related Revenue Requirement in I-X | | | 0.46% | 0.47% | 0.48% | 0.48% |
| 15 | **Capital Factor** | | | **2.34%** | **2.23%** | **3.16%** | **1.71%** |

As shown above, the total revenue requirement is impacted by OM&A, Depreciation and Amortization, Return on Capital, and Income Tax.

The requested 2018 OM&A portion of the revenue requirement is 1.1% below the 2017 Board approved level as a component of overall revenue requirement, and 2.7% below 2017 Board approved OM&A costs. In accordance with Hydro One's Custom IR Application, the OM&A spend increases by inflation minus a productivity factor over the course of the plan. Details of the OM&A spending level and its appropriateness are discussed in detailed in Section F, Issues 38 to 43.

The requested 2018 Capital portion of the revenue requirement (including return on debt and return on equity) is 2.7% above the 2017 OEB-approved level as a component of overall revenue requirement. Details of the Capital spending level and its appropriateness are discussed in response to Section D, Issues 23 to 32.

Details of depreciation impacts on the revenue requirement are addressed in response to Issue 44. Details of tax impacts on the revenue requirement are addressed in response to Issue 33.

The overall reasonableness of the applied-for revenue requirement is, at the outset, demonstrated by the process undertaken by Hydro One in preparing this Application.

1. Regarding the capital investment plan, Plan B-Modified was selected following an extensive customer engagement process and following input received from Hydro One's Board of Directors who challenged Management to better address customer related concerns related to rate impacts. This was an iterative process, and one which has afforded an appropriate balance to be achieved between customer needs and preferences and overall system needs that must be responsive to asset condition and system reliability.

2. Plan B-Modified sets capital investment at a level where the asset condition of Hydro One's assets is maintained. It does not represent an unsustainable level of underinvestment (and thereby deferring spending to later generations of customers). At the same time, it does not permit Hydro One to improve the condition of its assets. Hydro One has the oldest wood poles and oldest stations of any distributor relative to studied peer group members. The asset condition of its system is deteriorating and must be addressed in a responsible manner.[39]

3. Hydro One is controlling its OM&A costs. Despite inflation, the expansion of the Hydro One system and expenditures that are required to address the increasing maintenance requirements of an aging distribution system, Hydro One has planned for lower OM&A costs in 2018 than the OEB approved costs for 2017.[40]

4. Hydro One's proposed capital and OM&A spending levels incorporate approximately $398M in productivity savings over the five years of the plan.[41]

5. Since filing the Application, Hydro One has continued to look for ways to improve and innovate. The most significant example of this continuous improvement and innovation is

[39] I-35-BOMA-31.
[40] I-38-SEC-70.
[41] See I-25-Staff-123 and I-21-CCC-20.

the new vegetation management program outlined in Q-1-1.[42] Implementation of this program will result in estimated reliability improvements of 20-40% with no additional cost to the rate payer.[43]

During the hearing, at the request of intervenors, certain updated cost estimates were provided in relation to certain estimates.[44] Hydro One does not propose to update the Application to account for those ad-hoc estimate revisions. Revenue figures presented in this Issue have undergone significant changes since Hydro One originally filed its Application in March 2017. Hydro One has adjusted its Application to reflect the impacts of external factors such as the Fair Hydro Plan, updated OEB inflation and cost of capital parameters and pension and OPEB valuation reports, and the OEB decision in Hydro One's last transmission Application. Hydro One has also updated figures due to internal factors including 2017 actuals, and revised productivity estimates.

**Issue 4. Are the rate and bill impacts in each customer class in each year in the 2018 to 2022 period reasonable?**

Hydro One's applied-for revenue requirement will result in a 3.5% rate increase in 2018 over 2017 OEB-approved levels.[45] The Application seeks a further 3% increase in rates in 2018 due to declines in load which are beyond Hydro One's control.[46] The average increase over the proposed 5 year period is 3.4% per annum. These revised rate impacts reflect a 0.3% per annum reduction from the Application that was originally filed in March 2017. Detailed information on cost allocation and rate design among customers is set out in G1 and H1-01/H1-02, respectively. Detailed distribution rate and total bill impacts are set out at H1-04-01, page 2. Updated distribution rates will be addressed through the draft rate order process.

Hydro One is acutely aware of the impact on rates arising from investments in the distribution system and has taken steps to reduce costs that are within its control, as detailed under Issue 3.

[42] Q-1-1, Section 2.1, p 12, and Q-1-1, Attachment 2.
[43] I-3-SEC-4.
[44] For example, see: J 9.3.
[45] Q-1-1, p 3.
[46] Q-1-1, p 3.

The 2018 test year includes $69.8 million in productivity savings[47] and proposed 2018 OM&A costs are below Board approved 2017 OM&A costs. Rate and bill impacts are mitigated by these factors.

The largest factor impacting rates is reduced load, which accounts for approximately half of the proposed 2018 distribution rate increase.[48] As detailed in the discussion on customer consultation, Hydro One understands that electricity bills are the primary concern of its customers. As a result, Hydro One has carefully worked to align this customer preference with the compliance and condition needs of the system.

The total bill impacts resulting from this Application, calculated per the OEB's methodology, are well within the limits prescribed by OEB guidelines,[49] except in limited circumstances where mitigation has been proposed as described directly below in Issue 5.

With respect to customers of the acquired utilities in particular (i.e., Norfolk Power Distribution Inc., Haldimand County Hydro Inc. and Woodstock Hydro Services Inc., collectively the "Acquired Utilities"), the bill impacts on customers moving to the new proposed acquired rate classes in 2021 were updated to reflect a change in cost allocation to the acquired classes that was made as part of the Q-1-1 update to the evidence.[50] The bill impacts reflecting the updated cost allocation are provided in interrogatory response I-53-CCC-68. The bill impacts in I-53-CCC-68 compare proposed 2021 charges to the Acquired Utilities' rates that have been frozen since 2013/14 and include an acquisition rate rider that reduces their frozen distribution rates by 1 percent. This evidence shows that total bill impacts for all customers in the six new acquired rate classes are well below the OEB guidelines and in fact some customers ( i.e. those in the Woodstock General Service >50 kW, and Norfolk General Service <50 kW and General Service >50 kW rate classes) will actually see total bill reductions. In addition to the bill impacts calculated per the Board methodology, Hydro One also compares the distribution and total bill impacts that are expected for customers of the Acquired Utilities based on an estimate of the distribution and total bill changes these customers would have seen had they not been acquired

[47] I-25-Staff-123, p 1.
[48] Q-1-1, p 3, Table 1, and ll 6-13.
[49] H1-4-1, Tables 1 and 2.
[50] Q-1-1, pp 16-17.

by Hydro One. As shown in Table 12 at Q-1-1-1-1[51], the total bill impacts for all customers moving to the new acquired rate classes are actually negative, indicating that Acquired Utilities customers will be paying less on their 2021 total bill than they would have paid had they not been acquired.[52]

**Issue 5. Are Hydro One's proposed rate impact mitigation measures appropriate and do any of the proposed rate increases require rate smoothing or mitigation beyond what Hydro One has proposed?**

Hydro One has proposed a rate mitigation plan for three classes of customers of recently acquired utilities which are merging with Hydro One's current classes. These are: (i) street lighting customers, (ii) sentinel light customers and; (iii) unmetered scattered load ("USL") customers of the Acquired Utilities. Rate mitigation in the form of a bill credit is proposed for those customers within these rate classes that are experiencing rate increases to ensure that they will not experience total bill impacts greater than the 10%.[53]

Moreover, rate mitigation is proposed in the form of adjustments to the revenue-to-cost ratios for the DGen customer class to limit total impacts to no more than 10% for a typical customer in that class.[54]

As no other customers are forecasted to see bill impacts greater than 10% over the term of the Application, Hydro One submits that its proposed rate mitigation plans are appropriate and no further plans are needed.[55]

[51] Table 12 was subsequently corrected in the response to interrogatory I-56-Staff-264, but it did not change the fact that estimated 2021 total bill impacts are negative for all customers in the six new acquired utility rate classes.

[52] See: Transcript Day 10, June 26, pp 83-84.

[53] See: H1-4-1, p 7.

[54] See: H1-4-1, p 6.

[55] In H1-4-1, p 7, mitigation in the form of phasing in revenue-to-cost ratios adjustments was proposed for some of the new acquired rate classes, however, as indicated in Q-1-1 p 19, ll 1-5, the reduction in the allocation of costs to the new acquired rate classes proposed in Q-1-1 eliminated the need for this mitigation.

**Issue 6. Does Hydro One's First Nations and Métis Strategy sufficiently address the unique rights and concerns of Indigenous customers with respect to Hydro One's distribution service?**

Over the past 18 to 24 months, the company has refined its approach to how it engages with First Nations and Métis communities.[56] Hydro One's strategy addresses the unique rights and concerns of Indigenous customers with respect to Hydro One's distribution service.[57] This is evidenced by: 1) Hydro One's engagement with its First Nations and Métis customers; and 2) Hydro One's initiatives that address concerns expressed by First Nations and Métis customers. Finally, in this Issue, Hydro One anticipates and responds to reliability concerns raised by Anwaatin Inc.

(a) Engagement with First Nations and Métis customers

Hydro One engages with its First Nations and Métis customers through several avenues and in a number of different contexts. In the formal customer engagement process conducted by IPSOS, described under Issue 23, the company directed IPSOS to conduct a telephone survey in August 2016 of a random and representative sample of 300 First Nations customers. A key finding was that First Nations customers' preferences were largely consistent with other residential customer, but that they were most sensitive to cost and placed the greatest importance on cost over improvements in the service they receive. A copy of the telephone survey results with First Nations customers can be found the Distribution System Plan, Section 1.3, Attachment 1, pages 1562 to 1570.

Hydro One also held engagement sessions with (a) the 88 First Nations communities it serves on February 9 and 10, 2017, and February 21, 2018; [58] and (b) the 29 Métis Councils represented by the Métis Nation of Ontario on May 13, 2017. The purpose of these sessions was to engage in discussion on key areas found in the Application as well as to share

[56] Transcript Day 5, p 19, ll 14-17.

[57] Hydro One's First Nations and Métis Strategy is found at A-4-2.

[58] The session reports for which are provided as Attachment 4 to Section 1.3 of the Distribution System Plan, and JT 2.17.

information on various programs and initiatives benefiting Indigenous communities and to better understand issues and concerns expressed by participants as they related to Hydro One.[59]

In addition, Hydro One held regional engagement sessions[60] and other community specific engagements sessions with First Nations communities through the "Get Local" program. Through that program, Hydro One visited 35 First Nations communities during 2017, and 8 First Nations communities from January to June 2018.[61]

(b) Initiatives that address concerns expressed by First Nations and Métis customers

Hydro One made 35 specific commitments at the February 9 and 10, 2017 First Nations engagement session and 95% of these commitments were addressed throughout the year. Hydro One made 10 specific commitments at the May 13, 2017 engagement session with the Métis Nation of Ontario. Hydro One's response to those issues was filed as an Attachment to I-6-Anwaatin-1.[62]

As discussed, in response to I-6-Anwaatin-1, to improve affordability, Hydro One implemented an outreach plan to ensure all eligible First Nations customers benefit from the First Nations Delivery Credit announced as part of the Ontario Fair Hydro Plan and which came into effect on July 1, 2017. Hydro One also introduced the First Nations Conservation Program ("FNCP") in new First Nations communities in 2018. The FNCP is a follow-up program to the Aboriginal Conservation Program which was implemented by the Independent Electricity System Operator ("IESO") and ended in 2015 after providing services to 39 communities. The FNCP is designed to serve the communities not served by the IESO's earlier program.

As described above, Hydro One also implemented the Get Local Initiative to help customers face-to-face by providing information about conservation programs and resources that may assist low income customers, and ensuring that qualifying customers are aware of and

[59] The reports, presentations and notes from the engagement sessions are attached to I-6-Anwaatin-1 at Attachments I-6-Anwaatin-1-1 to I-6-Anwaatin-1-9.

[60] Transcript Day 5, p 20, l 26 to p 21, l 15.

[61] Transcript Day 4, June 15, p 197, l 12 to p 198, l 8.

[62] I-6-Anwaatin-1-10.

accessing the Province of Ontario's Ontario Electricity Support Program and the Low Income Energy Assistance Program ("LEAP").

Finally, in 2018 Hydro One started to roll-out the Affordability Fund across the province, which will also improve First Nations' home energy efficiency by providing free energy-saving upgrades, which can lower home energy use and, correspondingly, a customer's electricity bill over the long term.

In order to improve reliability and in response to complaints raised at the engagement sessions, Hydro One has revised its vegetation management strategy whereby it will increase the frequency of forestry maintenance work on reserve. In addition, on measures to improve reliability, please see parts c) i), ii), and iii) of I-6-Anwaatin-2.

On reliability and access, Hydro One responded to feedback and has made commitments to notify or seek permission as applicable from First Nations communities when conducting reconnection work on reserve in the context of its distribution business.

(c) Response to concerns raised by Anwaatin Inc.

The intervenor Anwaatin Inc. ("Anwaatin") represents the interests of several First Nations and their communities in Northern Ontario. Evidence sponsored by Anwaatin from its consultant, Mr. Don Richardson, addressed four main topics: a) reliability experienced by the communities represented by Anwaatin; b) Hydro One's measures to "consult" with Indigenous rights holders regarding distributed energy resources ("DER"); c) the potential use of DER to "enhance reliability and adequacy of electricity service" in First Nations communities; and d) potential capital expenditure and payment models for resources to address distribution system reliability challenges in Indigenous communities.

Regarding reliability, Hydro One's response to interrogatory I-24-Anwaatin-8 discloses that the reliability experienced by the Anwaatin communities is 15.3 hours of average SAIDI per year, including loss of supply and force majeure. This compares to a Hydro One system average of 14.9, and a First Nations average of 14.0. In this historical period, three of the four feeders that supply the Anwaatin Inc. communities are better than Hydro One system and First Nations

average. None of the Anwaatin Inc. feeders are in the top 10 worst performing First Nations feeders.[63]

Regarding the use of DERs as a means to potentially improve reliability in First Nations communities, Hydro One has begun to investigate such initiatives in a measured and appropriate manner. As noted during the Technical Conference, Hydro One started to explore this concept with one First Nations community located on Christian Island.[64]

Further, and as noted in K 4.4, Hydro One is now also working collaboratively with Anwaatin through a pilot project that is intended to explore ways in which potential energy storage solutions may provide cost-appropriate ways to improve reliability in the Anwaatin communities.[65]

The agreement with Anwaatin comprising K 4.4 is a significant achievement. Not only is the pilot project intended address reliability concerns in Anwaatin First Nations communities, but it is also intended to assess whether similar and repeatable approaches may be used in other remote areas of the Hydro One Distribution system that are experiencing poor reliability conditions.[66]

The maximum total cost of the Anwaatin initiative is $5M. Any further funding is dependent on the results of the pilot project and approval of increases to Hydro One's capital envelope.[67] The agreement also contains a detailed description of the project, which consists of multiple phases. Phase 1 is focused on improving reliability to the communities served by Hydro One's F2 Feeder situated in the Nakina region through designing and implementing energy storage facilities located in close proximity to communities. The objective of this Phase is to provide measurable reliability improvement as compared with 5 year historical SAIDI and SAIFI averages. Phase 2 is focused on completing technical assessments of non-wire solutions that may improve reliability to First Nations communities and customers along Hydro One's A4L

[63] I-24-Anwaatin-8, p 4.
[64] Technical Conference, Day 2, March 2, 2018, p 153, l 23 to p 154, l 16.
[65] K 4.4. See also: Transcript, Day 5, June 18, p 29-33, and I-6-Anwaatin-6, June 15, 2018.
[66] K 4.4, p 3.
[67] K 4.4, p 3.

transmission line. The results achieved in Phase 1 are intended to assist and inform the alternatives assessed in Phase 2.[68]

The approach adopted in the agreement is an example of the initiatives Hydro One has underway that is intended to be more responsive to and address specific reliability concerns of First Nations and its customers.

[68] K 4.4, p 6.

## B. CUSTOM APPLICATION

### Issue 7. Is Hydro One's proposed Custom Incentive Rate Methodology, using a Revenue Cap Index, consistent with the OEB's *Rate Handbook*?

Hydro One's proposed Custom IR methodology is consistent with the OEB's *Handbook for Utility Rate Applications* (the "Handbook"). The Handbook states that the test for the adequacy of a Custom IR Application is: (a) the extent to which its features contribute to the achievement of the OEB's Renewed Regulatory Framework goals;[69] and (b) whether it meets certain standards set out in the Handbook, i.e.: (i) a minimum five year term; (ii) an index for the annual rate adjustment; (iii) benchmarking; (iv) performance metrics; (v) minimal updates; and (vi) protecting customers.[70] Each of these is addressed in turn below.

(a) A Minimum 5-Year Term.

The Application is for a 5-year term and therefore meets this requirement.

(b) An Annual Rate Adjustment Index

The Application proposes an index for the annual rate adjustment similar to what the Board approved in Toronto Hydro's most recent distribution rates Application[71] (the "Toronto Hydro Proceeding"), namely a Custom IR index with a custom capital factor. Hydro One chose the Custom IR option over the other options in the Handbook and the RRF because the Custom IR option was the only option which would recognize Hydro One's large recurring variable investment requirements in each year of the plan term.[72] As stated at page 19 of the RRF Report, "[t]he Custom IR method will be most appropriate for distributors with significantly large multi-year or highly variable investment commitments that exceed historical levels."[73] Hydro

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69 Hydro One's submissions on how the Application's features contribute to the achievement of the OEB's Renewed Regulatory Framework goals are discussed in issue 17, below.

70 Handbook pp 25-28.

71 EB-2014-0116.

72 See Transcript Day 1, p 49, ll 3-5.

73 Moreover, Hydro One notes that the Board's 2014 report on the Advanced Capital Module makes it clear that an Application under Price Cap IR with embedded ACM Applications was not an option for Hydro One, again given its large, multi-year capital requirements. The relevant passage of the 2014 report is the following:

One's multi-year investment commitments are outlined in the Distribution System Plan filed in this Application and addressed in Section D of these submissions.

In terms of the design of the index to be used in its Custom Application, Hydro One developed and chose its Custom IR index by reviewing Custom IR Applications approved by the OEB for other Ontario utilities and found that the OEB-approved method for Toronto Hydro was most consistent with Hydro One's requirements.

Hydro One's proposed index differs from that of Toronto Hydro in that Hydro One's proposed index is a revenue cap index with a custom capital factor, while Toronto Hydro's Board-approved index is a price cap index with a custom capital factor and Board-imposed growth factor. As discussed in the oral hearing, the revenue cap index is not substantially different from a price cap index.[74] Both adjust an OEB-approved base revenue requirement by reference to an annual adjustment index and both take into account load forecast changes in setting rates for the subsequent year.

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> The Board is of the view that projects proposed for incremental capital funding during the IR term must be discrete projects, and not part of typical annual capital programs. This would apply to both ACMs and ICMs going forward.
>
> The Board will make a determination on whether projects are discrete on a case by case basis. However, there must be a clear distinction between a cost of service Application under the Price Cap IR option (with ACM proposals beyond the test year), and the Custom IR method. The use of an ACM is most appropriate for a distributor that:
>
> - does not have multiple discrete projects for each of the four IR years for which it requires incremental capital funding;
> - is not seeking funding for a series of projects that are more related to recurring capital programs for replacements or refurbishments (i.e. "business as usual" type projects); or
> - is not proposing to use the entire eligible incremental capital envelope available for a particular year.
>
> See EB-2014-0219, Report of the Board, New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, pp 13-14.

[74] As explained by Mr. Andre (Transcript Day 1, June 11, p 45):
If it wasn't for the integration of the acquireds in 2021, the revenue cap as we've proposed is essentially identical to the price cap. All that would be required to translate that revenue cap into a price cap would be a reflection of what's happening to load, which is essentially what Toronto Hydro did.

As explained by Hydro One's witnesses and as set out in evidence in the Application,[75] a revenue cap index is required in order to integrate the Acquired Utilities' customers. As Hydro One will be proposing new acquired rate classes for those customers in 2021, they will not have an existing rate in 2020 that can be adjusted through a price cap.[76] Further, because creating these new rate classes involves allocating costs across all existing and new Hydro One classes, the update cannot be restricted to just the new rates classes.[77]

Under Hydro One's proposal, the revenue requirement will be adjusted annually by the proposed Revenue Cap Index and rates for the subsequent year will be calculated taking into account the OEB approved load forecast for each year using the methodology outlined in H1-1-1 of the Application.

Pacific Economics Group ("PEG") was retained by OEB Staff to appraise and comment on the productivity and benchmarking research filed by Hydro One, as well as comment on aspects of Hydro One's Custom IR proposal.[78] PEG stated in its report that Hydro One's proposal is in several respects uncontroversial and agreed that it is similar to Toronto Hydro's recently approved Application:

> The Custom IR plan proposed by Hydro One is, in several respects, uncontroversial. The design is similar to that of the Custom IR which the Board approved for Toronto Hydro in EB-2014-0116.[79]

The Board is thus familiar with this proposal and recently approved a similar proposal. Maintaining this consistency is an important contributor to regulatory stability and predictability.

For the years 2019 to 2022, Hydro One's revenue requirement is proposed to be escalated by the proposed revenue cap index, which includes: (i) an industry-specific inflation factor which is set yearly by the OEB and (ii) two custom productivity factors. The two custom productivity factors are a 0% custom industry total factor productivity measure and a 0.45% custom

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75 1-7-VECC-3.

76 Transcript Day 1, p 26, l 26 to p 27, l 4.

77 Transcript Day 1, p 27, ll 4-11.

78 See PEG report "IRM Design for Hydro One Networks, Inc." dated April 13, 2018 authored by Mark Newton Lowry, Ph. D., (the "PEG Report") p 1.

79 PEG Report, p 3.

productivity stretch factor and are supported, as required by the Handbook, by empirical evidence, namely the work of Power Systems Engineering (PSE).[80]

PEG agreed with the reasonableness of these factors.

The productivity factor of 0.45% is an explicit revenue reduction applied each year to Hydro One's revenue requirement, and is not built into Hydro One's forecast of its costs. As required by the Handbook, the proposed stretch factor is no lower than the OEB-approved X-factor for Price Cap IR used for electricity distributors. In light of the productivity savings that have already been embedded into the revenue requirements set out in the Application (in both capital and OM&A), the stretch factor is in fact higher, in this sense, than the OEB-approved X-factor.[81] The productivity factor is discussed in more detail in Issue 8, below.

The Handbook also requires that the proposed index be informed by an analysis of the trade-offs between capital and operating costs, which may be presented through a five-year forecast of operating costs and capital costs and volumes. Hydro One's proposed index, particularly the custom capital factor, is informed by the five-year cost forecast and volumes set forth in its Distribution System Plan, which is discussed in detail under Issues 24-30, below. Issue 26 addresses the trade-offs between capital and OM&A spending over the course of the plan period, in particular.

(c) Benchmarking

The Application contains the PSE Studies, which inform the custom index and document Hydro One's productivity over time. These are discussed under Issue 8, below. The Application also includes several studies which compare Hydro One's key work programs to its peers and demonstrate that Hydro One compares favourably vis-à-vis its peers. These are discussed under Issues 10, 11 and 12, below.

[80] A-3-2.

[81] As pointed out by Mr. D'Andrea – see Transcript Day 1, p 56, ll 12-16.

(d) Performance metrics

In addition to the OEB's scorecard, the Application proposes various performance metrics which allow for the measurement of Hydro One's outcomes targets. These are discussed under Issues 17 to 20, below.

(e) Updates

The Handbook states that "[a]fter rates are set as part of the Custom IR Application, the OEB expects there to be no further rate Applications for annual updates within the five year term, unless there are exceptional circumstances".[82]

Hydro One is not proposing further rate Applications with annual updates. The annual updates that are proposed are those that are contemplated in the Handbook (e.g. the clearance of established deferral and variance accounts and the resetting of Retail Transmission Service Rates).

The only other update that is proposed is a one-time update to the load forecast and cost of capital parameters in 2021, which is necessary to align with previous OEB decisions.

In the proceedings that approved Hydro One's acquisitions of the Acquired Utilities, the OEB directed that, at the time of rebasing, "It is the Board's expectation that HONI will propose rate classes ... that reflect costs to serve the … service area, as impacted by the productivity gains due to the consolidation."[83]

In order to meet this requirement, Hydro One is proposing an update in 2021 that ensures that the rates proposed for the Acquired Utilities' customers reflect the costs to serve them. This involves a fairly minimal update to address the load forecast and cost of capital parameters, both of which are outside of Hydro One's control. Updating these components is necessary to ensure the accuracy and currency of these costs in 2021 and that they are fairly allocated

[82] Handbook, p 26.

[83] EB-2013-0196/EB-2013-0187/EB-2013-0198, at p 14 (Norfolk); see also EB-2014-0244, s. 3.2. (Haldimand) and EB-2014-0213 (Woodstock), p 9.

across all of Hydro One's rates classes.[84] Hydro One submits that this is an exceptional circumstance as contemplated in the Handbook as this is the only IRM application that integrates acquired utilities for rate making purposes.

With regards to the 2021 cost of capital update in particular, it is important to note that, with respect to short-term debt and ROE, Hydro One is proposing to simply apply the Board's cost of capital parameters as set for 2021.[85]

The cost of capital parameters will be established by the Board as they are every year (i.e., for ROE and short-term debt), and therefore Hydro One's adoption of these parameters for 2021 will not require any additional expense of resources on the part of the Board. Moreover, Hydro One notes that cost of capital is intended as a forecast for a short period, not a forecast of the cost of capital for five years, and therefore Hydro One is concerned that the Board's direction relating to charging customers of the Acquired Utilities their costs to serve will not be met if Hydro One calculates its rates based on an out-of-date cost of capital value.[86] Moreover, cost of capital is impacted by interest rates which are influenced by macroeconomic conditions. These are exogenous factors which are outside a utility's control; they are not related to the utility's productivity, efficiency of operations or sound planning.

The Handbook explains the OEB's rationale for limiting updates in a Custom IR Application: it states that the adjudication of a Custom IR Application requires a significant amount of time and resources and as a result, a utility applying under Custom IR should be committed to that method for the duration of the approved term.[87] Hydro One is committed to its proposed Custom IR and submits that as discussed in the paragraphs above, the updates it is requesting are minimal, mechanistic and, more importantly, are the result of the exceptional circumstances of integrating the acquired utilities. As a result, Hydro One submits that its Application does not depart from the guidance provided in the Handbook in regards to minimal updates. In fact, they

[84] I-13-CCC-15 sets out the precise updates being requested; I-7-CME-1(b) explains why the cost of capital update is important in relation to the integration of customers of acquired utilities.

[85] In regards to long-term debt, Hydro One's cost of long-term debt is based on Hydro One's actual 2017 debt issuances to the date of the Q-1-1 filing and the September 2017 Consensus Forecast. See Q-1-1, p 9; D1-2-1 pp 3-4 and D1-2-2.

[86] See undertaking JT 1.17-1.

[87] Handbook, pp 26-27.

are necessary to ensure an appropriate allocation of costs between current customers and the newly Acquired customers.

(f) Protecting customers

Hydro One's Application includes several customer protection mechanisms. One of these is the ESM, which is discussed under Issue 15, below. Another is that productivity has been both built-in to the five-year capital forecasts and 2018 test year OM&A numbers, and will be further incented by way of the Custom IR formula which includes a productivity factor that will result in increases of less than inflation each year to OM&A expenditures.

Another protection mechanism for customers is Hydro One's proposed Capital In-Service Variance Account (the "CISVA"), which will track the difference between the revenue requirement associated with actual in-service capital additions during the rate year and the revenue requirement associated with the OEB-approved in-service capital additions for that year.[88] The CISVA is discussed in detail under issue 58, below.

**Issue 8. Is the proposed industry-specific inflation factor, and the proposed custom productivity factor, appropriate?**

Hydro One proposes to utilize the industry-specific inflation factor set by the Board. This inflation factor is created for use for incentive rate setting under the Price Cap IR and Annual Index rate setting options; there is no reason to depart from Board-established inflation factor. As Mr. Fenrick testified, "when designing a price cap index or a revenue cap index, that inflation factor is really meant to capture the industry input price inflation, and that should be identical between the revenue cap or a price cap index."[89]

In respect of the proposed custom productivity factor, as noted above in Issue 7, Hydro One's proposed 0.45 stretch factor is the sum of two productivity factors, a custom industry total factor productivity measure of 0 and a 0.45 custom productivity stretch factor. These are based on the work of PSE, who was engaged by Hydro One to conduct a study of total factor productivity for

[88] See A-3-2 p 10 and I-58-CME-8.

[89] Transcript Day 1, June 11, p 31, ll 4-7.

Hydro One distribution in the Ontario industry as well as a custom econometric benchmarking study of Hydro One's total distribution costs (collectively, the "PSE Studies") in order to recommend a custom productivity stretch factor.[90]

PSE's recommended productivity factors are supported by PEG, who agrees in its report that Hydro One's proposed Custom Industry Total Factor Productivity Measure and the proposed Hydro One stretch factor, and therefore the resulting proposed productivity X factor, are reasonable.[91]

In addition, the Board's September 14, 2017 letter setting out updated stretch factor assignments found that Hydro One should be moved from cohort 5 (0.6 stretch factor) to cohort 4 (0.45 stretch factor).[92]

**Issue 9. Are the values for the proposed custom capital factor appropriate?**

As detailed in Issues 29 and 30, below, Hydro One's proposed capital expenditures are the result of a rigorous process in which productivity has been built into the proposed amounts. In addition to this, the productivity factor is deducted from the proposed revenue requirement, including the capital factor. This requires Hydro One to find additional savings, as required by the Handbook's statement that incentive elements, including a productivity factor, must be incorporated through a custom index or an explicit revenue reduction over the term of the plan (not built into the cost forecast)[93]. The custom capital factor provides the incremental revenue requirement associated with new capital placed into service each year of the custom IR term.[94]

More specifically, the custom capital factor is the percentage change in the total revenue requirement attributable to new capital investment that is not recovered pursuant to the I minus X escalation, including depreciation, return on equity, return on debt and taxes attributable to

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90 PSE Study – A-3-2, Attachment 2.

91 PEG Report p 3.

92 See OEB letter dated September 14, 2017 To: All Licensed Electricity Distributors, Re: Incentive Rate-Setting: 2016 Benchmarking Update for Determination of 2017 Stretch Factor Rankings - Board File No.: EB-2010-0379, p 2. See also Transcript Day 1, p 34, ll 17-20.

93 See: I-9-VECC-11.

94 I-8-BOMA-141.

new capital investment placed in-service each year of the Custom IR term.[95] The calculation of the custom capital factor is detailed in Q-1-1-1-1, page 4, table 2. Updated numbers were provided in J1.10 and under Issue 3 of this submission. The capital factor is required in order to ensure that Hydro One can invest in its capital as required by its Distribution System Plan and in order to meet customer expectations in relation to reliability, as discussed below in Issues 23 to 29.

As explained by Mr. Andre at the oral hearing:

> …the capital factor reflects the capital investments that are detailed in our distribution system plan and, you know, it's those investments are driven by the need to provide safe and reliable distribution system, so -- and they're fully detailed in the distribution system plan […] what you're seeing there is the need for the capital spend […] so to the extent that we anticipate needing to expand the system to accommodate growth, then that would be included in the capital forecast that we've submitted as part of our distribution system plan for the five years.
>
> So you're right, it does include growth, but more importantly, it includes a careful assessment of the capital that we need to spend in order to deliver the outcomes of the R -- renewed regulatory framework.[96]

(a) PEG critiques of custom capital factor

In its report, PEG is critical of the capital factor and suggests that a growth factor should be added, which would reduce the capital factor. Yet according to PEG, this would in fact result in higher revenue for Hydro One as OM&A revenue would go up while capital revenue would be unaffected.[97] It therefore appears that PEG is more concerned with its theoretical preference for a growth factor, despite the fact that this would result in more revenue than Hydro One is requesting as well as resulting in higher rates for ratepayers.[98]

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95 See: A-3-2, p 5, ll 8-12.

96 Transcript Day 1, p 38.

97 See PEG Report p 32 ("In either case, OM&A revenue would grow by this additional amount. The C factor would fall but allowed capital revenue would likely be unaffected on balance.")

98 See: Transcript Day 11, p 208, lines 10-14. Moreover, in Exhibit L1-9-Schedule HONI-4 PEG confirms that growth is considered in Hydro One's proposed revenue cap model.

Hydro One notes that in the Toronto Hydro Proceeding, PEG presented evidence on behalf of Board Staff and did not raise concerns with the capital factor in that proceeding. At the hearing, Dr. Lowry explained that this was because he himself was not present when PEG gave evidence in the Toronto Hydro Proceeding. Hydro One submits that regulatory certainty and predictability is negatively affected when Board Staff's consultant changes its views from one proceeding to the next.

Whatever the changing views of PEG may be, the manner in which the proposed custom capital factor is derived is consistent with that approved by the Board in the Toronto Hydro Proceeding and thus reflects OEB approved policy.

Hydro One submits that the values which underlie the proposed custom capital factor are appropriate.

**Issue 10. Are the program-based cost, productivity and benchmarking studies filed by Hydro One appropriate?**

**Issue 11. Are the results of the studies sufficient to guide Hydro One's plans to achieve the desired outcomes to the benefit of ratepayers?**

**Issue 12. Do these studies align with each other and with Hydro One's overall custom IR Plan?**

Hydro One has filed three program-based benchmarking studies: a vegetation management benchmarking study conducted by CN Utility;[99] a pole replacement and station refurbishment benchmarking study conducted by Navigant;[100] and an information technology budget assessment study conducted by Gartner.[101] Hydro One has also filed a study concerning its new vegetation management program from Clear Path.[102]

These studies have been appropriately considered and have assisted Hydro One in its planning process. Independent reviews of Hydro One's largest non-demand work programs and peer

[99] Distribution System Plan, Section 1.6, Attachment 2.
[100] Distribution System Plan, Section 1.6, Attachment 1.
[101] Distribution System Plan, Section 1.6, Attachment 3.
[102] Q-1-1, Attachment 2.

group comparison are one means that have allowed Hydro One to assess its practices and costs against other industry participants. Broadly speaking, each of the benchmarking studies shows that Hydro One compares well against its peers as each of the Navigant, CN Utility, and Gartner studies found that Hydro One's performance is in-line with its peers.[103]

The alignment between the studies and Hydro One's overall Custom IR plan is demonstrated by Hydro One's commitment to incorporating the results of these studies into its work programs. The steps Hydro One has taken are outlined in Section 1.6 of the Distribution System Plan and in response to I-25-Staff-122, I-25-Staff-126, and I-25-Staff-130.[104] The recommendations are also reflected in the new vegetation management approach that Hydro One has adopted based work conducted by CN Utility[105] and Clear Path.[106] Further details of these Reports are described in Issues 25 and 38.

**Issue 13. Are the annual updates proposed by Hydro One appropriate?**

As discussed in Issue 7 above, Hydro One has worked to minimize the number of updates during the course of the custom IR term, consistent with the Handbook.

As set out in I-13-CCC-15, Hydro One expects to file annual update Applications which will:

1. Calculate the revenue requirement using the revenue cap index, based on the OEB's most recent inflation factor for distributors[107];

2. Derive new rates based on the updated revenue requirement and the approved load forecast for the coming year;[108] and

[103] See: Distribution System Plan, Section 1.6, Attachment 1, p I (Pole Replacement Conclusion 1 and Substation Refurbishment Conclusion 2); Distribution System Plan, Section 1.6, Attachment 2, p 2, "Hydro One has maintained the high level of efficiency"; and Distribution System Plan, Section 1.6, Attachment 3, p 9, "Hydro One spends a similar amount on IT compared to the peer group".

[104] I-25-Staff-122, I-25-Staff-126, and I-25-Staff-130.

[105] Distribution System Plan, Section 1.6, Attachment 2.

[106] Q-1-1, Attachment 2.

[107] This calculation is detailed in Section 2.1 of H1-1-1.

[108] As outlined in H1-1-1, Schedule 1 and in the detailed calculations provided in H1-1-1.

3. Consistent with the requirements of IRM Application, seek to update Hydro One's Retail Transmission Service Rates and review and dispose of Group 1 deferral and variance account balances as necessary.

In addition to the items noted above, Hydro One is proposing to update its cost of capital parameters and load forecast in 2021. These are key inputs to the cost allocation model and will ensure fairness in the allocation of costs between all of Hydro One's rate classes by relying on the most recent information when rates are first established for the Acquired Utilities at the time of integration into Hydro One's rate structure. Hydro One will make any necessary updates to the proposed rate design (e.g. revenue-to-cost ratios) that may arise from these updates.

As discussed in Issue 7 above, the above process is proposed in relation to 2021 in order to ensure that customers of Acquired Utilities are charged rates which reflect the costs required to serve them. As a result, Hydro One submits that these proposed updates for 2021 are appropriate.

**Issue 14. Is Hydro One's proposed integration of the Acquired Utilities in 2021 appropriate?**

Hydro One proposes to integrate the customers of the Acquired Utilities into Hydro One's rate structure in 2021. This is appropriate as it aligns with the five year rebasing deferral period approved by the Board in each of its decisions approving Hydro One's acquisition of these utilities, with the exception of Norfolk Hydro, in respect of which Hydro One proposes to maintain the rate freeze on Norfolk customer rates for an additional sixth year.[109] This allows for the integration of all acquired customers in the same year, namely 2021, and is beneficial to Norfolk ratepayers who will enjoy an additional year of frozen rates.

In respect of Hydro One's proposal to create six new acquired rate classes into which customers of the acquired utilities will be moved, the proposed allocation of costs to the new acquired rate classes, and how this allocation appropriately reflects the costs to serve these customers as the Board has required, please see Issue 56, below.

[109] As confirmed on the first day of the oral hearing by Mr. D'Andrea, Transcript Day 1, p 18, ll 3-5.

**Issue 15. Is the proposed Earnings-Sharing mechanism appropriate?**

The proposed earnings-sharing mechanism (ESM) protects customers by ensuring that 50% of any over-earnings over 100 basis points are shared with customers. The ESM is asymmetrical to the benefit of the customer: Hydro One will share earnings with customers if it over-earns but if Hydro One suffers lower than expected earnings, the customer is not affected. The sharing of any over-earnings above 100 basis points is the mechanism approved in the recent Toronto Hydro Proceeding.[110]

**Issue 16. Are the proposed Z-factors and Off-Ramps appropriate?**

Hydro One is proposing Z-factors and off-ramps which are as set out in the Board's policies.

In respect of Z-factors, Hydro One is proposing, consistent with the Handbook, that the Board's Z-factor mechanism be available over the five-year term of the Application. The criteria which would apply to the use of the Z-factor mechanism are those described in Chapter 3 of the Filing Requirements for Electricity Distribution Rate Applications and the guidelines provided in section 2.6 of the Board's Report on 3rd Generation Incentive Regulation for Ontario's Electricity Distributors (July 14, 2008).[111] The proposed materiality threshold is $1 million, consistent with OEB requirements.[112]

In respect of off-ramps, Hydro One is proposing to adopt the Board's existing off-ramp mechanism, that is, a trigger mechanism with an annual return on equity dead band of plus or minus 300 basis points, at which point a regulatory review of the Revenue Requirement arising from Hydro One's Custom IR may be initiated.[113]

[110] Decision, EB-2014-0116.

[111] A-3-2 p 11.

[112] I-16-CCC-18.

[113] A-3-2, p 12. As set out in I-16-Staff 65, ROE would be calculated on Hydro One's regulated distribution operations.

## C. OUTCOMES, SCORECARD AND INCENTIVES

### Issue 17. Does the Application adequately incorporate and reflect the four outcomes identified in the Rate Handbook: customer focus, operational effectiveness, public policy responsiveness, and financial performance?

Yes, each of the four outcomes identified in the OEB's Rate Handbook are adequately incorporated and reflected in the Application.

(a) Customer Focus

The Application is focused on addressing and balancing customer needs and preferences. The Application was prepared with the benefit of an extensive early consultation process, led by IPSOS, as well as ongoing feedback Hydro One received from its day to day interactions with customers. Details of the customer engagement process are described further under Issue 23.

The decision to obtain greater input from customer channels is a marked departure from how Hydro One has carried out the preparation of major regulatory Applications in the past. This change in approach was appropriate and consistent with Hydro One's objectives of transitioning to a more customer focused commercially oriented organization. As Mr. Pugliese stated:

> In the past two years, as this Application was being formulated, we did undertake some significant philosophical changes to which, and its approach to customers, and one of those philosophical changes was this concept of advocacy and to increase our focus on advocacy for customers based on feedback that we have been getting from multiple channels, and so I will say that that information informed this Application and continues to inform the way we do business.[114]

The iterative process used to prepare and select Plan B-Modified as the proposed investment plan was directly in response to customer feedback. This exemplifies how the Application has adopted greater focus on customers' needs and preferences. While cost and rate impact were primary concerns to customers, other concerns were raised including system reliability and the need to find better ways to improve productivity and to carry out operations more efficiently, and

[114] Transcript, Day 4, June 15, p 171, ll 15 to 23.

those concerns have been appropriately considered. The Application presented strikes the right balance between customer identified concerns, and the ongoing essential need to plan and maintain the distribution system so that Hydro One can continue to provide safe, reliable service.

Other examples of how Hydro One has placed focus on customers concerns include Hydro One's voluntary implementation of a moratorium on winter disconnections. In addition, Hydro One established a Winter Relief program in 2016 to reconnect customers during winter months, along with personalized case work to help get customers in arrears get back on track. The program also helped reduce overdue accounts receivable to a four-year low. Hydro One also returned over $12 million in security deposits back to residential and small business customers and has eliminated residential security deposits altogether – a Canadian industry first. These changes in practices are contemplated to continue during the rate period and have been accounted for in the applied-for revenue requirement.

The Application also includes investments in customer programs and systems with the goal of improving the customer experience. These programs, which are detailed in the Distribution System Plan, have a long usable life, will reduce costs over the long term, and have a relatively low cost when compared with other investments being proposed by Hydro One, while having a large impact on customer experience.

Finally, the scorecards, discussed in further detail in response to Issues 18-20, reflect Hydro One's commitment to customer focus. As discussed in A-5-1, Section 3, the Distribution OEB Scorecard contains measures for: 1) Customer Satisfaction – Perception Survey %; 2) Handling of Unplanned Outages Satisfaction %; 3) Call Centre Customer Satisfaction %; and 4) My Account Customer Satisfaction %. Similarly, there are customer measures on 2017 Team Scorecard. Hydro One has set aggressive targets for each of the customer measures, and those aggressive targets will ensure that Hydro One maintains its commitment to customer focus over the course of the plan.

(b) Operational Effectiveness

Operational effectiveness is demonstrated through Hydro One's productivity evidence, which shows approximately $398M in productivity savings have been embedded over the course of the plan.[115] These productivity savings reduce the capital requirements from 2018 to 2022, and reduce the OM&A requirement during the re-basing year. Issue 25 provides more details on the incorporation of productivity savings in the Distribution System Plan.

Like customer focus, the operational effectiveness measures included on the Distribution OEB Scorecard and Team Scorecard demonstrate Hydro One's commitment to operational effectiveness. The details of each of these measures are described in Issues 18-20. Hydro One has set aggressive targets for each of the operational effectiveness measures, and those aggressive targets will ensure that Hydro One maintains its commitment to operational effectiveness over the course of the plan.

Operational effectiveness is also demonstrated through the Power System Engineering report, and the selection of a stretch factor of 0.45%, this requires Hydro One to continue to achieve productivity savings over the course of the plan. The stretch factor of 0.45% represents a reduction in Hydro One's former stretch factor of 0.6%, which is clear evidence of the operational effectiveness improvements Hydro One has achieved. Issue 21 provides further discussion regarding this stretch factor.

Finally, operational effectiveness is demonstrated through Hydro One's commitment to reliability improvements over the course of the rate period. As set out in Hydro One's Electricity Distributor Scorecard, and discussed further in Issue 18, Hydro One has set aggressive reliability targets over the course of the 5 year period. In 2022, the SAIDI target is 5.8 hours, an improvement over more than 2 hours (or 27%) compared to the actual 2017 level.[116] The 2022 SAIFI target is 2.0, an improvement of 0.32 (or 14%) compared to the actual 2017 level.[117]

[115] See I-25-Staff-123 for a detailed explanation of the productivity savings in the plan, and Hydro One's procedures for ensuring those productivity savings are realized.

[116] I-18-SEC-29.

[117] I-18-SEC-29.

(c) Public Policy Responsiveness

The Application demonstrates that Hydro One is responsive to public policy initiatives. Hydro One has revised certain parts of the Application, including its requested revenue requirement to take into account the Fair Hydro Plan.[118] Hydro One is also fulfilling its commitment to the smart meter program by budgeting for the commencement of replacement of smart meters in 2022.[119]

Again, the public policy responsiveness measures included on the Distribution OEB Scorecard and Team Scorecard demonstrate Hydro One's commitment to public policy responsiveness. Including, for example, the health and safety metric on the Team Scorecard. Hydro One has set aggressive targets for each of the measures, and those aggressive targets will ensure that Hydro One maintains its commitment to public policy responsiveness over the course of the plan.

The Distribution System Plan also contains a list of 18 capital projects that reflect Hydro One's public policy responsiveness. They include the following 9, and 9 others listed in the Application:

1. Life Cycle Optimization & Operational Efficiency Projects ISD SR 13;
2. Distribution Lines Trouble Calls & Storm Damage Response Program ISD SR 07;
3. AMI Network Expansion ISD SA 03;
4. System Upgrades Driven by Load Growth ISD SS 02;
5. Joint Use and Line Relocation Program ISD SA 01;
6. Customer Service Regulatory Changes and Pricing Options ISD GP 30;
7. Distribution Line PCB Equipment Replacement Program ISD SR 08;
8. Distribution Station Demand Program ISD SR 01; and
9. Distribution System Modifications ISD SS 05.[120]

[118] Transcript, Day 1, June 11, p 18, ll 12-17.

[119] See: Distribution System Plan Section 3.8, Attachment SR-14: AMI Hardware Refresh.

[120] See: Distribution System Plan, Section 1.4, p 41 for a complete list.

(d) Financial Performance

The Application appropriately addresses the financial performance outcome objective. The Application allows Hydro One the opportunity to earn a fair return. Incentives are further provided through adoption of the ESM. Savings that result in a return on equity 100 basis points higher than OEB approved ROE are shared with customers. Further, the CISVA also ensures that Hydro One is incentivized to meet its financial targets, while also ensuring that rate payers are given protection.

Again, the financial performance measures included on the Distribution OEB Scorecard and Team Scorecard demonstrate Hydro One's commitment to financial performance. Hydro One has set aggressive targets for each of the measures, and those aggressive targets will ensure that Hydro One maintains its commitment to financial performance over the course of the plan. See Issues 18-20 for further details.

The objective of greater efficiency and improved financial performance is also demonstrated by comparing Hydro One's historical performance to forecast OM&A costs. Hydro One's proposed 2018 rebased OM&A spend is $16.3M lower than the 2017 approved OM&A spend. Going forward, these amounts will be subject to stretch factor adjustments which, again, are intended to drive further efficiencies and challenge the company to maintain and improve financial performance.[121] Hydro One's capital expenditures have also been set at the lowest level possible to maintain the condition of its distribution assets.[122] This approach also presents a significant challenge for the company, and creates an environment where innovation and change management are the types of behaviours that must be relied on in order to meet scorecard metrics, and achieve improved performance.

[121] See I-38-SEC-70, Table 1.

[122] See Issue 30 for further details of Hydro One's capital expenditures.

**Issue 18. Are the metrics in the proposed additional scorecard measures appropriate and do they adequately reflect appropriate outcomes?**

**Issue 19. Are the proposals for performance monitoring and reporting adequate and do the outcomes adequately reflect customer expectations?**

**Issue 20. Does the Application promote and incent appropriate outcomes for existing and future customers including factors such as cost control, system reliability, service quality, and bill impacts?**

By way of background, there are three relevant scorecards (collectively, the "scorecards"):

1. The Electricity Distributor Scorecard – which is the scorecard created from the annual Reporting and Record-keeping Requirements ("RRR") filings with the Board;

2. The Distribution OEB Scorecard – which is the additional scorecard proposed in this Application; and

3. The Team Scorecard – which is Hydro One's internal corporate scorecard.

(a) <u>The Additional Scorecard Measures are Appropriate</u>

Hydro One's proposed additional scorecard measures in the Distribution OEB Scorecard are appropriate and adequately reflect appropriate outcomes, through alignment to the RRF, and to the key considerations in the Handbook. Hydro One's Application has a number of initiatives that control costs, increase productivity, and maintain (and, in fact, improve) levels of reliability. These are all outcomes that customers have indicated they value, and which are reflected in the scorecards.

The measures in the Distribution OEB Scorecard were selected from internal and external sources that include Hydro One's past performance management metrics, benchmarking studies, and the scorecards and metrics of other utilities in the public domain. The selection process was also guided by the Handbook, which indicates the OEB will evaluate proposed outcomes and performance metrics using four key considerations:

1. A focus on strategy and results, not activities;
2. The need to demonstrate continuous improvement;
3. Outcomes that are demonstrated to be of value to customers; and
4. Performance metrics that will accurately measure whether outcomes are being achieved, and that include stretch goals to demonstrate enhanced effectiveness and continuous improvement.[123]

Within the RRF, the proposed measures from the Distribution OEB Scorecard align with the Customer Focus and Operational Effectiveness outcomes and the measures are complementary to the existing measures in the Electricity Distributor Scorecard. For example, the Electricity Distributor Scorecard measures Customer Satisfaction while the Distribution OEB Scorecard measures four additional components of Customer Satisfaction: 1) Customer Satisfaction – Perception Survey; 2) Handling of Unplanned Outages; 3) Call Center Customer Satisfaction; and 4) My Account Customer Satisfaction.

Through the reporting and governance structure discussed below, Hydro One's management will be able to assess progress towards targets and determine corrective action, when warranted, to help ensure that a performance or outcome measure is effective and does not result in unintended consequences, ensuring the ongoing appropriateness of the selected measures.

The DSP provides a detailed explanation of the additional proposed metrics looking at each Customer Focus and Operational Effectiveness measure and explaining why it was selected for inclusion by Hydro One[124], and ties particular investments to the business objectives identified in the Table below. Hydro One also prepared the table below to demonstrate how the performance measures are related to Hydro One's business objectives, which are in turn related to the RRF outcomes:[125]

[123] Distribution System Plan, Section 1.4, pp 1 to 2.
[124] Distribution System Plan, Section 1.4, pp 4 to 12.
[125] Distribution System Plan, Section 1.4, Table 16.

**Table 16 - Hydro One Business Objective Alignment with Performance Measures**

| RRF Outcomes | Hydro One Business Objectives | Performance Measures |
|---|---|---|
| **Customer Focus**<br><br>Services are provided in a manner that responds to identified customer preferences | Improve current levels of customer satisfaction | • Handling Unplanned Outages Satisfaction %<br>• Call Centre Customer Satisfaction %<br>• My Account Customer Satisfaction %<br>• New Residential/Small Business Services Connected on Time<br>• Scheduled Appointments Met On Time<br>• Telephone Calls Answered On Time<br>• First Contact Resolution<br>• Billing Accuracy<br>• Customer Satisfaction Survey Results |
| | Engage with our customers consistently and proactively | • Used to inform outcomes |
| | Ensure our investment plan reflects our customers' needs and desired outcomes | • Used to inform outcomes |
| **Operational Effectiveness**<br><br>Continuous improvement in productivity and cost performance is achieved; and distributors deliver on system reliability and quality objectives | Actively control and lower costs through OM&A and capital efficiencies | • Total Cost per Customer<br>• Total Cost per km<br>• OM&A per Customer<br>• OM&A per km of Line<br>• Pole Replacement –Cost per Unit<br>• Vegetation Management – Cyclical Cost per km Line Clearing<br>• Station Refurbishments – Cost per MVA |

| RRF Outcomes | Hydro One Business Objectives | Performance Measures |
|---|---|---|
| | Achieve and maintain employee engagement | • Drives company culture leading to improved Operational Effectiveness |
| | Drive towards achieving an injury -free workplace for employees and the public | • Drives company culture leading to improved Operational Effectiveness<br>• Level of Public Awareness<br>• Level of Compliance with Reg 22/04<br>• Number of General Public Incidents |
| | Provide reliability consistent with customer requirements. | • Average Number of Times that Power to a Customer is Interrupted<br>• Average Number of Hours that Power to a Customer is Interrupted<br>• Rural and Urban SAIFI<br>• Rural and Urban SAIDI<br>• Large Customer Interruption Frequency<br>• Number of Substation Caused Interruptions<br>• Number of Vegetation Caused Interruptions<br>• Number of Line Equipment Caused Interruptions<br>• Distribution System Plan Implementation Progress |
| **Public Policy Responsiveness**<br><br>Distributors deliver on obligations mandated by government (e.g., in | Ensure compliance with all codes, standards, and regulations | • Monitored by the applicable business unit(s) |
| | Partner in the economic success of Ontario | • Monitored by the applicable business unit(s) |

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| RRF Outcomes | Hydro One Business Objectives | Performance Measures |
|---|---|---|
| legislation and in regulatory requirements imposed further to Ministerial directives to the Board). | Sustainably manage our environmental footprint | • Net cumulative energy savings<br>• Renewable Generation Connection Impact Assessments completed on time<br>• New Micro-embedded facilities connected on time |
| **Financial Performance**<br><br>Financial viability is maintained; and savings from operational effectiveness are sustainable. | Achieve the ROE allowed by the OEB | • Current Ratio (Current Assets/Current Liabilities)<br>• Return on Equity (deemed)<br>• Return on Equity (achieved)<br>• Total Debt to Equity |

[1]

The clear link between the RRF outcomes, Hydro One's business objectives, and the performance measures selected by Hydro One demonstrates the appropriateness of the selected scorecard measures and their ability to adequately reflect appropriate outcomes.

The most recent version of each Scorecard follows:[126]

[126] I-18-SEC-29 contains the most recent Electricity Distributor Scorecard and Distribution OEB Scorecard. The 2017 Team Scorecard is located in the Application at C1-2-1, Attachment 4.

# Electricity Distributor Scorecard

| Performance Outcomes | Performance Categories | Measures | | ACTUALS 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | TARGETS 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Customer Focus<br>Services are provided in a manner that responds to identified customer preferences. | Service Quality | New Residential/Small Business Services Connected on Time | | 92.00% | 95.70% | 97.40% | 97.40% | 97.50% | 98.60% | 98.06% | 98.0% | 98.0% | 98.0% | 98.0% | 98.0% | 98.0% |
| | | Scheduled Appointments Met On Time | | 93.90% | 98.60% | 98.40% | 99.30% | 98.50% | 99.50% | 98.94% | 99.0% | 99.0% | 99.0% | 99.0% | 99.0% | 99.0% |
| | | Telephone Calls Answered On Time | | 81.40% | 83.40% | 63.90% | 69.60% | 76.40% | 74.20% | 81.85% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% | 80.0% |
| | Customer Satisfaction | First Contact Resolution* | | | | 78.30% | 79.00% | 82.00% | 82.00% | 85.00% | 85.0% | 86.0% | 87.0% | 87.0% | 88.0% | 88.0% |
| | | Billing Accuracy | | | | | 94.63% | 98.59% | 99.04% | 99.28% | 99.0% | 99.0% | 99.0% | 99.0% | 99.0% | 99.0% |
| | | Customer Satisfaction Survey Results* | | | | 87.00% | 85.00% | 85.00% | 84.00% | 85.00% | 86.0% | 87.0% | 87.5% | 88.0% | 88.5% | 89.0% |
| Operational Effectiveness<br>Continuous improvement in productivity and cost performance is achieved; and distributors deliver on system reliability and quality objectives. | Safety | Level of Public awareness | | | | | | 81.00% | 81.00% | 81.00% | N/A | N/A | N/A | N/A | N/A | N/A |
| | | Level of Compliance with Ontario Regulation 22/04 [1] | | NI | NI | NI | NI | C | NI | C | C | C | C | C | C | C |
| | | Serious Electrical Incident Index | Number of General Public Incidents | 8 | 6 | 7 | 4 | 5 | 11 | 8 | N/A | N/A | N/A | N/A | N/A | 4 |
| | | | Rate per 10, 100, 1000km of line | 0.066 | 0.051 | 0.059 | 0.033 | 0.042 | 0.091 | 0.007 | N/A | N/A | N/A | N/A | N/A | N/A |
| | System Reliability** | Average Number of Hours that Power to a Customer is Interrupted [2] | | | 6.98 | 6.88 | 7.49 | 7.65 | 7.83 | 7.95 | 7.5 | 7.0 | 6.7 | 6.4 | 6.1 | 5.8 |
| | | Average Number of Times that Power to a Customer is Interrupted [2] | | | 2.61 | 2.49 | 2.70 | 2.63 | 2.47 | 2.32 | 2.6 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 |
| | Asset Management | Distribution System Plan Implementation Progress* | | | | Under Review | 97% | 116% | 105% | 103% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | Cost Control | Efficiency Assessment | | | 5 | 5 | 5 | 5 | 4 | August | 5 | 5 | 5 | 5 | 5 | 5 |
| | | Total Cost per Customer [3] | | $1,072 | $1,041 | $1,046 | $ 1,069 | $ 983 | $ 987 | August | N/A, PEG | N/A, PEG | N/A, PEG | N/A, PEG | N/A, PEG | N/A, PEG |
| | | Total Cost per km of Line [3] | | $11,064 | $10,741 | $10,682 | $ 10,916 | $ 10,198 | $ 10,551 | August | N/A, PEG | N/A, PEG | N/A, PEG | N/A, PEG | N/A, PEG | N/A, PEG |
| Public Policy Responsiveness<br>Distributors deliver on obligations mandated by government (e.g. in legislation and in regulatory requirements imposed further to Ministerial directives to the Board). | Conservation & Demand Management | Net Cumulative Energy Savings [4] | | | | | | 17.27% | 42.50% | 60.50%*** | 60.5% | 75.9% | 88.9% | 101.0% | N/A, See Footnote | N/A, See Footnote |
| | Connection of Renewable Generation | Renewable Generation Connection Impact Assessments Completed On Time | | 95.79% | 99.39% | 100.00% | 100.00% | 100.00% | 100.00% | 99.71% | 99.0% | 99.0% | 99.0% | 99.0% | 99.0% | 99.0% |
| | | New Micro-embedded Generation Facilities Connected On Time | | | | 99.71% | 100.00% | 99.78% | 99.22% | 99.77% | 99.0% | 99.0% | 99.0% | 99.0% | 99.0% | 99.0% |
| Financial Performance<br>Financial viability is maintained; and savings from operational effectiveness are sustainable. | Financial Ratios | Liquidity: Current Ratio (Current Assets/Current Liabilities) | | 0.99 | 0.99 | 1.00 | 0.99 | 0.97 | 0.80 | 0.55 | N/A | N/A | N/A | N/A | N/A | N/A |
| | | Leverage: Total Debt (includes short-term and long-term debt) to Equity Ratio | | 1.34 | 1.30 | 1.35 | 1.31 | 1.19 | 1.46 | 1.39 | N/A | N/A | N/A | N/A | N/A | N/A |
| | | Profitability: Regulatory Return on Equity | Deemed (included in rates) | 9.66% | 9.66% | 9.66% | 9.66% | 9.30% | 9.19% | 8.78% | N/A | N/A | N/A | N/A | N/A | N/A |
| | | | Achieved | 8.80% | 8.72% | 8.00% | 6.26% | 8.77% | 8.41% | 7.94% | N/A | N/A | N/A | N/A | N/A | N/A |

**Notes:**

1. Compliance with Ontario Regulation 22/04 assessed: Compliant (C); Needs Improvement (NI); or Non-Compliant (NC).
2. The trend's arrow direction is based on the comparison of the current 5-year rolling average to the fixed 5-year (2010 to 2014) average distributor-specific target on the right. An upward arrow indicates decreasing reliability while downward indicates improving reliability.
3. A benchmarking analysis determines the total cost figures from the distributors' reported information. These figures were generated by the Board based on the total cost benchmarking analysis conducted by Pacific Economics Group Research, LLC and based on the distributor's annual reported information.
4. The CDM measure is based on the new 2015-2020 Conservation First Framework. This measure is under review and subject to change in the future. Since the Framework ends in 2020, the target for this application aligns with the end year of 2020.

*Self-defined metric; no common industry standard.

**System Reliability Measures were restated under the direction of the OEB to exclude both Loss of Supply and Force Majeure - results prior to 2012 were not restated.

***To be verified by the IESO.

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# Dx OEB Scorecard

| RRFE Outcomes | | Measure | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Target 2017 | Target 2018 | Target 2019 | Target 2020 | Target 2021 | Target 2022 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Customer Focus | Customer Satisfaction | Customer Satisfaction - Perception Survey % | 77% | 78% | 80% | 67% | 70% | 66% | 71% | 72% | 74% | 75% | 75% | 76% | 76% |
| | | Handling of Unplanned Outages Satisfaction % | 81% | 79% | 78% | 75% | 76% | 75% | 76% | 76% | 77% | 78% | 78% | 79% | 79% |
| | | Call Centre Customer Satisfaction % | 85% | 84% | 82% | 81% | 85% | 86% | 90% | 86% | 87% | 88% | 88% | 89% | 89% |
| | | My Account Customer Satisfaction % | 81% | 84% | 64% | 75% | 78% | 79% | 78% | 81% | 83% | 84% | 84% | 85% | 85% |
| Operational Effectiveness | Cost Control | Pole Replacement - Gross Cost Per Unit in $ | 8,541 | 8,441 | 7,824 | 8,928 | 8,392 | 8,350 | 8,431 | 8,640 | 8,733 | 8,908 | 9,080 | 9,256 | 9,437 |
| | | Vegetation Management - Gross Cyclical Cost per km $ | | | New Program | | | | 7,888 | New Program | 3,600 | 3,643 | 3,687 | 2,400 | 2,428 |
| | | Station Refurbishments - Net Cost per MVA in $* | 386,000 | - | 318,000 | 348,000 | 500,000 | 557,000 | 443,000 | 461,000 | 454,000 | 447,000 | 440,000 | 434,000 | 427,000 |
| | | OM&A dollars per customer | 456 | 451 | 498 | 551 | 453 | 455 | 430 | 449 | 455 | TBD | TBD | TBD | TBD |
| | | OM&A dollars per km of line** | 4,723 | 4,676 | 5,109 | 5,654 | 4,719 | 4,773 | 4,605 | 4,712 | 4,773 | TBD | TBD | TBD | TBD |
| | System Reliability | Number of Line Equipment Caused Interruptions | 7,681 | 7,316 | 7,266 | 8,311 | 8,164 | 7,674 | 8,786 | 8,200 | 8,200 | TBD | TBD | TBD | TBD |
| | | Number of Vegetation Caused Interruptions | 6,113 | 6,953 | 5,791 | 6,540 | 6,944 | 7,439 | 7,800 | 6,900 | 6,500 | TBD | TBD | TBD | TBD |
| | | Number of Substation Caused Interruptions | 159 | 144 | 129 | 158 | 141 | 103 | 123 | 145 | 145 | TBD | TBD | TBD | TBD |
| | | SAIDI - Rural - duration in hours | 8.2 | 8.2 | 8.1 | 8.6 | 9.1 | 9.1 | 9.4 | 9.1 | 9.0 | TBD | TBD | TBD | TBD |
| | | SAIFI - Rural - frequency of outages | 3.3 | 3.3 | 3.0 | 3.4 | 3.4 | 3.1 | 3.0 | 3.4 | 3.4 | TBD | TBD | TBD | TBD |
| | | SAIDI - Urban - duration in hours | 2.7 | 3.2 | 2.2 | 2.8 | 2.8 | 2.4 | 2.4 | 2.8 | 2.8 | TBD | TBD | TBD | TBD |
| | | SAIFI - Urban - frequency of outages | 1.6 | 1.7 | 1.6 | 2.3 | 1.4 | 1.6 | 1.4 | 1.7 | 1.7 | TBD | TBD | TBD | TBD |
| | | Large Customer Interruption Frequency (LDA's) - frequency of outages | New Measure | | 118 | 147 | 228 | 136 | N/A*** | 143 | 143 | TBD | TBD | TBD | TBD |

*There were no station refurbishment units matching the criteria completed in 2012

**Number of line kms are based on the annual OEB Yearbook of Electricity Distributors' report, with 2017 and 2018 targets based on 2015 line km actuals.

***Please refer to Undertaking JT 3.1-1. Hydro One recommended a normalized metric and provided the 2017 actual results in the Undertaking response.

# Team Scorecard



## 2017 Team Scorecard

| Corporate Goal | Component Weight | Definition | Measure | Sub Component Weight | 2017 Performance Levels | | |
|---|---|---|---|---|---|---|---|
| | | | | | Threshold | Budget | Maximum |
| **Health and Safety *** | 10% | Recordable Incidents | Incidents per 200,000 hours | 100% | 1.6 | 1.1 | 1.0 |
| **Work Program** | 25% | Reliability – Tx (SAIDI) average length of unplanned interruptions to multi-circuit supplied delivery points | Minutes per Delivery Point | 25% | 10.0 | 9.6 | 9.2 |
| | | Reliability -Dx (SAIDI) average length of outages in hours that a customer experiences | Hours per Customer | 25% | 7.8 | 7.5 | 7.2 |
| | | Tx In Service Additions Delivery Accuracy | Variance (%) to approved budget of $931M (Tx Application) | 25% | +/- 7% | +/- 5% | +/- 2% |
| | | Dx In Service Additions Delivery Accuracy | Variance (%) to approved budget of $663M | 25% | +/- 6% | +/- 4% | +/- 2% |
| **Net Income** | 30% | Net Income to Common Shareholders | $M | 100% | Note 1 | Note 1 | Note 1 |
| **Productivity** | 10% | Productivity Savings (Capital and OM&A) | $ | 100% | $64.3 (-10%) | $70.7 | $77.7 (+10%) |
| **Customer** | 25% | Dx Satisfaction - Improve overall Small and Residential Dx customer satisfaction | Customer Satisfaction | 50% | 70% | 72% | 75% |
| | | Tx Satisfaction - Improve overall Large Tx customer satisfaction | Customer Satisfaction | 50% | 80% | 82% | 85% |

** If the company has a fatality, the attained Safety measure will be reduced by 50% based on the findings of the System Investigation*
*Note 1: As we are a public company, we cannot communicate full year net income budgets widely*



1

(b) The proposals for performance monitoring and reporting are adequate

A robust performance monitoring and reporting process is described in the Distribution System Plan, Section 1.4, Attachment 1 and is designed to drive increased accountability for management and provide transparency for the OEB and for Hydro One's customers. Alignment of the measures from the Electricity Distributor Scorecard and the proposed additional scorecard measures in the Distribution OEB Scorecard to the Team Scorecard, demonstrates the promotion and incentivisation of appropriate outcomes in the Application, as management compensation is directly impacted by Hydro One achieving the targets it has set for itself on these outcome measures.

The annual updates to the Electricity Distributor Scorecard, and the publication of the same, demonstrates the adequacy of the performance reporting. More frequent reporting would be too burdensome whereas less frequent reporting would not provide regular enough updates. This also aligns with the OEB reporting period. The annual updates to the Electricity Distributor Scorecard filed with the OEB, and the process established in the Distribution System Plan, Section 1.4, Attachment 1 for reporting on the scorecards, and the publication of the same, demonstrate the adequacy of the performance reporting. The metrics on each of the scorecards are clear, visible, and transparent, and support Hydro One's commitment to performance reporting.[127]

Mr. Bowness testified, from an operations perspective, on how recent changes within the organization are now far more focused on achieving outcomes measured through scorecard metrics:

> … Historically, we did focus in on the unit production rates, which doesn't necessarily yield the best outcome. So if you look at a pole replacement unit cost, if you need to optimize and make sure you come into the OEB here and make sure that we're able to say that our unit cost numbers is bang-on, right, you may drive behaviour on looking at the less expensive poles to replace, the ones that are near the roads, the ones that have easier access, the ones that are in the better soil conditions, but what we're really focusing in on going forward is the balanced view of the outcomes, so within our scorecard going forward, you see the focus on

[127] Transcript, Day 1, June 11, p 58, ll 4-6.

> reliability, you see the focus on customer service, right, so if we can deliver the right pole replacements and keep our unit costs in check, then -- then that's great for the customer, it's great for reliability, which is what the customer is buying, that's their product, and we're making sure we're balancing the cost that we have for unit costs.
>
> So I think the framework and the scorecard going forward which focuses in on unit costs and focuses on the outcomes from a product perspective is going to drive the right behaviours within our company.[128]

The scorecard metrics, that Mr. Bowness is discussing above, for cost control, track Hydro One's largest work programs including pole replacement, station refurbishment, and vegetation management. The same programs that received the bulk of the attention during cross-examination of the Asset Management Panel, and which are discussed in detail in response to Issue 30.

(c) Promotion and incentivization of appropriate outcomes

The Application promotes and incentivizes appropriate outcomes through the Team Scorecard, built-in productivity targets, and the ESM.

The Team Scorecard has a direct impact on management compensations, and therefore management is incentivized to meet the targets that Hydro One has set for itself. The measures in the Team Scorecard reflect each of cost control, system reliability, service quality and bill impacts:

- Cost control is reflected in the in-service additions measures, which comprise 12.5% of the component weight of the scorecard.[129]

- System reliability is reflected in the reliability measures, which comprise 12.5% of the component weight of the scorecard.[130]

[128] Transcript, Day 6, June 19, p 156, l 28 to p 157, l 21.
[129] C1-2-1, Attachment 4.
[130] C1-2-1, Attachment 4.

- Service quality is reflected in the customer satisfaction metrics, which combine to account for 25% of the component weight of the scorecard.[131]

- Bill impacts are reflected in the productivity target, which is 10% of the component weight of the scorecard.[132]

Other team scorecard metrics, such as Health and Safety, and Net Income reflect other important outcomes.[133]

**Issue 21. Does the Application adequately account for productivity gains in its forecasts and adequately include expectations for gains relative to external benchmarks?**

As discussed in response to Issue 25, Hydro One's Application contains forecasted productivity gains of approximately $398M over the plan, which are reflected in Hydro One's forecasted costs. During cross-examination, Mr. Lopez explained the enhancements Hydro One has made to its productivity governance since the last application:

> … so if I take a step back, Hydro One started their productivity push in late 2015, and we had made some strides forward in 2016, saving around $24 million in 2016, but it was still in its early infancy. In 2017 it is significantly larger, so we grew that $24 million to $118 million in that period of time. How we did that was by improving the governance, the transparency around productivity, how it's recorded, how it's tracked, how we hold people accountable, all the way from when we identified the initiative through to incentives, so it is linked to our team's scorecard, so people's pay is at risk if these targets are not met.
>
> Their budgets are adjusted. As soon as the productivity initiative is approved, their forecasts are reduced by those numbers, so now they're on the hook to deliver those outcomes.[134]

[131] C1-2-1, Attachment 4.

[132] C1-2-1, Attachment 4.

[133] C1-2-1, Attachment 4.

[134] Transcript, Day 1, June 11, p 103, l 26 to p 104, l 13.

In addition, Hydro One's proposed Revenue Cap Index, includes a productivity "stretch" factor of 0.45, which applies to the capital related revenue requirement and the OM&A escalation.[135] This stretch factor is based on Hydro One's total cost benchmarking performance, as evidenced in the expert reports of PSE.[136] The adequacy of this stretch factor is supported by the expert report of PEG, filed by Board Staff,[137] and the Board's 2016 Benchmarking Update for Determination of 2017 Stretch Factor Rankings,[138] which both conclude that Hydro One's stretch factor should be 0.45.

**Issue 22. Has the applicant adequately demonstrated its ability and commitment to manage within the revenue requirement proposed over the course of the custom incentive rate plan term?**

Hydro One has committed to managing within the revenue requirement proposed over the course of the custom incentive rate plan term in a reasonable and appropriate manner. Hydro One is committed to spending within the capital portion of the revenue requirement as it is at risk for capital over-spending during the plan, and will have to justify any In-Service Additions ("ISA") over approved levels in the next rate Application. Further, as Mr. Bowness testified, Hydro One has put more focus on ISA levels:

> … We've put a lot more focus on ISA. We've put a lot more focus on redirection. We were really trying to manage within our means. And if we look at the percentage dealt over the last two years, which is the 2016 and '17 period, we were within 1.3 percent or less than 2 percent variability over that couple year period.
>
> So there is a lot more focus and attention around managing within the envelope. 2015 is the anomalous year, $104 million within that one year, and we did explain that within VECC 28 that the two main drivers for that were external factors of joint use and relocations, as well as trouble calls and storm damage.[139]

At the same time, the CISVA protects against under spending. Hydro One is also incentivized to spend within the OM&A portion of the revenue requirement as it will not be compensated for

[135] Q-1-1, p 7, Table 2.

[136] A-3-2, Attachments 1 and 2.

[137] M1.

[138] Exhibit J 1.1.

[139] Transcript, Day 6, June 19, p 154, ll 13 to 24.

overspending, and the ESM shares the benefits of savings, above the "dead-band", with rate-payers.

Further, Hydro One has robust internal processes to ensure that it has the ability and is committed to managing within the revenue requirement over the course of the plan. Hydro One's redirection process, which is outlined in response to Issue 29, ensures that unexpected events, such as weather related events, do not cause Hydro One to overspend.

Hydro One's commitment to spend within the revenue requirement is also demonstrated by its historical spending. Hydro One's capital spending, over the course of the last rate period, was approximately equal to the approved amount. Hydro One's OM&A has been declining over the course of the last rate period, to the point where it is meaningfully below approved levels. Hydro One's in-service amounts were high in the first two years of the last rate plan, however, Hydro One has brought that amount under control and the in-service amount was $15M below approved in 2017.[140]

Hydro One's Productivity and Savings forecast further demonstrates its commitment to manage the revenue requirement. As referenced in I-25-Staff-123, ratepayers are assured through Hydro One's commitment to achieving the forecast savings targets. This commitment is demonstrated by:

a) The enhanced governance and visibility in Hydro One's productivity reporting process;

b) Incremental productivity savings being identified in the updated evidence filed on December 21st, 2017;

c) Embedding the forecast savings into the business plan which puts the achievement risk on Hydro One's Net Income and not on the ratepayer;

d) Including the savings and associated net income targets on the Team scorecard for management staff, which puts their compensation ; and

[140] See: I-24-SEC-38 and I-38-SEC-70.

e) Ratepayers are protected through the Custom IR mechanism which allows for increases in OM&A, limited to inflation less productivity. If Hydro One fails to achieve its productivity savings it will not impact customer rates.

Additional customer protections are discussed in response to Issue 7, part (f). Productivity and savings details are further expanded upon and discussed in Issue 25.

## D. DISTRIBUTION SYSTEM PLAN

### Issue 23. Was the customer consultation adequate and does the Distribution System Plan adequately address customer needs and preferences?

(a) Adequacy of the Consultation Process

As discussed in the Distribution System Plan, Section 1.3.2, IPSOS was retained to "assist with the design, execution, documentation, and analysis of feedback for the customer engagement and engagement process." IPSOS is a global independent market research company, ranked third worldwide among research firms, managed and controlled by research professionals through offices in eighty-seven countries.[141]

The objectives of the customer engagement were to:

1. Establish the process, vehicles, and conditions for effective engagement that captures the feedback of all distribution customer segments;

2. Provide every customer with an opportunity to participate;

3. Adopt a research-based approach to engagement to gather the data necessary to support an informed and representative view;

4. Contribute to unbiased analysis of customer input by engaging external research professionals; and

5. Demonstrate flexibility and provide tangible evidence of Hydro One's willingness to listen, learn and establish plans that reflect and respect the needs of its customers.[142]

These objectives were met by utilizing the following methods of collecting customer feedback:

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[141] Distribution System Plan, Section 1.3.2.

[142] Distribution System Plan, Section 1.3, Attachment 1, IPSOS Report, p 5.

1. Phone Surveys – collected random and representative sample of Residential (500 customers) and Small Business customers (200 customers);[143]

2. Online Surveys - an online workbook was used to survey a representative sample of Residential and Seasonal customers drawn from an on-line panel sample (1602 customers);[144]

3. Focus Groups for Residential (four focus groups)[145] and Small Business customers (four focus groups);[146]

4. Open Link Online Survey for Residential/Seasonal (16,795 customers), and Small Business (406 customers).[147] For customers who did not wish to complete the survey online, there was an option to complete the survey by phone or a paper copy;

5. Nine in-person workshops for Large Distribution Accounts (40 customers), Local Distribution Companies ("LDC") (20 customers), and Commercial & Industrial customers (C&A) conducted by IPSOS (54 customers);[148] and

6. On-line Survey for Large Distribution Accounts (three customers), Local Distribution Companies (3 customers), and Commercial & Industrial (79 customers) who did not attend the in-person workshops.[149]

Hydro One's Customer Engagement Panel also testified about ongoing efforts that Hydro One is making to obtain feedback from its customers through less formal customer consultation processes. Hydro One's Customer Engagement Panel also testified about ongoing efforts that Hydro One is making to obtain feedback from its customers through less formal customer consultation processes. Mr. Pugliese explained that ongoing customer satisfaction surveys and

[143] Distribution System Plan, Section 1.3, Attachment 1, IPSOS Report, p 30.
[144] Distribution System Plan, Section 1.3, Attachment 1, IPSOS Report, p 55.
[145] Distribution System Plan, Section 1.3, Attachment 1, IPSOS Report, p 74.
[146] Distribution System Plan, Section 1.3, Attachment 1, IPSOS Report, p 100.
[147] Distribution System Plan, Section 1.3, Attachment 1, IPSOS Report, p 28.
[148] Distribution System Plan, Attachment 1, IPSOS Report, pp 28 and 130.
[149] Distribution System Plan, Section 1.3, Attachment 1, IPSOS Report, p 28.

other forms of customer engagement are used and that recent results have been positive and customer satisfaction scores are continuing to improve and the trend is positive.[150]

Mr. Merali's testimony addressed changes Hydro One is making to how it interacts with its large customers. Internal improvements have now been introduced that centralize management of this customer relationship. Changes have improved access to accurate customer contact information. Centralization has also improved interactions with Hydro One's operations group so that Hydro One can be more responsive to key concerns to this customer group such as planned and unplanned outage information.[151]

The comprehensive approach taken in the IPSOS customer engagement process gave Hydro One an accurate account of their customer needs and preferences. As noted in the IPSOS Report:

1. Keeping costs low was the top priority for residential, small business and aboriginal customers.[152] For those customers, reducing the number of outages was the second priority.[153] Reducing the length of outages was the third priority for residential and small business customers, it was fifth for aboriginal customers.[154]

2. Regarding large customers, keeping costs low was also a top priority for LDA and C&I customers, although reliability concerns were close second and third priorities. LDC/DGs top priorities were reducing the number and frequency of interruptions, cost was their third priority.[155]

3. IPSOS also obtained feedback from customers regarding particular bill impacts. For example, a majority of residential and small business customers who provide an opinion

[150] Transcript, Day 4, June 15, p 128 ll 7 to 17. See also: A-4-1, p 3 for a list of ongoing customer engagement activities.

[151] Transcript, Day 4, June 15, p 183, l 28 to p 184, l 27.

[152] Distribution System Plan Section 1.3, Attachment 1, IPSOS Report, pp 48, 85, 111.

[153] Distribution System Plan Section 1.3, Attachment 1, IPSOS Report, pp 48, 85, 111.

[154] Distribution System Plan Section 1.3, Attachment 1, IPSOS Report, pp 48, 85, 111.

[155] Distribution System Plan Section 1.3, Attachment 1, IPSOS Report, p 121.

would accept a 1.1% monthly bill increase, or $2.00 per month, in order to at least maintain reliability and customer service levels.[156]

4. A majority of customers told IPSOS that they viewed their current (2016) reliability levels as acceptable. However, 25% of "Informed" residential customers viewed their reliability levels as unacceptable.[157]

(b) Incorporation of customer needs and preferences into the Distribution System Plan

As Ms. Bradley testified during cross-examination, the Distribution System Plan was selected by Hydro One because Hydro One believed it "met our requirements, to be responsible stewards of the assets, met our customer needs and preferences, and had an acceptable rate impact."[158]

Indeed, the evidence makes clear that this Application is an excellent example of clear incorporation of customer needs and preferences into the Distribution System Plan. The best evidence of the incorporation of customer needs and preferences is the process followed by Hydro One in setting the level of capital spending that is reflected in the Distribution System Plan. A chronology of that process is set out in response to I-24-SEC-36.[159]

Hydro One retained IPSOS in early 2016 to assist in the collection of customer needs and preferences for the purposes of the Application, including the Distribution System Plan.[160]

IPSOS's draft customer engagement report was provided to Hydro One on July 18, 2016, and the key themes identified through the customer engagement process were shared with Hydro One's asset management leadership on July 19, 2016.[161] As Ms. Guiry from IPSOS testified, the data was largely complete by that time, with the exception of the "open link" survey that was

[156] Distribution System Plan Section 1.3, Attachment 1, IPSOS Report, pp 10, 53.
[157] Distribution System Plan Section 1.3, Attachment 1, IPSOS Report, p 9.
[158] Transcript, Day 7, June 21, p 30, ll 17 to 20.
[159] I-24-SEC-36.
[160] I-24-SEC-36, p 1.
[161] I-24-SEC-36, p 2.

promoted by Hydro One and completed by volunteer customers.[162] As Ms. Guiry went on to explain, it was important for Hydro One to have results by a certain date, and while they had "amassed a lot of that open link data, there wasn't sufficient time to fully process it all."[163] There was no suggestion during the hearing that the key themes or data presented to Hydro One on July 19, 2016 were otherwise incomplete in anyway.

Hydro One was completing its investment calibration in mid-July 2016 when it received the key themes and draft report from IPSOS. Hydro One then completed prioritization and risk optimization of candidate investments in mid-August, around the time when the final IPSOS report arrived. There was then engagement with the rest of Hydro One's enterprise through mid-September. The CEO/CFO then reviewed the potential investment plans, Plan A and Plan B on September 27/28, 2016.[164]

After the CEO/CFO review, the determination was made to recommend the Plan A investment plan to the Board of Directors.[165] This plan would have set the capital investment at a level that would allow Hydro One to improve the overall condition of its assets and improve reliability over the course of the plan, but with a relatively higher rate impact than other investment Plan alternatives.[166]

On October 11, 2016, the Board of Directors discussed Plan A with the Hydro One executive team. At that time, it was the considered view of the Board of Directors that the selection of Plan A did not adequately reflect Hydro One's customer needs and preferences, as reflected in the IPSOS study. Namely, it did not adequately reflect the customer's desires for lower costs.[167]

Hydro One took account of the Board of Directors comments, and conducted further scenario development, and explored opportunities to mitigate rate impacts. As a result, Hydro One developed the Plan B-Modified scenario, and prepared a conceptual - not fully developed - Plan C scenario.

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[162] Transcript, Day 5, June 18, p 65, ll 16 to 22.

[163] Transcript, Day 5, June 18, p 65, l 27 to p 66, l 9.

[164] I-24-SEC-36, p 2.

[165] I-3-SEC-4, Attachment 1, Submission to the Board of Directors, October 11, 2016, p 4.

[166] I-3-SEC-4, Attachment 1, Submission to the Board of Directors, October 11, 2016, p 6.

[167] See: I-24-SEC-36, p 2, and I-3-SEC-4, Attachment 2, Submission to Board of Directors, p 2, part B "Process to Date".

Plan B-Modified took the investment level of Plan B and shifted the capital spending so that the capital spend in 2018 would be relatively low as 2018 would be the year that the impact of load would be included in rates. Hydro One also committed to only spending at the level, which was the minimum level necessary to maintain asset condition for future generations. Hydro One also presented a Plan C scenario to the Board, and explained that the Plan C scenario would have an unacceptable and deteriorating impact on Hydro One's asset condition.[168] Based on the materials presented, and the features of the Plan B-Modified scenario, Hydro One's Board of Directors approved Plan B-Modified and a Business Plan was prepared and presented to the Board of Directors for approval on December 2, 2016.[169]

Steps were and continue to be taken to respond to customers' expectation that Hydro One do better without spending more money. That is what Hydro One has done with respect to its vegetation management program. As Mr. Bowness remarked regarding the vegetation management program:

> … I think something that's important here is between the time of submitting the evidence, which was based on a Board approval around maintaining reliability, we came up with a very innovative approach of implementing our new vegetation management strategy.
>
> We looked at the cost envelope that was submitted to the Board and we challenged ourselves to do better, and we've committed to doing better.[170]

Other examples of investments reflected in the Application that address the customer feedback received through the customer consultation process are identified in I-23-EnergyProbe-31, and include:

- Distribution modernization investments that enable system wide automation and incorporate emerging technologies to minimize the impact of outages and restore power

[168] See I-35-BOMA-31.

[169] I-24-SEC-36, p 2. The business plan is attached to the Application as A-3-1, Attachment 1. An updated business plan is attached as Q-1-1, Attachment 1.

[170] Transcript, Day 9, June 25, p 53, l 11 to 19.

more quickly through the installation of remotely controlled sectionalizing devices and fault locating sensors; and

- A worst performing feeder program will address feeder performance outliers to improve reliability for customers affected by poor performance as detailed in ISD SS-06 (DSP Section 3.8, see page 2687 of 2930).[171]

**Issue 24. Does Hydro One's investment planning process consider appropriate planning criteria? Does it adequately address the condition of distribution assets, service quality and system reliability?**

Yes Hydro One's investment planning process considers appropriate planning criteria. It does adequately address the condition of distribution assets, service quality, and system reliability, and attempts to balance these needs with customer concerns regarding cost and rate impacts. Hydro One's asset condition drives the level of spending that is being requested in this plan. Hydro One has a significant number of end of life assets, and maintaining overall asset condition requires a certain level of spending. Hydro One's response to this Issue outlines the planning process, and planning criteria. Further discussion of the planning process, including pacing of investments, occurs in response to Issue 29. The particular investments themselves are discussed in response to Issue 30.

Hydro One's investment planning process is outlined in detail in Section 2.1 of the Distribution System Plan.[172] In response to I-24-SEC-40, Hydro One filed 16 Attachments, which outline the investment planning process and the training that was provided to investment planners to assist them in their planning process.

As set out in Section 2.1 of the Distribution System Plan, the investment planning process consists of seven stages:

[171] I-23-EnergyProbe-31.

[172] Distribution System Plan, Section 2.1.

1. Strategic Context: Incorporation of strategic direction from Hydro One's Senior Executives and the OEB that is used to focus the identification of needs and appropriately prioritize the candidate investments;

2. Planning Assumptions: Incorporation of load forecast and economic assumptions to guide the development of investments;

3. Needs Assessment: Assessment of needs based on the existing assets, customer preferences, system requirements and other influences;

4. Investment Development: Development of alternative solutions and selected candidate investments to address the identified needs;

5. Investment Optimization: Prioritization of the proposed investments to yield an optimized investment plan;

6. Investment Approval and Implementation: Management of the investments within the optimized investment plan from final approval through to project completion; and

7. Performance Reporting: Monitoring of the plan through a set of performance metrics.[173]

At stage 3, Needs Assessment, Hydro One considers asset needs, customer needs and preferences, system needs (including regional planning) and other external influences to develop its investment needs.[174] When developing its asset needs, Hydro One considers asset condition risk, asset performance risk, asset criticality, and asset utilization risk.[175] Each risk is described in detail in the Distribution System Plan.[176] By taking a broad view of sources of needs, and of potential asset risks, Hydro One is able to ensure that its investment planning process adequately addressed asset condition, service quality, and system reliability.

[173] Distribution System Plan, Section 2.1, p 1.
[174] Distribution System Plan, Section 2.1.3, p 11.
[175] Distribution System Plan, Section 2.1.3, p 11.
[176] Distribution System Plan, Section 2.1.3, p 11-14.

Later in the investment planning process, at stage five, Investment Optimization, Hydro One then uses eight planning criteria to perform its investment optimization and produce an optimized investment plan. Those criteria are outlined at Table 34 of Section 2.1 of the Distribution System Plan along with the relative weightings given to each criteria:

**Table 34 - Hydro One's Prioritization Criteria and Weightings**

| Prioritization Criteria | Business Objectives | Weighting (Pts) | Weighting (%) |
|---|---|---|---|
| **Customer** | • Improve current levels of customer satisfaction<br>• Engage with our customers consistently and proactively<br>• Ensure our investment plan reflects our customers' needs and desired outcomes | 20 | 17% |
| **Safety** | • Drive towards achieving an injury - free workplace | 20 | 17% |
| **Reliability** | • Provide reliability consistent with customer requirements | 15 | 13% |
| **Productivity** | • Actively control and lower costs through OM&A and capital efficiencies | 15 | 13% |
| **Employees** | • Achieve and maintain employee engagement | 10 | 9% |
| **Shareholder Value** | • Ensure compliance with all codes, standards, and regulations<br>• Partner in the economic success of Ontario | 10 | 9% |
| **Environment** | • Sustainably manage our environmental footprint | 10 | 9% |
| **Financial Benefit** | • Achieve the ROE allowed by the OEB<br>• Manage planning and spending to mitigate customer impacts | 15 | 13% |

Those eight planning criteria reflect the four outcomes in the RRF as set out in Table 29 of Section 2.1 of the Distribution System Plan:

**Table 29 - RRF Outcomes and Hydro One Business Objectives**

| RRF Outcomes | Business Objectives |
|---|---|
| **Customer Focus** | **Customer**<br>• Improve current levels of customer satisfaction<br>• Engage with our customers consistently and proactively<br>• Ensure our investment plan reflects our customers' needs and desired outcomes |
| **Operational Effectiveness** | **Safety**<br>• Drive towards achieving an injury -free workplace for employees and the public |
| | **Reliability**<br>• Provide reliability consistent with customer expectations |
| | **Productivity**<br>• Actively control and lower costs through OM&A and capital efficiencies |
| | **Employees**<br>• Achieve and maintain employee engagement |
| **Public Policy Responsiveness** | **Shareholder Value**<br>• Ensure compliance with all codes, standards, and regulations<br>• Partner in the economic success of Ontario |
| | **Environment**<br>• Sustainably manage our environmental footprint |
| **Financial Performance** | **Financial Benefit**<br>• Achieve the ROE allowed by the OEB<br>• Manage planning and spending to mitigate customer impacts |

The Asset Management Panel witnesses explained during their testimony that not each of the planning criteria will apply to each investment.[177] But it is through the assessment of these

[177] Transcript, Day 6, June 19, p 172, l 22 to p 173, l 8.

various planning criteria that Hydro One is able to ensure that it addresses the condition of distribution assets, service quality and system reliability.

For example, when cross-examined about the appropriateness of the shareholder value criteria, Ms. Bradley testified that shareholder value is an appropriate criteria for the following reasons:

> I think in ensuring compliance with code standards and regulations it [shareholder value] is important to our customers. It is ensuring that the value of the company is maintained. It is consistent with the renewed regulatory framework. It does talk about sustainability of the company and financial performance, so this is looking at ensuring that we are meeting the codes and regulations and that it doesn't negatively impact -- it would be both our customers and the company.[178]

There was no cross-examination by any intervenor on the appropriateness of any of the other criteria.

For each investment planning criteria, and for each investment, Hydro One uses its consequence[179] and probability[180] taxonomy tables to quantify the level of risk being mitigated by a particular investment.[181] These tables allow Hydro One to assess risk mitigation over a wide range of investments from power systems, to customer, to information technology.

Mr. Jesus explained that Hydro One uses a product called “Copperleaf” to assist in this process. When cross-examined by Board Staff, Mr. Jesus explained that Hydro One ensures that the Copperleaf tool is used correctly by having enterprise-wide calibration sessions to level-set the risk assessments being made across units of business.[182] Ms. Bradley noted that these calibration sessions are just one of the quality and assurance tools used by Hydro One during their investment planning process.[183]

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178 Transcript, Day 6, June 19, p 180, ll 6 to 14.

179 I-24-Staff-89, p 3, Appendix A.

180 I-24-Staff-89, p 3, Appendix B.

181 I-24-Staff-89, p 3.

182 Transcript, Day 9, June 25, p 99, ll 16 to 27.

183 Transcript, Day 9, June 25, p 99, l 28 to p 100, l 3.

Hydro One also compares its use of the Copperleaf tool to others in the utility industry to ensure that it is following industry best practices when conducting its investment planning, as Mr. Jesus testified:

> So as part of the Copperleaf system, we are part of the users group that uses Copperleaf and Copperleaf is being used extensively in the utility industry. So we are staying abreast of the developments on that front from a risk assessment point of view, and our risk assessment tools are very much in line with what other utility are doing…[184]

It should be noted that, as Mr. Jesus explained during cross-examination, the optimization process addresses all capital and OM&A expenditures.[185]

**Issue 25. Does the Distribution System Plan adequately reflect productivity gains, benefit sharing and benchmarking?**

(a) Productivity Gains

Productivity gains are addressed in Section 1.4 of the Distribution System Plan,[186] and additional productivity updates were filed as part Q-1-1. All productivity initiatives were summarized in response to interrogatory I-25-Staff-123 and are repeated below:

[184] Transcript, Day 9, June 25, p 102, ll 17 to 25.
[185] Transcript, Day 6, June 19, p 181, ll 13 to 18.
[186] Distribution System Plan, Section 1.4.

| | Category in Rate Filing | Initiative Summary | Measurement and Expected Benefit | Updated Savings 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|
| Capital | Move to Mobile | Move to Mobile (Field Force) | Measures Labour Hours per Unit - Historical Baseline vs Actual<br>*Plan allocation to expected unit cost savings in New Connections, Joint Use line Relocations, Pole Replacement, Field Meter Service, Component Replacement* | $ 10.3 | $ 10.5 | $ 10.7 | $ 10.7 | $ 10.7 |
| | Procurement | Procurement | Lower Cost per Unit - Historical Baseline vs Actual<br>*Savings are estimated at a category level based on historical spend, expected and achieved negotiated savings, and updated per business plan assumptions (Capital program spend)* | $ 12.7 | $ 13.2 | $ 17.0 | $ 16.7 | $ 18.6 |
| | Information Technology | ISD Savings | Infrastructure Rationalization/Contract Reductions<br>*Expected capital allocation of negotiated reductions* | $ - | $ 0.3 | $ 0.3 | $ 0.3 | $ 0.3 |
| | Operations | Stations Efficiencies | Cost Reduction based on Historical spend<br>*Expected Capital allocation based on historical spend for OT reductions and Stations efficiencies* | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 |
| | Telematics | Telematics | Fleet Rationalization - Unit Based Capital Plan Reduction<br>*Estimated by utilizing Telematics data on fleet utilization and then measures the expected unit based reduction in the capital plan* | $ 13.4 | $ 10.1 | $ 9.8 | $ 9.6 | $ 9.3 |
| OM&A | Customer | eBilling | Lower Cost per Customer<br>*Expected customers enrolled in eBilling x Unit Savings* | $ 1.8 | $ 2.6 | $ 3.2 | $ 4.1 | $ 4.8 |
| | Information Technology | ISD Savings | Infrastructure Rationalization/Contract Reductions<br>*Expected savings from server/database decommissioning and negotiated infrastructure and application maintenance contract reductions* | $ 7.4 | $ 8.3 | $ 11.5 | $ 11.5 | $ 11.5 |
| | | Contract Rates - Minor Enhancement | (Old Rate - New Rate) * Expected ME Hours<br>*Negotiated savings x Expected need for minor enhancement hours in business plan* | $ 0.9 | $ 1.0 | $ 0.9 | $ 0.9 | $ 0.9 |
| | | Telecom Services Contracts | Lower Cost per Contract<br>*Reflects negotiated reduction in contract price* | $ 0.6 | $ 0.7 | $ 0.7 | $ 0.7 | $ 0.7 |
| | Move to Mobile | Move to Mobile (Clerical) | FTE Reduction<br>*Reflects expected reduction in 29 back office support staff by 2020* | $ 2.7 | $ 2.8 | $ 2.9 | $ 2.9 | $ 2.9 |
| | Operations | Cable Locate Outsourcing | (Historical Cost - New Cost) * # of Units<br>*Reflects negotiated savings for planned units being outsourced* | $ 7.6 | $ 7.8 | $ 7.9 | $ 8.1 | $ 8.2 |
| | | Fault Indicator Deployment | Lower Labour Hours per Unit<br>*Estimate based on expected time savings for responding to a line fault. Tracked using historical data compared to actual response time* | $ 0.8 | $ 0.8 | $ 0.8 | $ 0.8 | $ 0.8 |
| | | Forestry Initiatives | Lower Cost per KM<br>*Estimated based on reductions in cost due to staff policy for inclement weather and expected overall unit volume reduction in trouble calls* | $ 2.8 | $ 4.1 | $ 5.9 | $ 6.9 | $ 7.9 |
| | | Stations Efficiencies | Cost Reduction based on Historical spend<br>*Expected OM&A allocation based on historical spend for OT reductions and Stations efficiencies* | $ 0.3 | $ 0.4 | $ 0.4 | $ 0.4 | $ 0.4 |
| | | Engineering Work Team Migration | FTE Reduction<br>*A reduction in support staff that was utilizing the legacy software* | $ 1.3 | $ 1.3 | $ 1.3 | $ 1.3 | $ 1.3 |
| | | Flexible Bill Window | Lower Cost per Unit for Meter Reads<br>*Expected savings from a unit reduction in demand for manual meter reads and lower unit cost due to gained scheduling efficiencies* | $ 1.5 | $ 1.5 | $ 1.5 | $ 1.5 | $ 1.5 |
| | Procurement | Procurement | IT Software Cost Reduction<br>*Reflects expected and negotiated savings* | $ 0.9 | $ 1.7 | $ 2.6 | $ 2.6 | $ 2.6 |
| | Telematics | Telematics | Lower Liters of Fuel per KM<br>*Reflects results of pilot program with expected reduction in Liters of fuel per KM driven* | $ 0.8 | $ 0.8 | $ 1.4 | $ 1.3 | $ 2.2 |
| CCC | Administrative | Corporate Common Head Count Reductions | FTE Reduction<br>*Identified headcount reductions by position in Corporate Common* | $ 1.7 | $ 1.9 | $ 1.9 | $ 1.9 | $ 1.9 |
| | Procurement | Procurement | Lower Cost<br>*Realized reduction in contracted spend in Corporate Common* | $ 2.3 | $ 2.3 | $ 2.3 | $ 2.3 | $ 2.3 |

| Total | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Capital | $ 36.4 | $ 34.2 | $ 37.8 | $ 37.3 | $ 39.0 |
| | OM&A | $ 29.4 | $ 33.7 | $ 40.9 | $ 42.9 | $ 45.5 |
| | Corporate Common | $ 4.0 | $ 4.2 | $ 4.2 | $ 4.2 | $ 4.2 |

As set above, there are approximately $398M in productivity savings reflected in the Distribution System Plan. The yearly impact of these savings on the revenue requirement was provided in

response to I-21-CCC-20. The table below summarizes the annual revenue requirement reductions as a result of the embedded annual productivity savings:[187]

| 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| ($34M) | ($39.5M) | ($44.3M) | ($48.7M) | ($52.8M) |

The capital productivity initiatives have reduced the capital budget for which Hydro One is seeking approval.[188] This result strongly supports Hydro One's commitment to finding ways better ways to become more productive and more efficient and addressing past concerns raised in prior decisions and also concerns heard from customers.

The OM&A productivity initiatives have also reduced the OM&A request in the baseline year, 2018, and Hydro One will be required to achieve additional productivity each year of the Application term in order to meet the stretch factor of 0.45% that it has committed to in this Application. Further discussion of the stretch factor can be found in response to Issue 8.

Given the commitment and use of these initiatives, Hydro One submits that the Distribution System Plan has appropriately addressed topic of productivity gains. A systematic, quantifiable and transparent approach to identifying productivity savings has been used and is embedded in the Distribution System Plan. Application of the total factor productivity as a reduction to baseline OM&A is a reasonable and consistent way to incent behaviours that are intended to result in further efficiencies and savings to the benefit of customers.

(b) Benefit Sharing

The Application reflects benefit sharing through the ESM and the productivity initiatives, which are discussed above. The ESM is discussed in response to Issue 15.

[187] I-21-CCC-20.

[188] I-25-Staff-123.

(c) Benchmarking

The Distribution System Plan reflects benchmarking through the reports of Navigant, CN Utility, and Gartner. Following preparation of the Distribution System Plan, Hydro One continued its efforts to improve its long-standing vegetation management program. This occurred following review of the CN Utility report, and through the commissioning of the Clear Path Report filed as part of Q-1-1.

(i) *Navigant*

Navigant was retained by Hydro One to conduct a benchmarking study for its pole and station management programs pursuant to the Board's direction from EB-2013-0416. Navigant completed their report on October 19, 2016 and it is included in Section 1.6 of the Distribution System Plan as Attachment 1.[189]

One of the concerns raised with the Navigant study related availability of peer group. In his opening statement, Mr. Grunfeld addressed this concern stating the following:

> The report was intended to compare Hydro One's performance on certain metrics regarding its pole and stations program to its peers or to a comparator set.
>
> Because we don't have the ability to compel information from other companies, we had to reach out to other distributors to ask for that information.
>
> We approached 45 North America utilities. For a complete list, I'd refer to you to your response to AMPCO interrogatory 19. A total of 20 said yes in addition to Hydro One, so 21 in total. Those companies that said yes are listed in schedule A of our report.
> Of the companies that did not say yes, some came out and said no and gave us reasons for their decision not to participate, and others just did not respond to our outreach.
>
> I should make it clear that not every company that said yes provided data for every metric that we wanted to look at. In fact, it's fair to say that for almost every metric, it's a subset of the 21 companies that provided data that we have in our comparisons.

[189] Distribution System Plan, Section 1.6, Attachment 1.

> Nonetheless, we felt that we collected enough data to reach certain conclusions about Hydro One's poles and stations program, and those conclusions are summarized in the executive summary of our report on page I. And we also made certain recommendations, which are outlined in the executive summary of our report on page II.[190]

Mr. Grunfeld went on to provide further context to the findings and opinions contained in the report and as it concerned the availability of metric information:

> I do want to provide a caution about pulling specific data out of our report, because of the limitations of the data that we had to work with. Our sample size, four individual metrics, are small.
> This is particularly true for some certain metrics. In stations, for example, there are metrics where we only had a handful of utilities to benchmark against Hydro One's performance.
>
> With that said, we do think we had enough data, and combined with our experience in the industry, to reach the conclusions and recommendations that we did.
>
> Another example of the limitations of the data is in regard to the pole replacement costs, which is found in section 3.5 of our report. If you look there, you will see that Hydro One's average three-year pole replacement costs from 2012 to 2014 was $8,266, which was 16 percent higher than the mean of the comparison group, which was $7,105.
>
> The $7,105 mean of the comparison group is based on all the 11 companies that provided data for that metric, including Hydro One. So nine of the 21 companies that provided data for some of the metrics in our study did not provide specific pole replacement cost data, which includes, as an example, say BC Hydro, which would be a good comparator given weather and service territory.
>
> If you dive deeper into that pole replacement cost data, for example, you can see that there are some issues with the data that arise given the small sample size. So one of the comparison group companies, which is ID number 39 in the report, has a three-year average pole replacement cost of $185, which frankly doesn't make a whole lot of sense.
>
> This value is in an order of magnitude than the other companies that provided data in the comparison group, which range from roughly 4,300 to roughly 10,900.

[190] Transcript, Day 5, June 18, p 134, l 6 to p 135, l 4.

> If we exclude the data for that company, ID number 39, the mean of the comparison group increases from 7,105 to 7,797, and in which case Hydro One's three-year replacement cost is 6 percent higher.
>
> In either of those cases, we can't say with statistical confidence that Hydro One's pole replacement cost is different from the mean of the comparison group. And again, this is due to the small sample size and the variability within the sample results.[191]

While it is always optimal to have more, rather than less, comparative data for benchmarking purposes, the reality is that data provided for such studies is dependent upon the participation by peers. That is a factor outside of Hydro One's and Navigant's control. The intended use and potential disclosure of peer group information are concerns dissuading potential participants from participating in such studies. Nonetheless, the Navigant study adopted a methodical, objective approach. All available information was considered, and shortcomings identified. The Report provides directional insights into the issues considered and achieved the intended purpose of facilitating ways Hydro One could improve planning and execution of its pole replacement and station refurbishment programs.

Regarding the pole replacement program, Navigant concluded that:

1. Hydro One's costs are in line with the average of the comparison group, with low unit costs for inspections and average costs for replacement of poles.

2. Hydro One inspects its poles more frequently than most utilities, using mostly visual inspections augmented by some light physical inspections, while the others typically perform more rigorous physical inspections and testing.

3. The pole replacement rate for Hydro One is slower than for the comparison utilities, with the result that Hydro One's pole inventory is the oldest; on average, eight years older than the rest of the utilities in the comparison group. This matches the planned life of poles, which is also about 10 years longer for Hydro One than for the comparison group.

[191] Transcript, Day 5, June 18, p 135, l 6 to p 136, l 19.

4. Hydro One does not employ a formal pole refurbishment program, whereas 13 of 17 companies in the comparison group do in an effort to postpone premature replacement of poles.[192]

Navigant also made four recommendations in their report:

1. Consider modifying the pole program to include more complete pole inspections (sound, bore, excavation) and a longer (approximately 10-year) inspection cycle – the OEB would need to approve the change in inspection cycle.

2. Expand the existing centralized program management and pole selection approach to cover 90- 95% of the replacement / refurbishment work on poles in a given year, leaving the remainder to be guided by the local staff while still meeting the centralized strategy and replacement criteria.

3. Where geography and/or pole density permit, consider the use of dedicated pole replacement crews.

4. Consider modifying the program to include a rigorous pole refurbishment option, when appropriate.[193]

Hydro One has appropriately responded to and followed up on each of the pole related recommendations. These responses are described in Distribution System Plan Section 1.6.3.1, I-25-Staff-122, and I-25-Staff-126. In summary:

1. To maintain compliance with the Distribution System Code, but also to respond to Navigant's recommendation, Hydro One is considering a strategy of alternating detailed pole testing (for example: drilling and shell thickness measurements) with visual inspections.[194]

[192] Distribution System Plan, Section 1.6, Attachment 1, p i.
[193] Distribution System Plan, Section 1.6, Attachment 1, p ii.
[194] I-25-Staff-126.

2. As discussed in Distribution System Plan Section 1.6.3.1, Hydro One is expanding the centralized program management and pole selection approach.

3. Since 2017, Hydro One has utilized dedicated crews and intends to continue to do so where appropriate, such as taking into account local service territory location and crew availability.[195]

4. Hydro One is in the process of considering the use of a chemical refurbishment program. The details of which were explained in I-25-Staff-126.

All of these actions demonstrate Hydro One's commitment to continuous improvement. Hydro One has appropriately responded to Navigant's findings and is actively pursuing ways to achieve more efficient ways to manage its pole replacement program.

Regarding the station management program, Navigant concluded that:

1. Station refurbishment activities are varied within and across utilities.

2. Hydro One's costs for individual substation refurbishments are within the range observed across the comparison utilities.

3. As with most utilities, the cost of individual Hydro One refurbishment projects from vary from first to fourth quartile for individual projects.

4. Hydro One's station-centric approach is appropriate, given the system configuration and density within the service territory; Hydro One has the highest percentage of single transformer substations, higher than average transformer loadings, older age profile for in-service transformers, and more rural locations.

5. Use of test results and maintenance history records could be improved in making replace versus repair decisions for substation equipment.

[195] Q-1-1, p 15, and I-25-Staff-126.

6. Use of performance measures for tracking success of individual programs, in addition to the overall refurbishment program could be enhanced.[196]

Navigant made three recommendations concerning stations:

1. Consider implementing a formal data governance process for equipment performance and maintenance data, and incorporating that information into the asset condition scoring and project planning process.

2. Enhance cost and work completion reporting for individual projects, and implement a formal change control process.

3. Develop and implement a more comprehensive set of key performance indicators including in progress project cost performance measures and assessments of project/program impacts on substation reliability, maintenance costs and overall asset health.[197]

Hydro One, again, appropriately responded to and followed up on each of the stations related recommendations. These responses are described in Distribution System Plan Section 1.6.3.1, I-25-Staff-126. In summary:

1. Hydro One has implemented a formal data governance project as noted in A-3-1, Attachment 3. Specifically, for station refurbishment projects, Hydro One has made changes to aid in the improvement of data governance through identification of station equipment that is missing in its SAP system. Hydro One is also in the process of developing reports to identify incomplete data points;[198]

2. Hydro One has also enhanced the cost estimating tasks for all new station refurbishment projects. Prior to releasing the project for execution, a detailed cost estimate for the

[196] Distribution System Plan, Section 1.6, Attachment 1, p i.
[197] Distribution System Plan, Section 1.6, Attachment 1, p ii.
[198] I-25-Staff-126.

individual project will be requested rather than prior practice of releasing each project based upon a standard unit cost;[199] and

3. Hydro One has implemented a new cost estimating and project release process for all new station refurbishment projects that will allow for improved project cost monitoring. Furthermore, the implementation of the data governance project will ensure improved data quality and completeness on station assets condition, demographics and criticality.[200]

(ii) *CN Utility*

Hydro One commissioned the CN Utility vegetation management benchmarking study in compliance with the Board's prior distribution rates decision. The study focused on Hydro One's historical vegetation management program - as it existed at the time of the preparation of the Distribution System Plan. The "Key Findings" of the CN Utility study are summarized at pages 5 to 8 of the study.[201] The "Recommendations" are found at pages 8 to 9 of the study.[202]

The CN Utility Key Findings and Recommendations are not addressed further in these submissions given the subsequent efforts undertaken by Hydro One to adopt its new and defect based vegetation management program. Hydro One submits that the results and findings outlined in the CN Utility Report no longer provide a comparable basis to the vegetation management program which Hydro One is adopting over the rate period.

(iii) *Gartner*

The Gartner benchmarking study[203] was completed by Hydro One proactively and not in response to any direction from the OEB.[204]

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199 I-25-Staff-126.
200 I-25-Staff-126.
201 Distribution System Plan, Section 1.6, Attachment 2, pp 5-8.
202 Distribution System Plan, Section 1.6, Attachment 2, pp 8-9.
203 Distribution System Plan, Section 1.6, Attachment 3.
204 Transcript, Day 10, June 26, p 33, ll 3 to 9.

The Gartner benchmarking study found that Hydro One's OM&A spending, and capital spending for 2015 were less than its peers. Hydro One's OM&A spending on information technology is projected to be lower in 2018 than it was in 2015, when it was below its peers.[205]

During cross-examination, SEC cross-examined Mr. Frost-Hunt on the fact that total information technology spending increased after 2015 due to capital expenditures. As Mr. Frost-Hunt explained, capital spending on projects varies from year-to-year based on project needs.[206] The reasons for the historical variances is explained in detail in response to Issue 30. It should be noted that no intervenor cross-examined Mr. Frost-Hunt on the prudence of any particular planned information technology capital project.

**Issue 26. Does the Distribution System Plan address the trade-offs between capital and OM&A spending over the course of the plan period?**

The DSP addresses the trade-offs between capital and OM&A spending over the course of the plan period, through processes and procedures in place to make the appropriate trade-offs between capital and OM&A. Hydro One has a detailed (18 page), "Asset Analytics: Asset Maintain – Refurbishment / Repair – Repair Economic Evaluation Model" that explains how Hydro One makes refurbishment, repair, and replace decisions. This model allows Hydro One to make appropriate decisions about when to repair or replace distribution assets,[207] where possible. Furthermore, when future OM&A costs are impacted by a capital expenditure, they are considered when building the capital investment plan, as discussed in the response to I-26-Staff-161.

It is important to note, however, that much of Hydro One's distribution business cannot make trade-offs between capital and OM&A due to the nature of the work programs, projects, or OM&A expenses that are required. Fundamentally, therefore, the best evidence of Hydro One's approach to the trade-offs between capital and OM&A spending is the bottom up approach to the development of the Application, as reflected through the investment planning process. Hydro One identifies needs and develops investments from the bottom up. Hydro One then

[205] I-38-SEC-70, p 5, update to C-1-1-6 Table 1.
[206] Transcript, Day 10, June 26, p 37, ll 2 to 7.
[207] I-25-BOMA-B131, Attachment 1.

optimizes investments based on the planning criteria, as discussed in Issue 24. There is no artificial balancing or reweighing of capital or OM&A at the top line level, rather the capital and OM&A spending levels reflect the culmination of the individual planning decisions made by Hydro One.

For example, the vegetation management program is an OM&A expense (the largest), and there is no opportunity to spend capital to eliminate the need to conduct vegetation management. Much of the remainder of the OM&A expenses are "demand" programs required for compliance reasons, which cannot be addressed through capital expenditures. For example, the "Trouble Calls" Lines Sustaining OM&A program, with an estimated 2018 cost of $77.9M is a demand program where Hydro One does not have an opportunity to "trade-off" with capital.[208]

Similarly, for capital expenditures, many of the largest capital programs are "demand" programs. For example, the New Load Connections, Upgrades, Cancellations and Metering program (the largest capital program),[209] and there is no opportunity to spend OM&A to perform the activities under that program or the other demand programs. This is true for many of the capital expenses outline in Section 3.8.

Another example, from a different perspective, is the telematics productivity initiative. As discussed in Issue 30, that program is driving approximately $52.2M in capital productivity savings over the course of the plan, and $6.5M in OM&A savings over the course of the plan.[210] The initial telematics investment was a capital investment, because it required the purchase and development of new technology.[211] There was no ability to create a telematics system through OM&A expenditures. Nor is there an ability to rebalance the productivity savings between capital and OM&A because the capital savings arise from the avoidance of the purchase of capital assets.

With respect to the pole replacement program (as described in SR-09),[212] based on the recommendation of Navigant, and as discussed under Issue 25, Hydro One is investigating a

[208] C1-1-2, pp 13-14, and Table 3.
[209] Distribution System Plan, Section 3.8, SA-04.
[210] I-25-Staff-123.
[211] See Issue 30 for a discussion.
[212] Distribution System Plan, Section 3.8, SR-09.

chemical wood pole refurbishment program in order to lengthen the life of certain poles. To be clear, as Ms. Gharzouzi, Ms. Bradley, and Mr. Bowness testified, the wood pole refurbishment program would require expenditure of incremental OM&A amounts to extend the life of non-poor condition poles and thereby provide a means to defer future capital expenditures.[213] Wood pole refurbishment will not reduce the inventory of poles known to be in an end of life condition (i.e. poles that have failed testing). The pole replacement program is designed to manage this inventory, albeit in a manner that does not reduce the overall population of poles that are expected to be in an end of life state. Trade-offs, such as not carrying out any wood pole replacement program and instead allowing end of life pole population to effectively grow are not acceptable to Hydro One as they do not promote the overarching requirements of Hydro One providing safe, reliable distribution service. The evidence before the Board is that allowing end of life poles to be replaced when storms occur or when trouble calls arise, result in higher replacement costs, promote outage incidents and is inconsistent with the practices undertaken by other Canadian utility peers. That was the evidence of the Asset Management Panel in response to questions from Board Staff and others.[214]

Based on the foregoing, Hydro One submits that trade-offs have been appropriately considered in the Application and given the prevailing conditions and circumstances.[215]

**Issue 27. Has the distribution System Plan adequately addressed government mandated obligations over the planning period?**

The Distribution System Plan has adequately addressed government mandated obligations. Specifically, the Distribution System Plan addresses the following:

- The Distribution System Plan reflects Hydro One's government mandated obligation to install Smart Meters;[216]

[213] Transcript, Day 9, June 25, p 85, l 8 to p 87, l 19.
[214] Transcript, Day 8, June 22, pp 80 to 89, 97 to 100, and 111 to 115.
[215] Transcript, Day 9, June 25, p 84 l 1 – p 87 l 19.
[216] Distribution System Plan, Section 3.8, SA-02, and SR-14.

- The Application has been updated to reflect the Fair Hydro Plan, which has resulted in a reduction in the net bad debt, and a decrease in external revenues; and

- The Distribution System Plan reflects the requirement to address PCB equipment.[217]

Hydro One's evidence regarding the above received only limited attention in this proceeding. Only three interrogatories were asked and the witness panels responsible for this Issue were not cross-examined by interveners. Further details of particular spending related to public policy responsiveness are provided in response to Issue 17.

**Issue 28. Has Hydro One appropriately incorporated Regional Planning in its Distribution System Plan?**

Regional Planning has been appropriately incorporated into The Distribution System Plan. Local planning reports and other supporting information form part of the Distribution System Plan.[218] As explained in I-28-BOMA-10,[219] the Distribution System Plan contains a list of projects resulting from its regional planning process that have now been incorporated into the Distribution System Plan.[220] Further details of the outputs of the regional planning process were provided in response to I-28-SEC-51.[221]

No panel was cross-examined on any of the material with the exception of brief cross-examination of the asset planning panel by Anwaatin Inc.[222] To date, neither intervenors nor Board Staff have suggested that Hydro One's regional planning process is inadequate in any way.

[217] Distribution System Plan, Section 3.8, SR-08.
[218] Distribution System Plan, Section 1.3.
[219] I-28-BOMA-10.
[220] Distribution System Plan, Section 1.2, Table 6.
[221] I-28-SEC-51.
[222] Transcript, Day 7, p 73 – 75.

**Issue 29. Are the proposed capital expenditures resulting from the Distribution System Plan appropriate, and have they been adequately planned and paced?**

The proposed capital expenditures resulting from the Distribution System Plan are appropriate and have been adequately planned and paced.

Fundamentally, the appropriateness of Hydro One's proposed capital expenditures is demonstrated through Hydro One's development of the Distribution System Plan, as outlined in response to Issues 23-29, and the discussion of the capital expenditures in response to Issue 30.

Hydro One took a bottom up approach to the identification of needs and the development of solutions. It used appropriate planning criteria to optimize the plan. The level of spending was arrived at after an iterative process whereby customer consultation and the incorporation of customer needs and preferences were a key component. At the same time, Hydro One also had to consider the condition of its assets in formulating its plan. As discussed in response to Issue 30, Hydro One has significant asset needs that necessitate certain spending so that Hydro One can maintain the condition of its assets and not defer problems to future rate payers. Further, many of Hydro One's capital projects and programs are demand programs, which Hydro One must complete for compliance or contractual reasons. The result is that Hydro One has selected the capital investment plan that allows for the lowest possible rate impact while maintaining the condition of its assets.

The discussion below focuses on specific planning and pacing matters. In particular, there are four topics to address under this Issue: 1) improvements to the asset planning process since the last Application; 2) the quality and completeness of Hydro One's data; 3) the redirection process; and 4) the pacing of capital investments.

(a) Improvements to the Asset Planning Process since the last Application

Hydro One has made significant improvements to its investment planning process since its application in EB-2013-0416. The improvements have focused on addressing customer needs

and preferences in the investment planning process. These matters are now central to the investment planning process and the task of finding an appropriate balance to address these needs as well as the needs associated with distribution asset condition and system reliability. As Ms. Bradley indicated, Hydro One has engaged in a process of continuous improvement. It has evaluated its internal processes, altered its resource mix, and has been willing to accept and implement changes in order to achieve continuous improvement objectives.[223] More training is now offered to investment planners. Greater focus has also been placed on data quality assurance as well as improvements to the internal enterprise engagement process.[224]

Additional discussion of these improvements was provided at the conclusion of the Asset Management Panel's testimony and in response to questioning from the Board:

> MS. BRADLEY: In developing the investment plan there was a significant amount of customer consultation and an iterative process that was used with our board to determine the right balance between the customer needs and preferences, the assets, and the rates.
>
> There's a standalone DSP that we have submitted as part of this Application, which was part of the planning process. There's a number of planning aspects through the governance document you saw in productivity that sort of bridges planning and execution to develop the reliability improvements that we've incorporated, and there's a number of changes in the planning process that were sort of foundational in developing some of the reliability improvements.
>
> I know Ms. Garzouzi walked through the planning process for worst-performing feeders, for example, where we've developed a methodology and a way to assess and evaluate those types of investments, which we didn't have in the past, and the incorporation of grid modernization, where we learned from the pilot project that we did at Owen Sound and intend to incorporate the learnings from that through our grid modernization going forward in this plan.
>
> I'll let Mr. Bowness speak to the work execution fees.

[223] Transcript, Day 6, June 20, p 120, ll 1-9.

[224] Distribution System Plan, Section 1.1, p 21-22.

MR. BOWNESS: Yeah, so I think I will speak to things a little bit more macro-ly, as I've seen the company significantly transform since we went public in 2015.

There is an extreme heightened focus on outcomes and accountabilities. And if I look at how we're measuring our overall leadership team and management team from an outcomes perspective, there has been a significant improvement in our corporate performance management process and overall metrics.

We review our team scorecard on a monthly basis. And everybody within the leadership team and as it cascades down through all managers in the company, we are all measured against that team scorecard, so whether it's customer service, whether it's health and safety, whether it's work program efficiency, productivity, all of these metrics that we've had that you see within our team scorecard, we are all held accountable to that, and we either win together or we lose together. And what I think is transformed is that we are all rallying towards the overall corporate goals and the outcomes that we are trying to achieve.

The other thing that I would say is you go a layer deeper and you look at the improved use of KPIs and scorecards and measures that are being asked upon by us by the regulator as well as with industry benchmarks is we're getting a lot smarter around where we fit, where we stack up, how are we performing on industry benchmarks as compared to other distributors and other entities within the North American utility space. And I think we're using that information to challenge ourselves to get better. And we're reporting on those results on an annual basis into the regulatory process or the submissions that we have on the scorecards, as well as using that information internally.

If I go a layer deeper and I look at my team's accountability, I have monthly reports that we review with my overall team to look at our measures and our outcomes and our accomplishments to make sure we're meeting the asset needs and ultimately the reliability and customer satisfaction that we are expecting to get out of our work programs.

So I think there truly has been a transformation around metrics and reports and information to lead to really strong outcomes, and I think on a go-forward basis you will see what we've submitted in evidence with the targets that we have in our team scorecard, the targets that we've set in the OEB scorecard and supplemental scorecard is that we are truly committing to an ever-improving business, and nowhere more so is that than on reliability.

> We truly believe we need to deliver a better product, and we are setting very aggressive targets on reliability over this five-year period.[225]

(b) Data Quality and Completeness

Hydro One's Asset Management Panel was cross-examined on certain statements from the Auditor General ("AG"), and Hydro One's follow-up internal audits concerning data quality and completeness issues. When considering data quality and completeness issues, it is important to read and understand the context the particular statements Hydro One was taken to by lawyers for the intervenors.

First, Hydro One was taken to an Internal Audit, follow-up to the Auditor General 2016, report which is included in the Application.[226] In that audit statement, it was found that AG Recommendation 5 concerning "Information Systems on Asset Condition incl. Asset Analytics" was "partially complete" and "partially effective". This recommendation was described as follows in the report:

- Enhance its Asset Analytics system to include information on all key factors that affect asset investment decisions, including those related to technological/manufacturer obsolescence, known defects, environmental impact and health and safety.

- Review and adjust current weighting assigned to risk factors in Asset Analytics to more accurately reflect their impact of asset condition and risk of failure.

- Make changes to its Asset Analytics system and procedures so that updates to its data are complete, timely and accurate.

- Conduct a comprehensive review of the data quality in Asset Analytics to update any incomplete or erroneous information on its assets and to ensure the information can support its asset replacement decision making process.

[225] Transcript, Day 9, June 25, p 131, l 15 to p 134, l 6.

[226] A-3-1, Attachment 3, Internal Audit Report, Auditor General Report 2016 Follow-up, March 31, 2017.

> - Investigate why known deficiencies in the reliability of the Asset Analytics system, such as those found two years earlier by internal audits, have not been corrected by management in a timely manner.[227]

It is important to understand, as is evident from the above description of the recommendation, that this recommendation concerned a tool used by Hydro One to conduct assessments of its assets - the asset analytics tool. This recommendation did not concern the quality of Hydro One's data. To the contrary, the very next recommendation in the AG's report, was "Quality of Asset Data", and that recommendation was found by the internal audit to be "substantially complete" and "effective."[228]

Recommendation 5, which received attention during cross-examination is not about quality of data or completeness of data. It is about the usability of the systems that store the data. As Ms. Garzouzi explained during cross-examination:

> … From a planners' perspective, we have more data than we've ever had before. <u>These findings, whether they be AG or internal audit, are more about effectiveness of the use of the data and aggregating it into one screen, right, so rather than going to six sources to get the data, are you able to roll it up into one tool to have it at the click of a button for a planner.</u> That is the criticism that you are reading about.
>
> If we look at this plan that we have in front of you, largely based on replacing wood poles, and so the condition for wood poles is all in our enterprise system, it's in SAP, and that feeds into asset analytics.
>
> In addition, we have our stations, so our transformer replacement or our station replacement, which is all captured into our enterprise system. That's also feeding into asset analytics. So those risk factors are working well. It is the other ones that we will work on from a continuous improvement perspective.[229]

[227] A-3-1, Attachment 3, Internal Audit Report, Auditor General Report 2016 Follow-up, March 31, 2017, p 5.

[228] A-3-1, Attachment 3, Internal Audit Report, Auditor General Report 2016 Follow-up, March 31, 2017, p 5.

[229] Transcript, Day 7, June 21, p 41, l 1 to 21. [emphasis added]

Indeed, the evidence filed by Hydro One demonstrates that from a data completeness perspective, Hydro One has essentially all of the data needed to make planning decisions. In response to Technical Conference Undertaking JT 3.1-11, Hydro One advised that it has:

1. 100% of data for station structures and MUS;
2. 89% of data for station transformers;
3. 87% of data for Mobile Unit Substation (Transformers);
4. 84% of data for Station Reclosers; and
5. 38% of data for circuit breakers (which are replaced on a run-to-failure basis).[230]

For other run to failure assets, such as other line components, they are monitored on a defect basis, i.e. if there is a defect, it is noted. If there is no defect it is not.[231] Hydro One also has 100% of data for poles.[232]

Intervenors also took the Asset Management Panel to a second internal audit report, the "Investment Planning Follow-up (IPF)" report dated September 6, 2017.[233] In particular, intervenors noted that the "Asset Analytics Data" assessment item was "partially complete" and the 2017 risk was high. In cross-examination, Ms. Bradley explained that "high risk" only concerned only a functional component of the assets analytics tool.[234] Availability and access to the underlying data used by investment planners is not the issue. Such data can and is available and accessible by investment planners.

Another important point, made by Ms. Bradley at the same time as the above, is that, if data were missing or incomplete, it would cause Hydro One to underestimate the number of assets in poor condition that need to be replaced. This is not a case of assets being replaced early. Rather, there may be assets, which should be replaced, which are not due to missing data. In other words, the plan may be light on capital investment. In Ms. Bradley's words:

> And the other point I would make -- and I actually don't believe this is true. But if there was data missing, what that would mean is we

[230] JT 3.1-11.
[231] JT 3.1-11, and Transcript, Day 7, June 21, p 40, ll 4-28.
[232] JT 3.1-11, and Transcript, Day 7, June 21, p 40, ll 4-28, and p 41, ll 12-15.
[233] JT 3.2, Attachment 2.
[234] Transcript, Day 7, p 61, ll 4-17.

> don't have visibility to something in poor condition, which would mean it's not in the plan. So the risk that we would have is that when it talks a less than optimal investment decision, that would mean we didn't pick up something that needed to be replaced and it failed.
>
> It wouldn't mean we put something into the plan for which we had no data. So it doesn't suggest that we would have an over-inflated investment plan. If anything, if there was missing data, we wouldn't have things in there.
>
> But these are factors that people look at separately and bring together with their engineering expertise and judgment. To bring together four or five factors, we used to have to do them all outside of the tool. But we were still aware of the data and the sources. They are just not brought together.[235]

In summary, Hydro One has the asset condition data it needs to make prudent planning decisions. Hydro One is continuing to improve its asset analytics tool in order to aggregate data for its planners, but there is no gap or missing information that would cause Hydro One to over-invest in capital projects. To the contrary, if there is missing data, which Hydro One does not believe there is, then the planned spending is lower than it otherwise should be.

(c) Redirection

Redirection is an important part of Hydro One's asset planning process and embedded into the Distribution System Plan. Redirection explains why historical investments do not align perfectly with previously proposed plans, and it explains why, in the future, Hydro One's investments will not align perfectly with the currently proposed plan. The process is outlined in the Distribution System Plan, Section 2.1.6.4,[236] and was further explained by the Asset Management Panel in cross-examination:

> MS. GARZOUZI: So redirection is actually an activity that occurs monthly. So we look at our programs and projects for OM&A, ISA, and capital on a monthly basis, and we look at emerging needs, if they do exist, and we reprioritize via the redirection process.

[235] Transcript, Day 7, June 21, p 48, l 20 to p 49, l 9.

[236] Distribution System Plan, Section 2.1, p 30.

MR. SIDLOFSKY: Are you able to correlate the projects that I mentioned that were deferred to particular reasons for the redirection of funds?

MS. BRADLEY: Redirection doesn't happen on a project-by-project sort of swap basis. We meet monthly and talk about the number of factors that result in changes each month. It could be changes due to storm activity. It could be changes due to customer needs have changed. It could be a project is being deferred for a reason, you know, customers might not want it in-service at the time. We could have had some environmental factors that led to a delay.

So we talk about things that are changing, both adding more needs to the system or the year's budget or plan, and we talk about things that are reducing, so we might have less of something needed because of changes in conditions as well.
So it's not like you say, I need to do this project so let's defer this project; we talk about the budget as a whole and the envelope of work and the impact on outcomes as a whole, and make those decisions on a monthly basis.

MR. BOWNESS: And the feed-in to that is the process that my team executes on are monthly basis to update forecast based on actuals. You know, an example that I think we spoke to a few days ago was, you know, this year with the two major storms that we had around the 500,000 customer mark. Those were $40 million worth of storms. Our storm budget for the whole year is $65 million.

So we're currently going through a process of looking at which other program line items can be deferred this year out into future years. And that's the type of process we go through on a monthly basis.

DR. ELSAYED: Can I ask: Who approves these changes? When you make changes at the project level, who approves that?

MR. BOWNESS: We go through a process that is facilitated by Ms. Bradley's planning group on a monthly basis with vice-presidents and directors across the company to review the results. The summary of that is then presented to our executive leadership team, which involves our C level executives, with a summary of any major changes that we would have within the program.

DR. ELSAYED: So that is formally approved with a -- monthly?

MS. BRADLEY: Yeah, each individual project change is approved by the person with accountability for that program. So if we were

> removing something I'd have to be -- I have to be able to approve a project and the outcomes associated with deferring it, for example. But it is reviewed and it's approved monthly, and the summary of the changes, in terms of financial changes, accomplishment changes, and impact on outcomes is taken to our executive leadership team on a monthly basis.[237]

(d) Investment Pacing

The level of investment spending was determined through the planning process described in response to Issues 23-29, and included consideration of customer needs and preferences, asset condition, and system reliability. As a result of that process, Hydro One selected an investment plan – Plan B-Modified – that has the lowest possible level of capital spending, while still maintaining the condition of Hydro One's assets.

Another pacing feature of Plan B-Modified is that it reduces capital expenditures below a sustainable threshold for one year, 2018, to reduce the rate impact during that year and thereby ameliorating the impact caused by reductions in forecast load. As described in the executive summary:

> The plan that informs this Application is a modified version of one of those three original investment plans. It is designed to limit rate impacts while still addressing minimum system needs by focusing investment on deteriorated infrastructure and by managing and controlling costs through investments that maintain reliability, but are insufficient to improve the overall reliability of the aging distribution system.[238]
>
> …
>
> The 2018 rate increases associated with all three of these investment plans reflects some factors that were not entirely within the company's immediate control in developing those plans. Approximately half of the rate increase is caused by changes in the load forecast (due to external factors such as conservation and demand management, and economic conditions) and the settlement of existing regulatory accounts. The large non-controllable component of the rate increase required Hydro One to consider aggressive deferrals of certain investments and significant efficiency initiatives in order to prepare investment plans that are consistent with the outcome of the customer

[237] Transcript, Day 9, June 25, p 74, l 1 to p 76, l 2.

[238] A-3-1, p 4.

> engagement process, which highlighted the importance to customers of keeping cost increases to a minimum.
>
> Hydro One's management, in discussion with the Board of Directors, determined that Plan B would still result in bill impacts that were too high for customers, particularly in 2018 and with the effects of the reduced load forecast. Senior management therefore challenged planners to continue to investigate a plan that would further mitigate cost increases but still reflect responsible stewardship of the assets and no degradation in reliability over the full Term. In particular, managers were challenged to consider how to mitigate the significant rate increase in 2018.
>
> As a result, an adjusted investment portfolio with a forecasted 2018 rate impact of 5.4%, "Plan B – Modified", was developed that would maintain overall forecasted system reliability at current levels, while continuing to offer discrete power quality and reliability improvements for certain segments of the network.[239]

**Issue 30. Are the proposed capital expenditures for System Renewal, System Service, System Access and General Plant appropriately based on the Distribution System Plan?**

All categories of capital expenditures are appropriately based on the Distribution System Plan, and are discussed in response to this issue. The basis for these expenditures including inputs, processes, and improvements, have been discussed in response to Issue 23-29. This Issue focuses on each particular category of proposed spending, and category specific issues that were raised through cross-examination.

(a) System Renewal

(i) *Historical Spending*

System renewal capital expenditures over the last three year plan were as follows:[240]

*in $ millions*

| 2015 | 2016 | 2017 |
|---|---|---|

[239] A-3-1, pp 15-16.

[240] I-24-SEC-38, Table 56, June 12, 2018.

| Plan | Actual | Plan | Actual | Plan | Actual |
|---|---|---|---|---|---|
| 250.7 | 308.4 | 265.4 | 288.3 | 285.0 | 214.3 |

Over the prior period plan, the total planned spending was $801.1M. Actual spend over the three years of the plan was $811M. A variance of approximately 1%.

The Asset Management Panel was cross-examined on variances in particular work programs that underachieved on units of accomplishment, or particular projects that were deferred. The simple explanation for under accomplishment in some programs is redirection. Due to unforeseen events, such as weather or the closing of the CDMA network, or higher risk priorities assigned to other work programs, Hydro One had to increase spending on some programs (such as Trouble Calls) and decrease spending in others. As Ms. Garzouzi testified:

> MR. SIDLOFSKY: And moving along to page 94 of the compendium, we've got the ISD SS-02 from your current Application. There is a list of planned system upgrade projects at page 101 of the compendium.
>
> Based on the that list, it looks like of the 36 originally listed projects are repeated in this Application; is that correct?
>
> MS. GARZOUZI: That's correct. What you are seeing in this table, so it was the combination of SEC.42 and SEC.52 is really the shifting of dollars between projects -- sustaining in particular, or system renewal.
>
> So if we look at just those categories, it is true that some projects are repeated and that's because they were deferred so that other things could occur. Specifically, trouble calls for the period '15 to '17 were much higher than planned. And so starting with that, money is redirected to that program, hence we're taking away from large sustainment and other programs and projects within the sustaining category.
>
> So the pole replacement program is the largest one in the category, which was 92 or 91 percent accomplished, 86 percent spend. The next one in that same table is the trouble call, which is, again, in the $250 million range for the three-year period, and then it drops significantly after that to around $100 million for large sustainment station refurbishment, and then the line components and the PCB and the MUS and all of those are, you know, below 5 $50 million.

> And so shifting to trouble calls has a significant impact on the other smaller capital programs within the sustaining envelope.[241]

As Ms. Bradley elaborated:

> The one thing I -- if you look at the trouble calls in the list that was provided last week, trouble calls and storm damage were $66 million over in the three-year period. We don't have the option of just leaving customers out of power. We connect them, so that envelope was over.
>
> If you look on the screen right now, it takes a lot of these projects to be deferred to make up that $66 million.[242]

No forecast is perfect. What redirection does is provide an appropriate basis to direct funds to higher priority expenditure requirements but at the same time, causing originally forecast programs to be affected through deferrals. Redirection provides Hydro One with the necessary discretion and ability to manage its operations and investments as events unfold. That is a reasonable and prudent approach to investment planning and work execution. Appropriate oversight and overview steps are in place to ensure that this process is properly managed, which is again a reasonable and prudent approach to operational management carried out by a commercially oriented enterprise. Further discussion of the redirection process is set out in response to Issue 29.

(ii) *Planned Spending*

System renewal capital expenditures over the course of the plan are forecasted as follows:[243]

*in $ millions*

| 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| 248.6 | 318.7 | 336.7 | 362.5 | 451.1 |

[241] Transcript, Day 9, June 25, p 72 l 7 to p 73 l 9.

[242] Transcript, Day 9, June 25, p 73 l 10 to 17.

[243] I-24-SEC-38, Table 56, June 12, 2018.

As discussed in response to Issue 29, Hydro One reduced its 2018 capital expenditures in order to ease the rate impact as that is the year the load impact will be felt. That reduction is most significant in the System Renewal category due to the nature of the investments.

Three particular system renewal programs received attention during cross-examination, Pole Replacement (SR-09), Station Refurbishments (SR-06), and Smart Meter Replacement (SR-14). Each are addressed below.

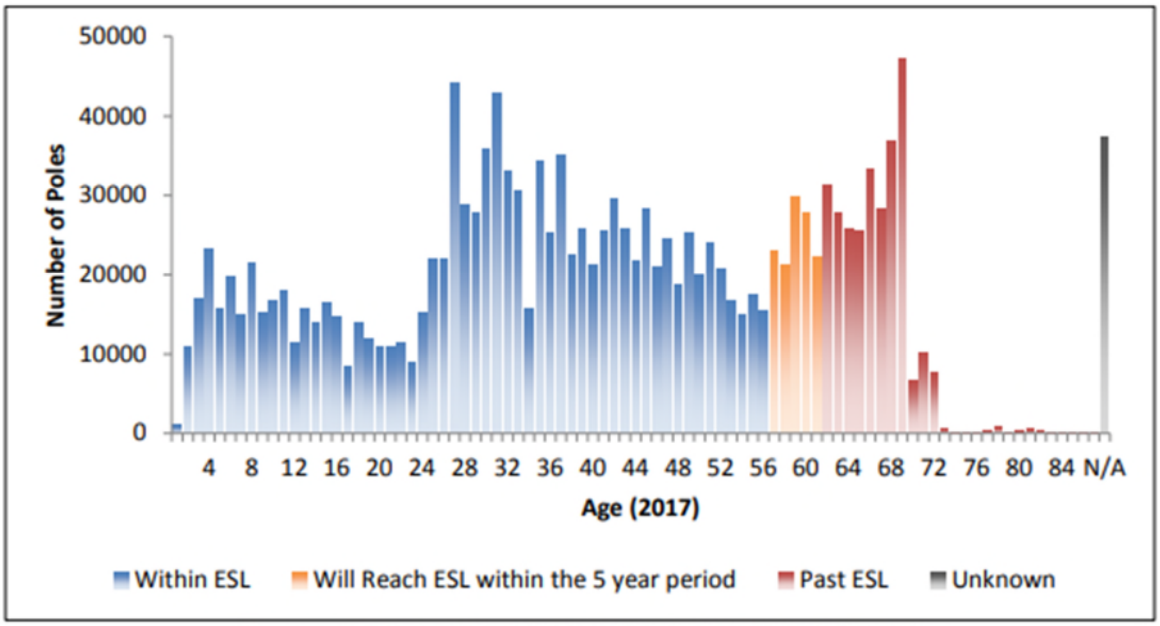
### (iii) *Pole Replacement*

The Pole Replacement program is the largest system renewal program with a plan period cost of $579M.[244] It is also, by far, the largest capital program in the Application that is not a "demand" program such as new connections[245] or trouble calls.[246] Not unexpectedly, the magnitude of the forecast pole replacement program received significant attention during the hearing. This discussion highlighted fundamental facts that demonstrate and support the reasonableness of Hydro One's pole replacement program:

1. Hydro One has approximately 1.6 million wood poles in its distribution system. The age demographics of the poles are represented in the following figure[247]

[244] Distribution System Plan, Section 3.8, SR-09.
[245] Distribution System Plan, Section 3.8, SA-04.
[246] Distribution System Plan, Section 3.8, SR-07.
[247] Undertaking J 7.3, Figure 1.

**Figure 1: Pole Population Demographics**




**Source:** Figure 29 in Exhibit B1-1-1 DSP Section 2.3

2. Navigant's independent benchmarking report confirmed that Hydro One's wood pole assets are the oldest of a peer group of 21 different companies;[248]

3. Wood poles do not last forever. They are either replaced or fail and then are replaced;

4. Navigant also found that no utilities in its peer group intentionally allow poles to run to failure. Mr. Buckstaff's evidence was that he was only aware of one circumstance where a utility close to a run to failure philosophy, yet this approach was having a significant negative impact on reliability;[249]

5. Wood pole failures, when they occur, have a significant negative impact on reliability and cause potential safety concerns. The cost to replace a wood pole in a Trouble Call scenario is much higher than the cost to replace on a proactive basis;[250]

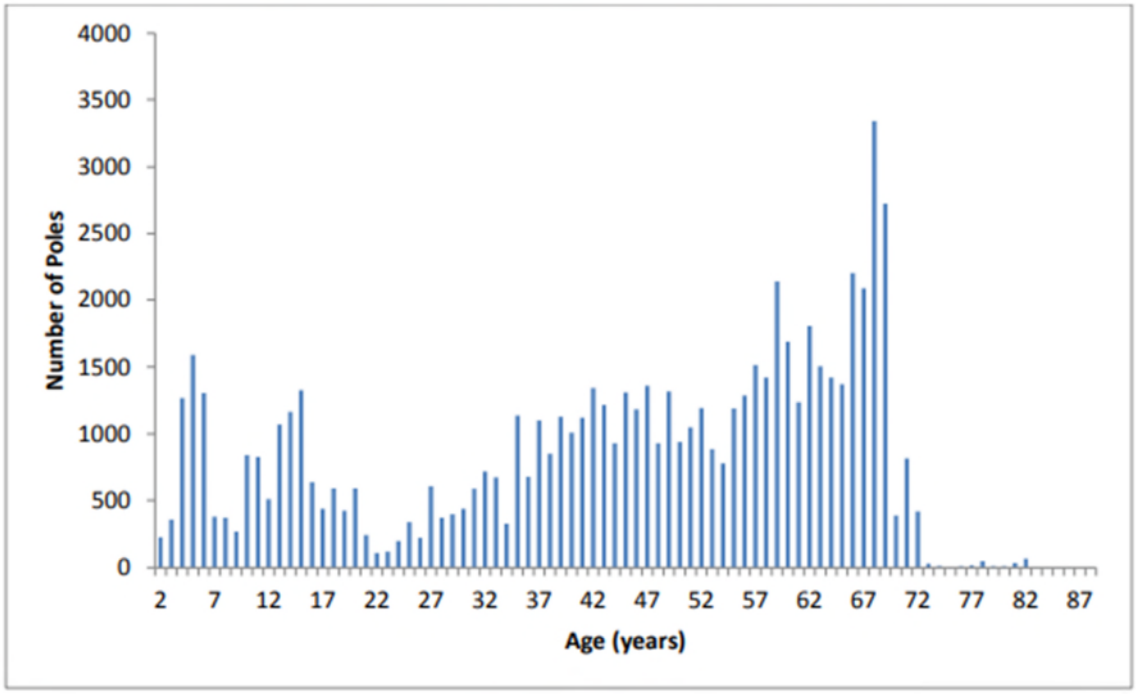
[248] Distribution System Plan, Section 1.6, Attachment 1. The Navigant study is discussed in more detail under Issues 10-12 and 25.

[249] Transcript, Day 6, June 19, p 106, ll 6 to 17.

[250] Transcript, Day 9, June 25, p 42, ll 12-18.

6. Hydro One has approximately 67,000 poles in that have reached an end of life state, meaning they have all failed integrity tests.[251] The age demographics of these poles are represented in the following figure;[252]

**Figure 2: Demographics of Poles that are in Poor Condition**




7. In addition, there is are 39,000 red pine poles that do not meet the CSA standard for penetration and retention of treatment.[253] In its last distribution rate case proceeding, a third party expert report confirmed the appropriateness of planning to replace these poles, a conclusion which was not challenged or rejected by the Board in its decision;[254]

[251] Transcript, Day 7, June 21, p 147, lie 24 to p 148, l 3.
[252] Undertaking J 7.3, Figure 2.
[253] Transcript, Day 8, June 22, p 81, ll 24-27.
[254] Decision, EB-2013-0416/EB-2014-0247.

8. Based on historical data, over the course of the plan, Hydro One forecasts approximately 13,400 poles will be assessed to be in poor condition each year, for a total addition of 67,000 poles;[255]

9. The proposed Pole Replacement Program will replace approximately 72,000 poor condition poles over the course of the plan.[256] As a result, at the end of the plan, there will be approximately 101,000 poles remaining in poor condition. The reduction of 5,000 poles in poor condition from the current number will not materially improve the overall condition of Hydro One's wood pole inventory or dramatically reduce the population of end of life condition poles.

In short, the Pole Replacement Program is designed to maintain the condition of Hydro One's pole population, and not improve it. Abandoning, or materially reducing, the Pole Replacement Program will increase the risk of negative reliability and safety impacts, increase the costs of replacement, add additional risk to the frequency of sustained outages, potentially increase the need for redirection, and ultimately defer necessary spending on wood pole replacement to future generations. In Hydro One's submission the avoidance of all of these risks is a prudent approach and is why the Pole Replacement Program as applied for is reasonable and justified in these circumstances.

(iv) *Station Refurbishment*

Hydro One proposes to spend $148.1M over the five year plan on station refurbishments.[257] Like the Pole Replacement Program, the level of spending in the Station Refurbishment Program will permit Hydro One to only maintain the condition of its distribution station fleet, and not materially improve the existing condition.[258] A chart of Hydro One's station condition, under each proposed investment plan, was included in the Application in response to I-35-BOMA-31:[259]

[255] Undertaking J 7.3, p 2.
[256] Undertaking J 7.3, p 3.
[257] Distribution System Plan, Section 3.8, SR-06, p 1.
[258] Distribution System Plan, Section 3.8, SR-06, p 3.
[259] I-35-BOMA-31, Figure 2.

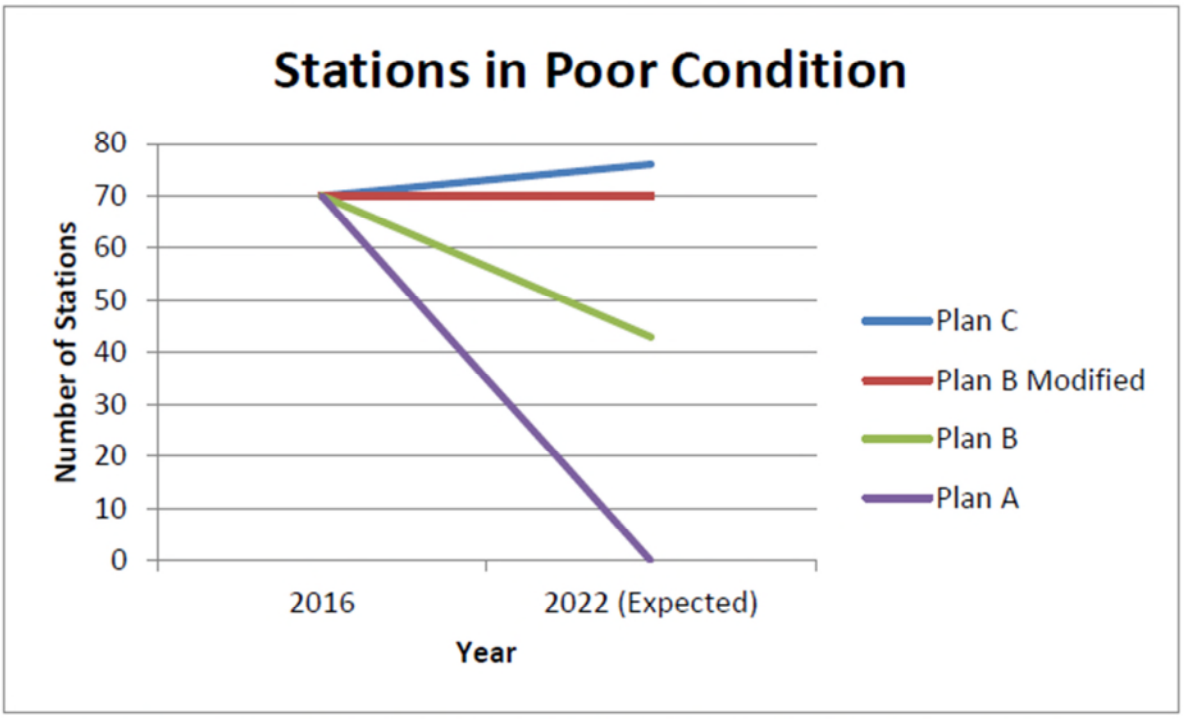



**Figure 2: Impacts of Plan Alternatives on Distribution Station Population**

As discussed in Issue 25, Hydro One filed a benchmarking study from Navigant concerning its Station Refurbishment Program. While Navigant noted that while station refurbishment activities are "varied", it was of the view that Hydro One's station refurbishment costs are in-line with peer group utilities.[260]

Hydro One did consider a "reactive component replacement" approach for station refurbishment (i.e., a run to failure approach). However, that approach was rejected for the reasons cited and described in the Distribution System Plan:

> This alternative is rejected for several reasons. Reactive management of stations would lead to degraded reliability for Hydro One's customers as a result of station failure increases and the duration of outages being longer in length (12 to 24 hours). The reactive replacements would be limited to only addressing the failed component and would not address other components in deteriorated condition that are also at risk of failure. The volume of

[260] Distribution System Plan, Section 1.6, Attachment 1, p i.

> failures would increase and the MUS and spare transformer fleet would need to be expanded in order to address the additional failures in a timely manner to maintain the customer reliability. Where a station requires additional capacity, the increase in capacity cannot be addressed with a reactive component replacements strategy.[261]

Navigant also did not recommend a run-to-failure approach.[262] Nor is there any other evidence suggesting such an approach would be a reasonable or prudent for Hydro One to adopt in these circumstances. Nor is there any alternative evidence to suggest the extent of Hydro One's proposed station refurbishment program or the forecast costs of this program are in any way unreasonable or lack sound judgment. Any reduction in spending in this program will simply defer a known problem - the need to refurbish and replace poor condition station assets - to future rate payers. At the same time it would impose greater risks on current rate payers because if such failures occur, reliability impacts will be significant, and the costs to address such problems through the trouble calls program will likely be higher than as contemplated by taking a measured and planned approach.

(v) *Smart Meter Replacement*

In 2006, Hydro One commenced installation of smart meters. According to manufacturer information, these meters have an expected service life of 15 years.[263] Given these circumstances, Hydro One has therefore included $78.5M in its system renewal investment plan, commencing in 2022, to commence a replacement program.[264]

Ms. Bradley explained during cross-examination that Hydro One is not aware of any leading indicators of health or condition of meters. There are no warning signs when they will fail. Rather, they will stop communicating and Hydro One will be unable to provide that customer with accurate bills.[265]

[261] Distribution System Plan, Section 3.8, SR-06, pp 1-2.
[262] Transcript, Day 6, June 19, p 106, ll 6 to 17.
[263] Transcript, Day 8, p 13, ll 12-15.
[264] Distribution System Plan, Section 3.8, SR-14, p 4.
[265] Transcript, Day 8, June 22, p 15, ll 14-20.

Another challenge with the technology underlying smart meters is the requisite communication "mesh" created and relied on for their use. As Ms. Bradley explained in responses to questions from the Board Chair, the interdependency of these devices and the rate of failure that Hydro One has already observed are key factors explaining why it is appropriate for Hydro One to plan for the replacement of these devices.[266]

Adopting an ad hoc approach, or run to failure approach, would impose unacceptable risks both to Hydro One and to customers. Smart meters provide the information necessary for accurate billings. Only permitting smart meters to be replaced when they fail means that gaps in billing information would be created. Reactive approaches to replacement would also likely impose higher costs, which costs would need to be addressed through the redirection process, thereby placing other forecasted investments at risk.

Finally, Hydro One notes some interveners raised concerns regarding Hydro One's reliance upon manufacturer information regarding expected service life and the allegation that this information may not be objective. In response, Hydro One notes that the 15 year expected service life is consistent – if not conservative – as compared to the level of failures Hydro One has already seen and which fall within the 15-year manufacturer recommended service life. Given this, Hydro One's submits the basis to adopt the smart meter replacement program is reasonable plan as proposed.

(b) System Service

(i) *Historical Spending*

System service capital expenditures over the last three year plan were as follows:[267]

*in $ millions*

| 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|
| **Plan** | **Actual** | **Plan** | **Actual** | **Plan** | **Actual** |
| 95.4 | 69.8 | 89.7 | 78.9 | 86.0 | 80.1 |

[266] Transcript, Day 8, June 22, p 20, ll 2 - 13.

[267] I-24-SEC-38, Table 55, June 12, 2018.

The total planned spend in this historical three year period was $271.1M. Actual spend levels over this period was $228.8, a variance of approximately -16%.

(ii) *Planned Spending*

System service capital expenditures over the course of the proposed plan are forecasted as follows:[268]

*in $ millions*

| **2018** | **2019** | **2020** | **2021** | **2022** |
|---|---|---|---|---|
| 81.6 | 91.6 | 85.6 | 78.8 | 69.5 |

Most planned spending on the system service category is driven by demand programs, or programs driven by load growth. The single system service program that received significant attention during cross-examination was the Worst Performing Feeder Program.[269]

The Worst Performing Feeder Program is a new program that has been developed as a part of Hydro One's renewed focus on reliability and continuous improvement. It has been made possible by the availability of more specific reliability data, as explained in the ISD:

> Recently, Hydro One has been able to leverage the available reliability data and has come up with a list of the "worst performing feeders" on the system. Rather than using pure asset-based requirements, the identification of these feeders is primarily based on their reliability metrics as a contributor to System Average Interruption Duration Index ("SAIDI") and/or System Average Interruption Frequency Index ("SAIFI"). These metrics are referred to in combination as Customer Average Interruption Delivery Index ("CAIDI"). The trending of performance also factors into the determination of the list.
>
> The worst performing feeders program will include those feeders whose contribution to SAIFI/CAIDI is three times the average feeder's contribution. Based on preliminary analysis, this represents approximately 230 feeders whose contribution to SAIFI is three times the average and approximately seventy feeders whose contribution to CAIDI is three times the average. Improving

[268] I-24-SEC-38, Table 56, June 12, 2018.

[269] Distribution System Plan, Section 3.8, SS-06.

> performance of this small number of feeders should improve reliability of the overall system for customers.
>
> Generally, the primary reason for a feeder being on the worst performing list is related to vegetation management. However, solving the issue is not necessarily about more aggressive forestry practices. Modernization can be a significant contributor to improvement as can placement of the line away from pending forestry contacts. Moreover, improved communication would help to address outages more quickly and reduce their duration to the benefit of customers on these lines.[270]

This program exemplifies how targeted reliability improvements are embedded in the Distribution System Plan. As set out in response to I-35-BOMA-31, Hydro One has more than 87,000 customers who have 50 hours or more of interrupted power each year, see the figure below.[271] Given these circumstances, it is both reasonable and consistent with Hydro One's greater focus on customer needs and preferences to target reliability improvement, and include in its investment plan those areas of its system that have experienced the longest and most frequent outage conditions.

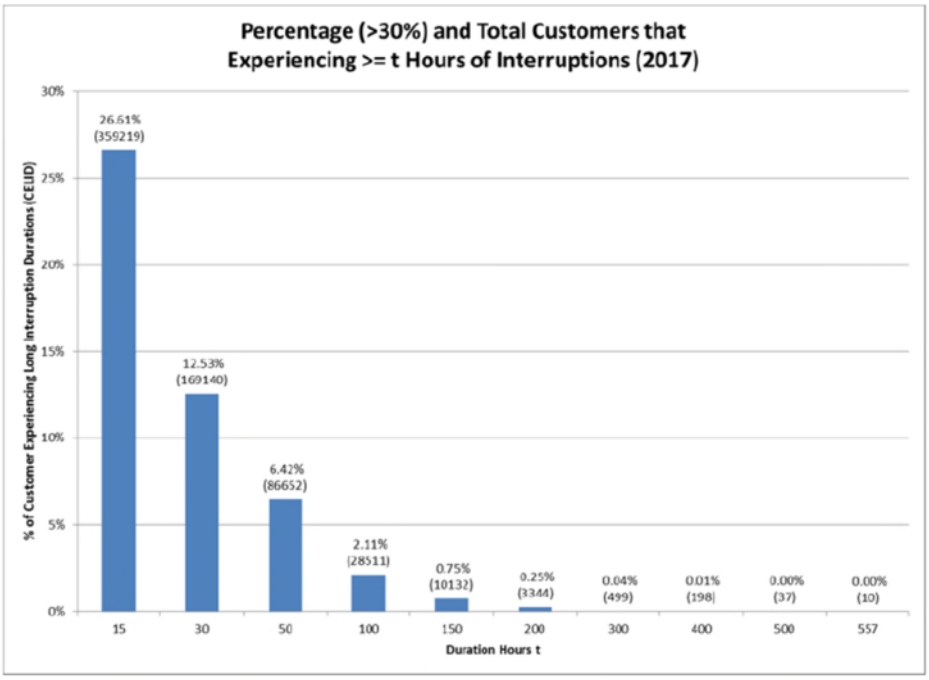



**Figure 3: Breakdown of Customers Experiencing Long Interruptions (over 15 hours cumulatively) in 2017**

[270] Distribution System Plan, Section 3.8, SS-06.

[271] I-35-BOMA-31, Figure 3.

(c) System Access

(i) *Historical Spending*

System access capital expenditures over the last three year plan were as follows:[272]

*in $ millions*

| 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|
| **Plan** | **Actual** | **Plan** | **Actual** | **Plan** | **Actual** |
| 183.3 | 188.1 | 182.6 | 182.7 | 176.1 | 181.9 |

Over this historical plan, the total planned spend was $542M and the actual spend level was $552.7, a variance of approximately 2%.

The reason for the low variance is that all investments in this category are "demand" priority investments, which means that they represent investments that are required by law,[273] or arise from pre-existing contractual obligations.[274] As a result, there is no ability to redirect funds away from any system access program. For the same reason, there is rarely a need to spend additional funds on any system access program. The variances are due to true variances in demand for particular programs caused by external factors such as load growth,[275] or distributed generation connection growth.[276]

(ii) *Planned Spending*

System access capital expenditures over the course of the plan are forecasted as follows:[277]

*in $ millions*

| 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|

[272] I-24-SEC-38, Table 55, June 12, 2018.

[273] SA-02 Metering Infrastructure Sustainment Program, SA-03 Meter Infrastructure Expansion Program, SA-04 New Load Connections, Upades, Cancellations and Metering, and SA-05 Distributed Generation Connections.

[274] SA-01 Joint Use and Line Relocations Program.

[275] SA-04 New Load Connections, Upgrades, Cancellations and Metering.

[276] SA-05 Distributed Generation Connections.

[277] I-24-SEC-38, Table 56, June 12, 2018.

| | | | | |
|---|---|---|---|---|
| 154.6 | 157.6 | 160.9 | 165.9 | 170.0 |

The reasons for the minor fluctuations in planned spending in system access category are described in the Distribution System Plan:

> System Access investments are expected to modestly decrease from historical levels in 2018 continuing the trend from 2014. The decrease is primarily due to the completion of the advanced meter infrastructure investment for the planned phase out of CDMA technology in meters and collectors in 2017 and a decrease in spending for generation connections (ISD SA-05). From 2018 to 2020 system access investments are expected to increase marginally until 2021 and 2022 where there is an increase due to the incorporation of the Acquired Utilities (Norfolk, Haldimand, and Woodstock) which are incorporated into the investment plan in 2021.[278]

There was little cross-examination on any planned System Access investment. Proposed spending levels throughout the actual rate period are more than $10M below 2017 actual levels, which was the lowest spending level in the prior three year plan.

(d) General Plant

(i) *Historical Spending*

General plant capital expenditures over the last three year plan were as follows:[279]

| **2015** | | **2016** | | **2017** | |
|---|---|---|---|---|---|
| **Plan** | **Actual** | **Plan** | **Actual** | **Plan** | **Actual** |
| 119.5 | 112.0 | 117.0 | 144.3 | 114.3 | 101.6 |

Over the historical plan, the total planned spend was $350.8M as compared to actual spend levels of $357.9M, a variance of approximately 2%.

[278] Section 3.6, p 2.

[279] I-24-SEC-38, Table 55, June 12, 2018.

The only variances in general plant which intervenors tested through cross-examination concerned Information Technology investments. Higher actual expenditures than planned occurred in 2016/2017. The reasons for these variances are explained in Section 3.6 of the Distribution System Plan, and are repeated here:[280]

- $8 million of the overage in 2015 is due to the implementation of efficiencies in the Customer Service Organization's (CSO) operations needed to receive reduced pricing specified on the CSO's single source agreement with Inergi LP;

- $8 million above planned spending in 2015 was due to the Telematics Project undertaken by Hydro One Fleet Services. This project was not planned at the time of the rate filing however it was undertaken to realize productivity efficiencies in the fleet operations from 2017 onward. The Telematics Project will allow Hydro One to lower costs related to fleet operation by reducing non-productive idling and speeding as well as increase the overall fleet utilization;

- $9 million above planned spending in 2016 was to implement customer alert and analytics functionalities. Customers will be alerted if their consumption is trending higher than a pre-defined threshold and receive personalized insights and program promotions. Customers will be able analyze their energy usage through an enhanced web portal. As a result of these investments, Hydro One anticipates improved customer experience and satisfaction, increased customer engagement, and ultimately a reduction in calls to the call centre;

- $6 million above planned spending occurred in 2016 to redesign the Hydro One website to make it more user-friendly to address customer concerns about performance, navigability and mobile responsiveness. The customer “My Account” portal was also upgraded to improve customer experience. The intended result is improved customer satisfaction with the portal, increased customer engagement, and a reduction in calls to the call centre;

- $10 million above planned spending occurred in 2016 to make improvements to SAP, Hydro One’s integrated financial planning, work management and billing environment. Several improvements were implemented and are listed below:

    - A new testing environment 1 was implemented to simplify bi-annual rate changes and will reduce costs associated with future system updates;

[280] Distribution System Plan, Section 3.6, p 6.

- The financial reporting module was approaching end of support and was updated to the latest version. The new version of the software automates several financial reporting processes and will reduce the time and manual effort to produce reports while increasing reporting accuracy; and

- The billing module was updated to improve the accuracy of monthly bills and to track unbilled revenue. The module was also updated to improve the collections process by enabling security deposit functionality and fraud checking.

- $10 million of the overage in 2016 was due to the construction of a new Bolton operation centre, which provides a permanent location for field crews. This will reduce costs via lower commute times to work sites and increase service response to a high growth area of Hydro One's service territory; and

- $7 million of the overage in 2016 was due to the "Move-to-Mobile" project. This goal of this project is to increase operational efficiency by improving the use of technology by field staff. Field staff and schedulers will have real-time information updates which will reduce manual administrative effort and drive productivity by improving scheduling, dispatching and reporting workflows. In the last distribution rate filing (EB-2013-0416), the project was targeted to take five years to complete. However, during the discovery phase of the project, it was identified that overall project costs could be reduced by shortening the execution timeline to three years with a majority of the spending happening in 2016. The reduction in overall project costs will be achieved through reduced project management and change management costs.[281]

Many of the above variance explanations speak for themselves, but two are worth highlighting. First, $8M in 2015 of spending was above plan to implement the telematics program. That program is contributing $52.2M in capital productivity savings over the course of the next five year plan due to reductions in fleet expenditures.[282] It is also contributing $6.5M in OM&A savings over the course of the plan in reduced fuel costs.

Second, $7M in 2016 of spending above plan was to implement the Move-to-Mobile project. That program is contributing $52.9M in capital productivity savings over the course of the next

[281] Distribution System Plan, Section 3.6.

[282] I-25-Staff-123, p 2.

five year plan due to expected unit costs savings.[283] The program is also contributing $14.2M in OM&A savings over the course of the plan due to reductions in back office support staff.

These two productivity programs alone have achieved $105.1M in capital productivity savings, and $20.7M in OM&A savings. Far more than the investment, far more than the total information technology capital variances, and far more than the general plant capital variances.

(ii) *Planned Spending*

General Plant capital expenditures over the course of the plan are forecasted as follows:[284]

*in $ millions*

| 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| 143.3 | 168.5 | 116.2 | 103.7 | 105.9 |

This forecasted spending represents a significant reduction in anticipated spending levels over the course of the plan from the spending levels in the original Application. Q-1-1 provides the following year-by-year explanations for the significant reductions in the capital forecast:

> In 2018, the forecast increased by $4.2 million mostly due 1 to scope refinement for the Integrated System Operating Centre investment (ISD GP18). The increase was partially offset by lower spending on transportation and work equipment (ISD GP01) due to higher productivity savings through the telematics program, and lower spending on the work management and mobility investment (ISD GP10).
>
> In 2019, the forecast is $9.5 million lower due to higher productivity targets for the transportation and work equipment investment (ISD GP01) based on the telematics program and lower spending on the Integrated System Operating Centre (ISD GP18) as a result of schedule adjustments and scope refinement. The reduction is partially offset by an acceleration of human resource and pay-related technology investments (ISD GP13) to align with Hydro One's outsourcing agreement.

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I-25-Staff-123, p 2.

I-24-SEC-38, Table 56, June 12, 2018.

> In 2020, the forecast is $7.0 million lower reflecting higher productivity targets for the transportation and work equipment investment (ISD GP01) based on the telematics program.
>
> In 2021, the forecast is $15.7 million lower primarily due to higher productivity targets for the transportation and work equipment investments (ISD GP01) (based on the telematics program), lower spending on work management and mobility (ISD GP10) and lower spending on real estate facilities capital investments (ISD GP02).
>
> In 2022, the forecast is lower by $16.2 million due to higher productivity targets for transportation and work equipment investment (ISD GP01) (based on the telematics program) and lower spending on the real estate facilities capital (ISD GP02).[285]

The reasons, reflected in the above variance explanations, are that Hydro One has found very significant productivity improvements in the general plant category since the Application was filed. This was primarily done through fleet size reductions due to the telematics program.[286] These savings are reflected in the updated general plant ISD, GP-01, Transport & Work Equipment, which was updated, like all general plant ISDs, in response to I-29-Staff-173. The investment in that ISD dropped from $201M to $158M over the five-year plan. This reduction reflects the productivity savings now expected from the telematics program, which allowed Hydro One to reduce its fleet size by approximately 800 vehicles.[287]

(iii) *The Integrated System Operating Centre*

Hydro One proposes to build a new Integrated System Operating Centre ("ISOC") to replace the current Backup Control Centre ("BUCC") which opened in 1956, and which is at end of life and requires replacement. The investment need for the ISOC is set out in detail at GP-18:

> The Network Operating Divisions ("NOD") Backup Control Centre ("BUCC") facility was placed in-service in 1956, and is the means that regulatory, business and operational requirements are sustained for monitoring and control operations to North American Electricity Reliability Corporation ("NERC") standards, Distribution and Transmission System Code ("DSC") requirements and Hydro

[285] Q-1-1.

[286] Q-1-1, p 8.

[287] I-29-Staff-173, GP-01 compared with Distribution System Plan, Section 3.8, GP-18.

> One standards respectively. The BUCC facility consists of the building, computer tools and systems that support Operations in the event of a partial or total loss of the primary Ontario Grid Control Centre.
>
> A risk of future extended outages, inability to execute necessary upgrades /replacements and increase capacity to required computer systems and tools, could result in significant disruption to business continuity and Hydro One's ability to meet customer's service level expectations. The facility is currently at capacity in computing space, HVAC, power and due to the age of the structure, among other factors, remedial efforts are either not viable alternatives, cannot be mitigated or are cost prohibitive to execute. In addition, a prolonged activation would impede supporting Operations; i.e., Outage Planning, Operations studies and support due to a lack of back office support space. Current Operations support groups that are fundamental in daily Operations, are unable to occupy the BUCC during any event, 20 and would require current staff at the Richview facility to be relocated, procurement and set up of required computer equipment and would take vital time to implement.[288]

The ISOC will also encompass other assets that perform similar functions including Security Operations, Security Event Monitoring and the Integrated Telecommunications Management Centre. By integrating these functions, Hydro One will reduce overall rate impacts by eliminating the need for multiple standalone investments with redundant design-build processes and building and technology infrastructure.[289] The total distribution portion of the investment is $61.3M over the five-year plan. The net investment cost will be $22M in 2018, $36.3M in 2019, and $3.1M in 2020.[290]

Six alternative proposals for the ISOC investment were considered and are described in ISD-GP-18. A thorough assessment of all options was made, including comparisons to other construction alternatives, leasing portions of the operations, comparing the ISOC investment to similar investments made by comparable utilities.[291]

[288] I-29-Staff-173, ISD-GP-18, p 1.

[289] I-29-Staff-173, ISD-GP-18 at pp 9 and 13.

[290] I-29-Staff-173, ISD-GP-18.

[291] I-29-Staff-173, ISD-GP-18, Schedule B – Detailed Alternative Comparison.

The ISOC is proposed to be located in Orillia. Mr. Irvine, the Hydro One witness with responsibility for the ISOC, confirmed that the selection of the Orillia location was not dependent on Hydro One's acquisition of Orillia Hydro.[292]

The Orillia location was selected based on an independent property appraisal study prepared by Andrew, Thompson & Associates Ltd. 28 different sites were evaluated, and the proposed location was recommended based on essential site criteria including proximity to existing infrastructure and other location based requirements. The acquisition of Orillia Hydro was not a factor considered in the report.[293] Hydro One also conducted its own comparison of all available sites, including an analysis of cost, and Orillia was the top site.[294]

Mr. Irvine was cross-examined on the fact that an approved business case does not exist for the ISOC and in particular on the difference between the ISD and the business case.[295] Mr. Irvine and Mr. Berardi (Vice President of Shared Services at Hydro One) clarified that: (i) an approved business case is a summary document that is approved by Hydro One's board and addresses the internal authorization given to authorize substantive project expenditures;[296] (ii) the current draft and future final business case contains all of the same information included in the ISD, except in less detail;[297] (iii) the contingency amount has, in fact, been assessed and is currently set at approximately $11 million[298] and (iv) the ISD contains a detailed assessment of the investment need, investment alternatives, risks and costs.[299] The cross-examiner chose not to address these assessments or the particulars of the ISOC investment as reflected in the ISD.

Based on the forgoing, Hydro One submits that the proposed ISOC investment is reasonable. The process used to select the proposed location was appropriate and based on objective

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292 Transcript, Day 10, June 26, p 23, ll 7-15.

293 I-29-SEC-61, Attachment 1.

294 I-29-Staff-173, ISD-GP-18, p 24.

295 Transcript Day 10, June 26, p 31, ll 9 – 28 and p 32.

296 Transcript Day 10, June 26, p 31, ll 19-22.

297 Transcript Day 10, June 26, p 26, ll 10-11: "… all the information that would be in the business case is included in ISD GP-18" and "…the RFP process that we are going through is not a commitment for us to award the contract; it is, we're running through a competitive process. We will get to the point where we will have a proponent that we will be negotiating a commercial terms and conditions. At that point we would do a pause and do a business case review...".

298 Transcript Day 10, June 26, p 32, ll 12-26.

299 I-29-Staff-173, ISD-GP-18.

independent criteria. The ISOC design serves multiple functions allowing synergies by integrating needs and purposes. As a result, the investment is appropriate for inclusion in the capital investment plan.

**Issue 31. Are the methodologies used to allocate Common Corporate capital expenditures to the distribution business appropriate?**

The methodologies used to allocate Common Corporate capital expenditures to the distribution business follow the methodology recommended by independent expert, Black and Veatch, and are consistent with the approaches used to allocated common corporate capital expenditures in past rate cases. The Black and Veatch study[300] filed in this Application is the same study as was approved by the Board in the Hydro One's 2017-2018 transmission rates proceeding EB-2016-0160 and therefore remains appropriate.

**Issue 32. Are the methodologies used to determine the distribution Overhead Capitalization Rate for 2018 and onward appropriate?**

Hydro One's overhead capitalization policy is consistent with US GAAP and the OEB has approved the methodology used in Hydro One's past rate Applications, most recently in its decision in regards to Hydro One's transmission rates Application (EB-2016-0160, the "Transmission Decision").[301] Hydro One further notes that its overhead capitalization rates are generally lower as compared to Hydro One's last distribution rate Application.[302]

In the Transmission Decision, the OEB indicated that it will consider whether it should initiate a policy review regarding USGAAP and capitalization of overhead amounts.[303] Hydro One notes that policy changes, if any, resulting from any such future generic review would be implemented in a future rates Application. In sum, Hydro One submits that the methodologies used to determine the distribution Overhead Capitalization Rate for 2018 and onward are appropriate.

[300] B&V Review of Allocation of Common Corporate Costs (Distribution) – 2016. See C1-4-1, Attachment 1.

[301] Transmission Decision, p 82.

[302] See EB-2013-0416 C1-5-2 p 2 as compared to this Application (D1-3-1, p 2).

[303] Transmission Decision, p 82.

## E. RATE BASE AND COST OF CAPITAL

### Issue 33. Are the amounts proposed for the rate base from 2018 to 2022 appropriate?

The amounts Hydro One proposes for rate base are appropriate, as evidenced by: (i) the robust process that Hydro One has undergone in order to forecast and plan for its capital needs including productivity already embedded in the proposed capital expenditures, as discussed above; (ii) Hydro One's appropriate depreciation expense, as discussed in Issue 44, below; and (iii) appropriate working capital component of the rate base, as discussed directly below (in Issue 34). Moreover, Hydro One is holding itself accountable to customers in regards to its capital forecast through its proposed CISVA.

### Issue 34. Are the inputs used to determine the working capital component of the rate base and the methodology used appropriate?

The inputs used to determine the working capital component of the rate base and the methodology used are appropriate: They are supported by a detailed study conducted by independent expert Navigant, who concluded that a working capital requirement in the range of 7.70% to 7.74% of sum of OMA and cost of power expenses depending on the year of the Custom IR term.[304]

One additional input to the working capital component of rate base was addressed by Mr. D'Andrea. Mr. D'Andrea confirmed that Hydro One is lowering its proposed revenue requirement to reflect the impact of the Fair Hydro Plan on cash working capital as set out in I-33-Staff 179.[305]

### Issue 35. Is the proposed capital structure appropriate?

Hydro One's proposed capital structure of 60% debt and 40% equity is appropriate as it is consistent with OEB requirements in regards to capital structure of electricity distributors. Moreover, the proposed capital structure of 60% debt and 40% equity structure is consistent

[304] Working Capital Requirements of Hydro One by Navigant, see D1-1-3 Attachment 1, p 19.

[305] Transcript Day 1, p 18, l 12-17.

with the approved structure in Hydro One's recent rate proceedings including Hydro One's most recent transmission rates proceeding.[306]

**Issue 36. Are the proposed timing and methodology for determining the return on equity and short-term debt prior to the effective date of rate implementation appropriate?**

This proposed approach is appropriate as it is consistent with Hydro One's prior applications approved by the OEB and ensures the revenue requirement is based on the most recent information available. It is also consistent with the intent of the annual update to the cost of capital parameters issued by the Board. During the Application process Hydro One updated its revenue requirement consistent with the 2018 Cost of Capital parameters, as outlined in Q-1-1 of the Application.

**Issue 37. Is the forecast of long term debt for 2018 and further years appropriate?**

The forecast of long term debt for 2018 is set out at D1-2-2, Section 3.3 and updated as part of Q-1-1. The forecast is appropriate as it (i) reflects the needs of the capital programs of the distribution business; and (ii) is derived from what Hydro One expects to spend on capital, that is, it is not discretionary.

[306] See EB-2016-0160, Decision p 43.

## F. OPERATIONS MAINTENANCE AND ADMINISTRATION COSTS

**Issue 38. Are the proposed OM&A spending levels for Sustainment, Development, Operations, Customer Care, Common Corporate and Property Taxes and Rights Payments, appropriate, including consideration of factors considered in the Distribution System Plan?**

Yes, the proposed OM&A levels are appropriate. The most current summary of proposed OM&A expenditures over the course of the plan are found in the June 11, 2018 update to I-38-SEC-70, which provides as follows:[307]

**Table 1: Summary of Recoverable OM&A Expenses ($ Millions)**

| Description | Historic | | | | | Bridge | | Test |
|---|---|---|---|---|---|---|---|---|
| | 2014 IRM | 2015 | | 2016 | | 2017 | | 2018 |
| | Actual | Actual | Approved | Actual | Approved | Actual | Approved | Forecast |
| Sustainment | 325.7 | 304.6 | 316.5 | 323.7 | 361.4 | 304.7 | 367.1 | 346.7 |
| Development | 11.0 | 10.9 | 15.4 | 11.9 | 17.8 | 8.8 | 17.0 | 11.0 |
| Operations | 29.5 | 27.6 | 35.8 | 31.5 | 39.4 | 31.9 | 37.5 | 36.7 |
| Customer Care | 209.3 | 155.4 | 111.7 | 118.8 | 110.9 | 123.4 | 111.6 | 128.7* |
| Common Corporate Costs and Other | 94.4 | 69.1 | 59.0 | 72.0 | 54.8 | 84.9 | 54.7 | 48.7 ** |
| Property Taxes & Rights Payments | 4.6 | 4.8 | 4.7 | 4.6 | 4.9 | 5.0 | 5.0 | 4.9 |
| **Total** | **674.5** | **572.5** | **543.1** | **562.6** | **589.1** | **558.7** | **593.0** | **576.7** |
| *% Change (year-over-year)* | | *-15.1%* | *-19.5%* | *-1.7%* | *8.5%* | *-0.7%* | *0.7%* | *3.2%* |
| *% Change (Test vs. 2016 Actual)* | | | | | | *-0.7%* | | *2.5%* |

* Reflects reduction of bad debt based on the Fair Hydro Plan.
** Reflects reduction of transformation costs and OPEB OM&A as described in Exhibit Q.

The overall proposed level of OM&A spending is $576.7M This amount represents a reduction of $15.2M since the Application was originally filed in March 2017,[308] and also represents a reduction of $16.3M from Hydro One's 2017 approved amount.

Over the course of the plan, Hydro One's OM&A spending will increase annually by the Inflation Factor reduced by the Productivity Factor.[309]

[307] I-38-SEC-70, p 2.
[308] See original C1-1-1.

Since 2014, when OM&A expenditures were high due to customer care expenses related to the implementation of a new customer information system, OM&A expenditures have been kept in line, and, in fact, are shrinking.

(a) Sustaining

Sustaining OM&A is addressed in Section C1-1-2 of the Application. The historical and test year OM&A spending is summarized in table 1:[310]

**Table 1: Summary of Sustaining OM&A ($ Millions)**

| Description | Historic | | | | | Bridge | | Test |
|---|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | | 2016 | | 2017 | | 2018 |
| | Actual | Actual | Approved | Actual | Approved | Actual | Approved | Forecast |
| Stations | 25.7 | 25.3 | 27.6 | 23.8 | 28.4 | 23.9 | 28.9 | 24.8 |
| Lines | 145.2 | 144.7 | 141.3 | 141.4 | 149.7 | 135.5 | 152.4 | 153.8 |
| Meters, Telecom and Control | 14.2 | 16.6 | 18.5 | 16.2 | 18.7 | 18.4 | 18.5 | 18.6 |
| Vegetation Management | 140.6 | 118.0 | 129.0 | 142.3 | 164.6 | 126.9 | 167.3 | 149.6 |
| **Total** | **325.7** | **304.6** | **316.5** | **323.7** | **361.4** | **304.7** | **367.1** | **346.7** |

(i) *Sustainment Programs (except Vegetation Management)*

The stations program addresses demand and planned corrective maintenance of Hydro One's Distribution Stations as well as land assessment and remediation (testing and carrying out remedial work to manage contaminated soil at stations).[311] Details of these programs are included in the Application. Demand maintenance is necessary to respond to component failures; planned work prevents such failures. A station failure can impact up to 10,000 customers, and therefore demand and planned maintenance is important to avoid such impacts.[312] Spending on these programs is in-line with historical amounts. No intervenor cross-examined the Asset Management Panel on the appropriateness of the level of spending on these programs.

309 A-3-2, p 6.
310 I-38-AMPCO-37
311 C1-1-2, p 6.
312 C1-1-2, p 7.

The forecasted expenditure for lines covers four programs: demand work (trouble calls, locates, connects and disconnects); scheduled maintenance; government mandated PCB Equipment and Waste Management; and other services (transmission lines, track service quality indicators, fund specific community events, and complete joint use audits, etc.).[313] The overall proposed spending increase on lines from the 2017 approved amount is $1.4M (or less than 1%) "due to anticipated increase in customer requests for underground cable locates, and inflation."[314] No intervenor cross-examined the Asset Management Panel on the appropriateness of the level of spending on these programs.

The forecasted expenditures for meters covers three programs: Retail Revenue Meters (routine and corrective maintenance); Wholesale Revenue Meters (routine and corrective maintenance and IESO registration/inspection); and Telecom, Monitoring & Control (collection of energy consumption data, and control of sectionalizing switches and electronic reclosers).[315] Each of these programs are demand programs required to maintain Hydro One's billing meters to ensure accurate billing. No intervenor cross-examined the Asset Management Panel on the appropriateness of the level of spending on these programs.

(ii) *Vegetation management*

Finally, the vegetation management program is the sustaining OM&A program that received by far the most attention during the evidentiary portion of this proceeding. As part of Hydro One's Q-1-1, update filed in December, 2017, Hydro One introduced a new vegetation management program.[316] The new program, called the Optimal Cycle Protocol ("OCP"), will allow Hydro One to run a three year cycle on all of its lines by focusing only on defects and trees that have the potential to become defects in the next three years. The main benefit of this change in approach is that vegetation on all of Hydro One's distribution system rights of way will be examined within a much shorter cycle time – every three years as compared to the current cycle time average of over nine years. Targeting only high risk vegetation allows for greater coverage and focuses on

[313] C1-1-2, p 13. See C1-1-2, p 14, Table 3 for a breakdown of spending per program.
[314] C1-1-2, p 14.
[315] C1-1-2, p 22. See C1-1-2, p 23, Table 4 for a breakdown of spending per program.
[316] Q-1-1, Section 2.1, and Q-1-1, Attachment 2.

achieving significant reliability improvements across the system and for the same expenditure level as originally proposed for Hydro One's previously implemented program.[317]

Hydro One put forward an expert, Steve Tankersley from Clear Path to present and explain Hydro One's new vegetation management program. Mr. Tankersley oversaw a survey of the vegetation in Hydro One's service area, which included a review of costs, defect rates, and reliability impacts.[318] Based on that survey and his extensive experience with vegetation management programs, Mr. Tankersley recommended that Hydro One adopt a three year cycle. According to Mr. Tankersley the three year cycle will lead to "significantly improved public safety, reliability and cost results."[319] This three year cycle is the optimal cycle that the OCP program is based on.

In order to move to a three year cycle, Mr. Tankersley advised Hydro One that they will need to move to a "defect-based" vegetation management program.[320] A defect based program only addressed vegetation that is a "defect" or has the potential to become a defect before the next clearing cycle.[321] A "defect" being a tree that is contracting the system through growth, or a tree that has the potential to fail and strike the conductor because they are dead, diseased, decadent or otherwise defect.[322] This defect-based approach to vegetation management is a part of the new OCP vegetation management program.

Based on this new OCP vegetation management program, Hydro One has projected that by 2022 it will have achieved a 40% reduction in vegetation caused SAIDI hours, Force Majeure Excluded over its 10 year average, and a 58% reduction based on its 2017 year-end vegetation caused SAIDI.[323] Furthermore, Hydro One will be able to achieve these significant reliability improvements with the same projected vegetation management spending as was in the original

[317] See Submission to the Board of Directors, November 10, 2017, I-3-SEC-4, Attachment 4, p 2.
[318] Transcript, Day 5, June 18, p 133, ll 6 to 20.
[319] Transcript, Day 5, June 18, p 133, ll 6 to 20.
[320] Transcript, Day 5, June 18, p 133, ll 6 to 20.
[321] Transcript, Day 6, June 19, p 19, l 27 to p 20, l 2.
[322] Transcript, Day 6, June 19, p 26 l 28 to p 27, l 4.
[323] Submission to the Board of Directors, November 10, 2017, I-3-SEC-4, Attachment 4, p 2.

Application, approximately $150M in 2018.[324] In other words, for the same cost but using a different method, Hydro One will be able to produce better results.

The SEC and Board Staff suggested to the Asset Management Panel that because of the reliability improvements provided by the vegetation management program, Hydro One should cut spending in other programs to maintain its alleged target of maintaining reliability. This line of cross-examination was predicated on a fundamental misreading of the Application. As Ms. Bradley explained during cross-examination by the SEC:

> … The vegetation management program is not renewing our pole population, it is not renewing our stations population. The capital investments that are currently in the plan are required to maintain and prevent further deterioration of those assets.
>
> The vegetation management program, unfortunately, isn't going to renew those assets.[325]

Ms. Bradley and Mr. Bowness gave similar evidence when cross-examined by Board Staff:

> MS. BRADLEY: The plan that we have is based on achieving a balanced set of outcomes. So we've used the OEB's Renewed Regulatory Framework that focuses on customers, operational effectiveness, public policy responsiveness, and financial performance. It isn't only reliability that drives our investments; it is sustaining our fleet of assets.
>
> So we didn't do a lot of investigation of scenarios that would focus on only one factor; we focused on the balance of factors for long-term sustainability.
>
> MR. SIDLOFSKY: But do we agree that status quo reliability is the basis of the Plan B modified proposal?
>
> MS. BRADLEY: I view the primary driver of the Plan B modified as being to sustain the fleet of assets and not to enable them to deteriorate. We can walk through some of the board materials that we presented when we were going through plan A, B, C and B modified, and in that material,

[324] C1-01-02, Table 1.

[325] Transcript, Day 7, June 21, p 140, ll 4-12.

I can walk you through where we demonstrated to our board of directors the impact on our fleet and the condition of our fleet as a primary factor in the discussion with our board, and then we came back with Plan B modified to enable that sustained plan.

MR. SIDLOFSKY: The discussion about the RRFE and improving reliability really only seems to have come up during the hearing, though. My understanding of Plan B modified was that you were maintaining reliability.

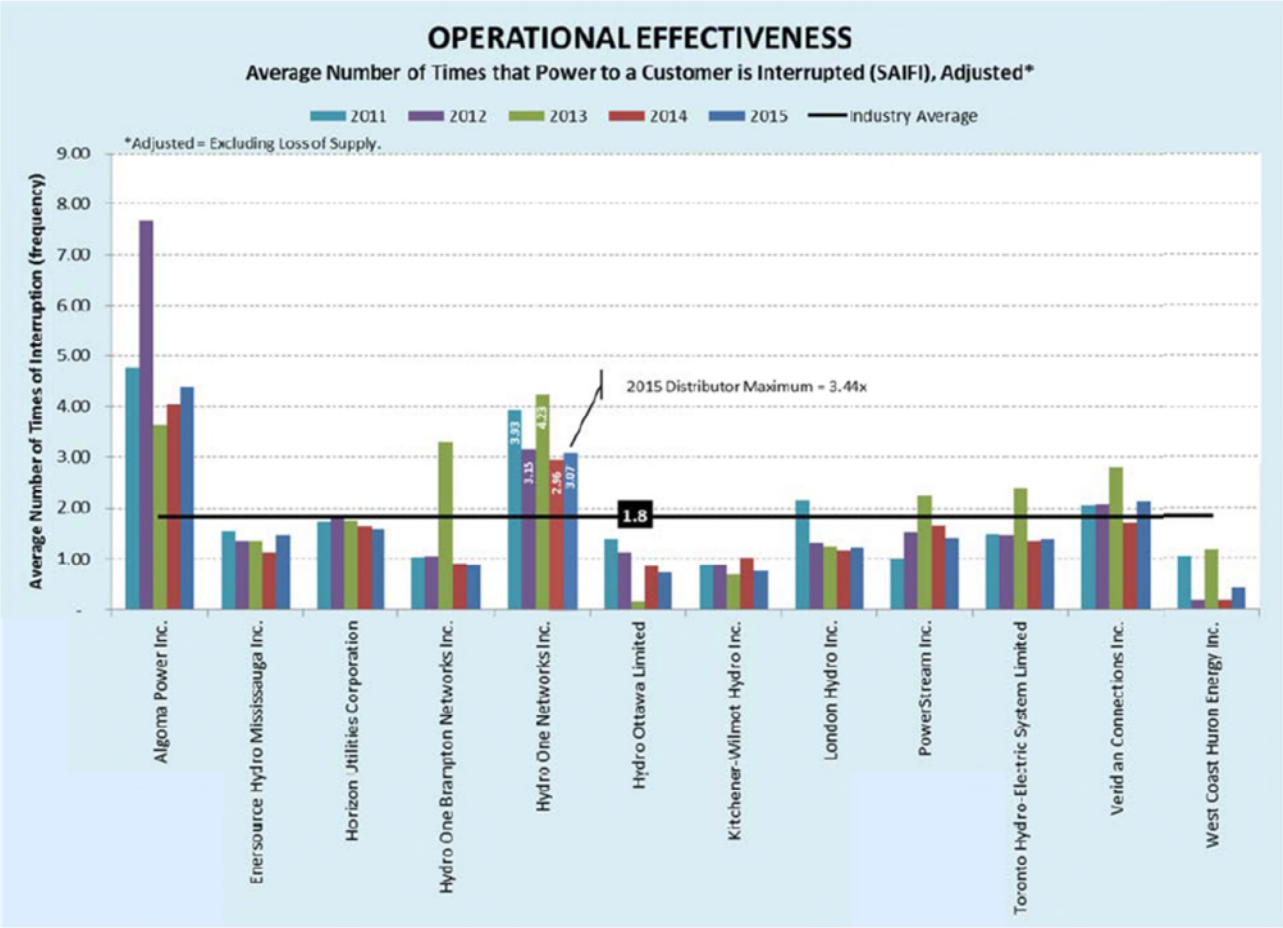
MR. BOWNESS: Sorry, I think something that's important here is between the time of submitting the evidence, which was based on a Board approval around maintaining reliability, we came up with a very innovative approach of implementing our new vegetation management strategy.

We looked at the cost envelope that was submitted to the Board and we challenged ourselves to do better, and we've committed to doing better.

If what you're suggesting is that based on being able to achieve a better outcome in a certain area for lower cost would allow us to then degrade the assets from another dimension and do fewer pole replacements of poles that have a high likelihood of failure, I think that is stretch -- what I struggle with is that if we don't replace those poles on a planned basis, they are going to fail -- have a high probability of failure on a reactive basis within the next five years. So the cost of trouble and storm and such will go up.

So I'm really not seeing the correlation to making a better strategic decision on vegetation management should result in us degrading our asset base, to negatively impact reliability and cost for our ratepayer.

I think macro-ly there has been some discussion here around Hydro One's reliability performance and comparing to other utilities, and if we could just, you know, for reference pull up the chart within Exhibit A, tab 5, schedule 1, page 35 of 52, this is the summary level SAIDI impact of ourselves as compared to other Ontario LDCs, so if we could just pull that up for a second, page 35 of 52.




So if you look at this, with the exception of the 2013 year, which was -- that was the -- which was a direct impact of most utilities with the ice storm, I think it's fair to say that Hydro One's performance is far poorer for Ontario ratepayers as compared to the other major LDCs. That's the nature of the size of the stack bars. And we are really challenging ourselves to improve our 19 reliability. We want to achieve a better outcome. We believe that for the costs that our ratepayers in Ontario pay, they deserve better reliability, and that is why the basis -- that's one of the basises (sic) for our vegetation management strategy is to get this in check. We don't believe that we should be harvesting that savings and degrading the assets and passing on costs to future periods and future generations.

MS. BRADLEY: <u>But I'd also like to add that I strongly disagree with your strong characterization that reliability was the only thing that was mentioned and that the fleet of assets and condition is</u>

> only now coming up. In every piece of documentation we have in our business plan, our summary on the top of the second page talks about the need of the plan to appropriately align the needs and preferences of customers, customer rates, and effective stewardship of the distribution system by Hydro One.
>
> In every board meeting we talk about reliability, we talk about condition of our assets, we talk about being sensitive to our customers and rates. I don't know that I can find any spots in our documentation, whether it to be to the board or to our board of directors, where the fleet 13 of assets and the condition of our system aren't forefront in any discussion that's taking place.[326]

As explained, suggested linear relationships or correlations between expected reliability improvement from the OCP cannot and do not provide a sound basis to support cuts in the investment expenditures required for other programs and projects. All proposed program and project level investments are independent, as a result of the bottom-up approach to investment plan development taken by Hydro One. As discussed, the level of spending was dependent upon asset condition. Reduction of vegetation management risks does not provide a means to "manage" the condition of poles that have reached end of life – those poles will still fail. Reducing investments intended to address those risks means the assumption of higher risks of failure which ultimately impacts reliability, customer service, and higher costs to address higher failure rates.

Similarly, it would be illogical to reduce vegetation management expenditures such that the program is then designed to achieve the same level of system reliability as the initial program. What this approach would mean from an operational perspective is less vegetation management would be carried out on the system. Cycle times to address the system would increase - which is counter-intuitive to the whole purpose behind the OCP – touching more right of way more often but only for the purpose of addressing high-risk vegetation circumstances. The OCP program, as proposed, has been the subject-matter of independent expert review. The three year cycle length reflects their recommendations. Arbitrarily adopting modifications to the expert recommendations by reducing OCP proposed level expenditures would result in high risk vegetation to go unmanaged and result in potentially greater and not lesser system outage impacts. As Mr. Tankersley opined in his report:

[326] Transcript, Day 9, June 25, p 52, l 13 to p 55, l 15. [emphasis added]

> Alternative 4 and 5-year cycles were examined and appear to have a lower year-over-year cost but would not provide desired reliability or public safety results. In addition, predicting vegetation conditions over a longer time horizon can result in excessive listing practices to account for the longer cycle thus lessoning cost advantages.[327]

Hydro One submits such outcomes are not supported by any evidence filed in this proceeding and should be avoided. Instead, Hydro One submits full funding for the OCP program should be approved as its adoption will improve system reliability, which in the long-term facilitates lower costs and improved service for customers.

(b) Development

Development OM&A is addressed in Section C1-1-3 of the Application. The historical and test year OM&A spending is summarized in Table 1:[328]

**Table 1: Summary of Development OM&A ($ Millions)**

| Description | Historic | | | | | Bridge | | Test |
|---|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | | 2016 | | 2017 | | 2018 |
| | Actual | Actual | Approved | Actual | Approved | Actual | Approved | Forecast |
| Engineering and Technical Studies | 4.0 | 3.8 | 4.7 | 4.2 | 4.7 | 3.5 | 4.7 | 1.7 |
| Distributed Generation Connections | 2.6 | 2.5 | 2.2 | 2.5 | 2.0 | 2.6 | 2.0 | 2.9 |
| Distribution Standards Program | 3.9 | 3.4 | 5.6 | 3.3 | 5.8 | 0.9 | 6.0 | 4.5 |
| Research Development and Demonstration* | 0.4 | 1.2 | 2.9 | 1.8 | 5.2 | 1.7 | 4.3 | 1.6 |
| Customer Power Quality Program | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.2 |
| **Total** | **11.0** | **10.9** | **15.4** | **11.9** | **17.8** | **8.8** | **17.0** | **11.0** |

** In 2016, investments in smart grid related studies were integrated under the new Research Development and Demonstration ("RD&D") program; as such costs associated with these studies prior to 2016 have been included under RD&D in the above table.*

Development OM&A consists of five programs: 1) Engineering and Technical Studies; 2) Distributed Generation Connections; 3) Distribution Standards Program; 4) Research Development and Demonstration; and 5) Customer Power Quality Program.[329]

[327] Q-1-1, Attachment 2, p 16.

[328] I-38-SEC-70, p 3, June 11, 2018.

The proposed spending in 2018 is in line with historical spending, except for a slight decrease in 2017 due to lower than expected spending on the Distribution Standards Program. These programs received little to no attention during cross-examination.

(c) Operations

Operations OM&A is addressed in Section C1-1-4 of the Application. The historical and test year OM&A spending in summarized in table 1:[330]

**Table 1: Summary of Operations OM&A ($ Millions)**

| Description | Historic | | | | | Bridge | | Test |
|---|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | | 2016 | | 2017 | | 2018 |
| | Actual | Actual | Approved | Actual | Approved | Actual | Approved | Forecast |
| Operations | 17.7 | 18.1 | 16.9 | 19.6 | 17.1 | 21.2 | 17.1 | 18.5 |
| Operations Support | 4.6 | 4.4 | 5.4 | 4.8 | 5.4 | 3.4 | 5.5 | 4.9 |
| Environment, Health and Safety | 1.4 | 1.5 | 2.7 | 1.6 | 2.8 | 1.8 | 2.6 | 1.8 |
| Smart Grid* | 5.9 | 3.5 | 11.0 | 5.6 | 14.1 | 5.5 | 12.4 | 11.5 |
| **Total*** | **29.5** | **27.6** | **35.8** | **31.5** | **39.4** | **31.9** | **37.5** | **36.7** |

*Rounding Errors account for up to $0.1 million in variance

The Operations OM&A consists of four programs: Operations, Operations Support, Environmental, Health and Safety, and Smart Grid.

The 2018 test year is in line with historical spending, with the exception of the smart grid program, which is forecasted to increase to historically approved levels as the smart grid program is implemented by Hydro One. As set out in C1-1-4:

> Smart Grid expenditures for 2015 to 2017 are trending below OEB approved values as the rollout of the Distribution Management System was delayed in favour of the next version of the Application. This delay the requirement for sustainment activities of the Distribution Management System and reduce the funding

[329] C1-1-3.

[330] I-38-Sec-70, p 3, June 11, 2018.

requirements. The Distribution Management System Upgrade Project is currently in flight and is expected to be completed in 2018.[331]

(d) Customer Care

Customer Care OM&A is addressed in Section C1-1-5 of the Application. The historical and test year OM&A spending in summarized in table 1:[332]

**Table 1: Summary of Customer Care OM&A Allocated to Distribution ($ Millions)**

| Description | Historic | | | | | Bridge | | Test |
|---|---|---|---|---|---|---|---|---|
| | 2014 IRM | 2015 | | 2016 | | 2017 | | 2018 |
| | Actual | Actual | Approved | Actual | Approved | Actual | Approved | Forecast |
| Call Center Operations (1) | 79.5 | 56.4 | 38.5 | 41.5 | 38.8 | 44.0 | 39.9 | 44.5 |
| Meter Reading | 23.5 | 18.7 | 14.9 | 17.8 | 14.3 | 18.8 | 14.0 | 19.2 |
| Third Party Support (2) | 13.6 | 13.2 | 12.2 | 14.1 | 12.5 | 14.1 | 12.9 | 14.6 |
| Field Support | 4.9 | 12.0 | 7.1 | 14.0 | 7.3 | 7.2 | 7.5 | 8.1 |
| Regulatory Compliance (LEAP) | 2.2 | 4.2 | 2.1 | 4.1 | 2.2 | 3.7 | 2.3 | 4.3 |
| Net Bad Debt | 66.8 | 29.5 | 15.5 | 6.8 | 15.4 | 16.1 | 14.4 | 18.2 (5) |
| Customer Care Staffing (3) | 18.9 | 21.5 | 21.3 | 20.5 | 20.4 | 19.4 | 20.6 | 19.8 |
| **Total Customer Care OM&A (4)** | **209.3** | **155.4** | **111.6** | **118.8** | **110.9** | **123.4** | **111.6** | **128.7** |

(1) Previously referred to as "Customer Service Operations", "Customer Operations" and "Settlements".
(2) Previously referred to as "Service Support" and "Service Enhancements".
(3) Previously referred to "Customer Service Management", "Customer Business Relations", "Customer Care Management", "Customer Experience", and "Conservation and Demand Management".
(4) Costs associated with the Smart Grid Pilot are now included in the Exhibit C1, Tab 1, Schedule 4 (Operations OM&A) Exhibit.
(5) Net Bad Debt in 2018 have been reduced by $2.9 million as per Exhibit I-33-Staff-179.

[331] C1-1-4, p 4.
[332] I-38-Sec-70, p 4, June 11, 2018.

Customer OM&A was significantly over budget in 2015 due to customer information system related issues. Those issues are now resolved, and customer OM&A spending had dropped significantly since 2015.

It should be noted that many of the customer care costs are demand based, i.e. Hydro One has no ability to avoid paying the cost as it is required to perform the program. These include, Contact Centre, Meter Reading, Field Support, Regulatory Compliance, and Net Bad Debt.[333]

The costs of the Third Party Support item relate to materials such as postage, e-billing services, toll-free phone numbers, etc., the prices of which are dictated by the market or by competitive procurement.[334]

Regarding the call centre, the cost is largely driven by the cost of Power Workers' Union labour ("PWU") as the call centre costs are largely labour.[335] Hydro One brought the call centre in-house in March 2018 as it had been previously outsourced. When bringing the call centre in-house, Hydro One assumed the contracts of PWU workers who work in the call-centre.[336] Given the labour intensive nature of the work, Hydro One does not forecast any cost savings due to the in-sourcing of the call centre, however, Hydro One believes it will be able to offer a higher quality of customer service, and have more flexibility in how it operates its call centre.[337] It is important, to note, that there are no transition costs included in the 2018 test year expense.[338]

(e) Common Corporate Costs and Other

Common Corporate Costs and Other OM&A is addressed in C1-1-6 and C1-1-7 of the Application. The historical and test year OM&A spending is summarized in the following table:[339]

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333 C1-1-5.

334 C1-1-5, Section 2.3, p 5.

335 Transcript, Day 4, June 15, ll 16 to 24.

336 Transcript, Day 4, June 16, p 200, l 12 to p 201, l 14.

337 Transcript, Day 4, June 15, ll 16 to 24.

338 J 9.4.

339 I-38-Sec-70, pp 5-6, June 11, 2018.

**Table 2: Summary of Common Corporate OM&A Costs Allocated to Distribution**
**($ Millions)**

| | Historic | | | | | Bridge | | Test |
|---|---|---|---|---|---|---|---|---|
| **Description** | **2014 IRM** | **2015** | | **2016** | | **2017** | | **2018** |
| | **Actual** | **Actual** | **Approved** | **Actual** | **Approved** | **Actual** | **Approved** | **Forecast** |
| Planning | 15.0 | 16.4 | 18.4 | 12.2 | 17.8 | 12.3 | 17.6 | 13.3 |
| Common Corporate Functions & Services | 76.8 | 80.5 | 77.3 | 85.8 | 76.8 | 86.9 | 76.7 | 86.1 |
| Information Technology | 109.3 | 85.8 | 85.7 | 85.3 | 86.4 | 85.7 | 86.1 | 80.4 |
| Cost of External Revenue | 4.5 | 5.4 | 2.1 | 4.3 | 2.1 | 10.2 | 2.1 | 4.6 |
| Other OM&A* | (111.3) | (119.0) | (124.4) | (115.5) | (128.3) | (110.2) | (127.8) | (135.6) |
| **Total** | **94.4** | **69.1** | **59.0** | **72.0** | **54.8** | **84.9** | **54.7** | **48.7** |

*OEB-directed reductions for compensation (LTIP portion) and OPEB reductions as described in Exhibit Q are reflected in this line item. Includes the pension adjustment described in Exhibit C1, Tab 1, Schedule 7.

2018 common corporate costs and other OM&A are more than $30M lower than the 2017 actuals, and are more than $15M lower than any prior year.[340] That includes a reduction of more than $5M in information technology OM&A costs.[341] No intervenor cross-examined the Shared Services Panel or the Finance panel on the common corporate OM&A costs.

As discussed in response to Issue 42, there have been increased shareholder allocations in general, and as provided in the Q-1-1 update, which impact the above figures. See Issue 42 for further details.

(f) Property Taxes and Rights Payments

Property Taxes and Rights Payments are addressed in C1-7-4 of the Application. The historical and test year OM&A spending is summarized in the following table:[342]

[340] I-38-SEC-70, pp 5-6, June 11, 2018.
[341] I-38-SEC-70, pp 5-6, June 11, 2018.
[342] C1-7-4.

**Table 1: Summary of Property Taxes OM&A**

| Description | Historic | | | | | Bridge | | Test |
|---|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | | 2016 | | 2017 | | 2018 |
| | Actual IRM | Actual | Approved | Actual | Approved | Forecast | Approved | Forecast |
| Property Taxes | 3.8 | 3.9 | 3.9 | 4.3 | 4.1 | 4.4 | 4.2 | 4.6 |
| Indemnity Payments | 0.5 | 0.4 | 0.5 | 0.0 | 0.5 | 0.0 | 0.5 | 0.0 |
| Rights Payments | 0.3 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| **Total** | **4.6** | **4.8** | **4.7** | **4.6** | **4.9** | **4.7** | **5.0** | **4.9** |

As discussed in C1-7-4, Hydro One pays property taxes under the *Electricity Act, 1998*,[343] the *Municipal Act, 2001*,[344] and the *Assessment Act*.[345] They are paid on land and buildings owned by Hydro One for the purposes of operating its distribution system, and are paid to over 400 different municipalities each year. The amounts are determined by the property values, which are assigned by the Municipal Property Assessment Corporation and updated using the same schedule as the rest of the province.[346] Additionally, Hydro One pays annual fees to railway companies and government entities for the right to cross and/or occupy their properties. As a result, Hydro One has no ability to reduce, defer, or otherwise change these amounts.

**Issue 39. Do the proposed OM&A expenditures include the consideration of factors such as system reliability, service quality, asset condition, cost benchmarking, bill impact and customer preferences?**

Yes, as described in Section C1-1-1, the test year OM&A expenses result from the business planning and work prioritization process described in Section 2.1 of the Distribution System Plan, and described in these submissions in response to Issues 23 to 29. As a result of those processes the OM&A expenditures "demonstrate Hydro One's commitment to aligning customer needs and preferences, responsible stewardship of the Company's distribution assets and rate impacts."[347]

[343] *Electricity Act, 1998*, SO 1998, c. 15, Sched. A.
[344] *Municipal Act, 2001*, SO 2001, c. 25.
[345] *Assessment Act*, RSO 1990, c. A.31.
[346] C1-7-4, p 2.
[347] C1-1-1, p 1.

Each of system reliability, service quality, asset condition, cost benchmarking, bill impact, and customer preferences are considered in Hydro One's proposed OM&A expenditures through the investment planning process:

- System reliability is addressed through the new vegetation management program as recommended in the Clear Path report.[348] As discussed in response to Issue 38, that program will result in estimated reliability improvements of 20-40% for vegetation caused SAIDI, with no additional cost to ratepayers from the old program.

- Service quality is addressed through the decision to bring the call centre operations in-house. As explained by Mr. Pugliese, the rationale for bringing call centre operations in house was based on being able to provide a higher level of service to customers, as he testified:

> we felt that if we were going to embark on a strategy where we wanted to be more customer-intimate and more customer-focussed, we felt we should own that relationship ourselves. So bringing it back in needed to happen.
> Negotiations have taken place with the PWU and the Society, and we've since embarked on new collective agreements that embed flexibility with language to allow us to achieve that cost neutrality, but at the same time, work with changes in the job classifications that give us greater flexibility in how we can actually respond to customers.
>
> So you will note today, for example, the call centre is open on Saturdays and we are able to do that and implement that without additional costs, but in terms of spreading the operation costs of the business across the days that we function.
>
> Like I said, it's early days. It came in and became active on March 1st of this year, and we continue to monitor and track against our performance and I would say that it is tracking positively. We are seeing the results that we wish to see and the significant performance improvement and customer satisfaction improvements, along with tracking on cost improvements.[349]

[348] Q-1-1, Attachment 2.

[349] Transcript, Day 4, June 15, p 199, l 15 to p 200, l 10.

- Asset condition is addressed through ongoing asset condition testing programs. Notably, due to the recommendations in the benchmarking study from Navigant, Hydro One is investigating improvements that can be made to its pole testing process to augment the current process by including more thorough testing methods. Further details are provided in response to Issue 25.[350]

- Cost benchmarking is demonstrated through the use of scorecards and the benchmarking studies that were submitted as part of this Application. The scorecards and the additional metrics proposed by Hydro One are addressed in response to Issues 18-20. The benchmarking studies are addressed in response to Issues 10-12 and 25.

- Bill impact and customer preferences can be addressed together. As outlined in response to Issue 23, customers have told Hydro One that their number one concern is bill impact (or "cost").[351] Hydro One's attention to bill impact of OM&A expenses is best demonstrated by Hydro One's request for a 2018 test year OM&A that is $16.3M (or 2.8%) below the 2017 level approved by the OEB in the last rate Application. This reduction in request OM&A spending demonstrates Hydro One's commitment to controlling bill impacts of its OM&A expenses.

**Issue 40. Are the proposed 2018 human resources related costs (wages, salaries, benefits, incentive payments, labour productivity and pension costs) including employee levels, appropriate?**

Hydro One continues to take significant steps to ensure its human resources related costs are appropriate and reasonable. Hydro One has taken into account and followed Board direction and stakeholder concerns regarding human resources related costs and has made important progress in this area, while at the same time keeping in mind that Hydro One's compensation strategy is essential to the company in order to attract, retain and engage the calibre of talent required to deliver on its commitments to ratepayers and corporate strategy. Moreover, updated

[350] See also: I-25-Staff-126.

[351] See: Issue 23. Customer's second concern is reliability, which is addressed above under this issue.

valuations of Hydro One's pension plan and post-employment benefits plan have resulted in reductions to Hydro One's revenue requirement.[352]

(a) Non-unionized workforce

As explained by Mr. McDonell at the oral hearing, Hydro One's management compensation strategy is illustrative of Hydro One's new approach to compensation. Hydro One is focused on pay for performance where successful outcomes are rewarded, and there are no generalized compensation increases for management employees.[353] A significant portion of compensation is variable or at-risk pay, with a greater percentage of compensation being variable the more senior the role.[354] Hydro One's compensation programs are based on independent compensation advice and best practices, and are aligned with compensation principles approved by the Hydro One Board.[355]

In response to concerns regarding its defined benefit pension plan, Hydro One has closed its defined benefit pension plan and introduced a less costly defined contribution pension plan for all new management employees. Moreover, employees are contributing more to the cost of their pension.[356]

(b) Unionized workforce

As approximately 90% of Hydro One's workforce has collective agreements with Hydro One that cannot be unilaterally changed by Hydro One, a very significant portion of Hydro One's compensation costs are fixed. However, as outlined in C1-2-1 of the Application, successful negotiation outcomes have recently been achieved that will benefit Hydro One, employees and ratepayers. [357] These include lower base adjustments with lump sum payments, share grant

[352] See: Q-1-1, Tab 1, Schedule 1, p 5, table 3.

[353] Transcript Day 3, pp 8-9.

[354] Transcript Day 3, pp 8-9.

[355] Transcript Day 3, pp 8-9 and I-40-SEC-082-01.

[356] Transcript Day 3, pp 8-9. As stated by Mr. McDonell (at Transcript Day 3, p 9), "[F]or two of our groups, we have already obtained a 50/50 cost sharing level". As set out in Exhbit I-40-SEP-14 p 3, these are Society employees who joined Hydro One post November 2005 and management employees who joined Hydro One post 2003.

[357] C1-2-1, pp 28-30.

opportunities for employees, and a reduction in pension costs achieved by increasing pension contributions and reducing future pension benefits.[358]

**Issue 41. Has Hydro One demonstrated improvements in presenting its compensation costs and showing efficiency and value for dollar associated with its compensation costs?**

Hydro One has listened carefully to the concerns of parties in past proceedings in regards to its compensation evidence and has worked to respond to these concerns in the data it has provided in this Application, both in its pre-filed evidence C1-2-1 as well as in subsequent evidence filings provided in regards to compensation. As explained by Mr. McDonell:

> [Hydro One now shows] total compensation annually by our transmission and our distribution businesses and a consolidated view. We also show year-end compensation annually for our transmission and distribution businesses, and a consolidated view. We have included more cost compensation inputs to better reflect total compensation at Hydro One. We now show head count, full-time equivalence, and year-end head count numbers now. We've refined our methodology for allocating casual employee compensation in order to reflect a more accurate allocation between our transmission and our distribution businesses.
>
> And while this can be quite overwhelming, for sure, we do have an explanation reconciling the different approaches to showing our payroll data, and that is set out in Exhibit C1, tab 2, schedule 1, attachment 7, pages 4 through 8.[359]

As a result, Hydro One submits that it has responded to the concerns of parties in regards to the presentation of its compensation costs.

In regards to showing efficiency and value for dollar associated with its compensation costs, Hydro One submits that the compensation studies filed as part of this Application demonstrate a serious commitment to both finding efficiencies and value in its approach to compensation as well as showing these efficiencies and values by way of independent, third party studies. As noted by Mr. McDonell at the oral hearing, the seven compensation benchmarking studies filed

[358] C1-2-1, pp 28-30.

[359] Transcript, Day 3, June 14, pp 9-10.

in this proceeding demonstrate that Hydro One takes compensation costs seriously.[360] Only one of these studies, the Mercer study, is the result of OEB direction, the rest are studies commissioned by Hydro One "in the course of managing our business in order to be better informed of the appropriate compensation levels for talent."[361] As stated by Mr. McDonell:

> We have filed these studies to be as transparent as possible to assist the parties with understanding the compensation decisions and the challenges that we face. Our goal and our hope is that by providing different snapshots and different views of compensation, it will assist the OEB assessing the overall reasonableness of our compensation strategy.[362]

The compensation studies filed in the Application consider executive compensation,[363] non-executive compensation,[364] management and non-represented employees,[365] total compensation[366] and a study on Power Workers Union employees.[367] Mr. McDonell summarized how these studies demonstrate Hydro One's commitment to deliver value for dollar in regards to compensation costs as follows:

> So here are a few of the takeaways from the various reports. The updated Mercer total compensation study shows an improvement towards market median from the 2016 study. Overall, Hydro One has moved from being 14 percent above market median to 12 percent above P50, or market median. I would highlight that the PWU roles within that study have moved from 16 percent above P50 to 12 percent above P50 in this study.
>
> compensation costs at Hydro One are generally fixed, and this is particularly true for our unionized employees. Approximately 90 percent of our work force are unionized, and therefore have binding collective agreements that cannot be changed unilaterally by Hydro One. We believe that the improvement in the PWU

[360] Transcript Day 3, June 14, p 10.

[361] Transcript Day 3, June 14, p 10, ll 21-24.

[362] Transcript Day 3, June 14, pp 10-11.

[363] Hugessen report (2015) on executive compensation filed at C1-2-1, Attachment 3 as well as Willis Towers Watson studies for executive/non-executive compensation (2015) filed at C1-2-1, Attachment 1 and 2.

[364] See above.

[365] Willis Towers Watson benchmarking study for management and non-represented employees (2017), filed on April 20, 2018.

[366] 2016 Mercer total compensation study filed at C-1-2, Attachment 5 and updated Mercer total compensation study for 2017 filed on April 20, 2018.

[367] Willis Towers Watson PWU benchmarking study filed at I-3-SEC-3, Attachment 1.

> compensation is particularly notable, given that they represent approximately 65 percent of the employees at Hydro One.
>
> Also, the Willis Towers Watson PWU benchmarking study shows that on a total cash basis, Hydro One is 7 percent above P50. Finally, the Willis Towers Watson study for management and non-represented segments show in 2017, just before a modest adjustment to our salary schedules [, overall], we are 1 percent below P50 and after this adjustment to address certain compensation challenges internally, Hydro One is 3 percent above P50 on a total direct compensation basis.[368]

Overall, Hydro One submits that it is demonstrating a strong commitment to managing its compensation costs, with a view to finding value and efficiencies for the company and for ratepayers.

**Issue 42. Is the updated executive compensation information filed by Hydro One in the distribution proceeding on December 21, 2017 consistent with the OEB's findings on executive compensation in the EB-2016-0160 Transmission Decision?**

The Transmission Decision found that the Corporate Management cost increases were primarily related to the transformation of the holding company and the amount requested for recovery in rates should be reduced.[369] In Q-1-1-1-1 at page 5, Hydro One proposed to reduce rate-recoverable Corporate Management compensation expenses by $3.2 million, which represents the 2015 pre-initial public offering levels, adjusted for inflation, in response to the Transmission Decision direction. As a result, the updated executive compensation information filed in Application Q-1-1 on December 21, 2017 is consistent with the OEB's findings in the Transmission Decision.

[368] Transcript Day 3, June 14, p 12.

[369] See p 58, Transmission Decision (revised November 1, 2017).

**Issue 43. Are the methodologies used to allocate Common Corporate Costs and Other OM&A costs to the distribution business for 2018 and further years appropriate?**

Hydro One's methodology in relation to the allocation of common corporate costs and other OM&A costs consists of a planning process where corporate costs are collected from the relevant groups and allocations are applied in a manner consistent with the Black & Veatch Review of Allocation of Common Corporate Costs.[370] The Black & Veatch study, which is an independent third-party review of Hydro One's allocation of common corporate costs, confirms that "Hydro One's current cost allocation methodology continues to be appropriate because it achieves the purposes for which it was designed; to distribute costs in a manner that is consistent with OEB precedent and regulatory practice, and promotes transparency and efficiency".[371]

[370] C1-4-1, Attachment 1.

[371] Black & Veatch Review of Allocation of Common Corporate Costs (C1-4-1 Attachment 1), p 6.

## G. REVENUE REQUIREMENT

### Issue 44. Is Hydro One's proposed depreciation expense for 2018 and further years appropriate?

Hydro One has retained Foster and Associates to review its depreciation rates. As explained by Mr. Chhelavda in the oral hearing, Hydro One's proposal to retain its current depreciation rates is within the range of options that the Foster Associates study[372] contemplates:

> Foster & Associates have indicated that we could choose to implement all of none of the proposed rates and it still would be within that band of reasonability. And so our view is, you know, we would keep the rates as is and it would be within that acceptable band.[373]

Hydro One proposes to maintain its current depreciation rates to avoid potential fluctuations in depreciation expenses recovered through rates. The depreciation study completed is backwards looking and does not consider investments made in the future. Hydro One expects that planned capital expenditures over the 2018 to 2022 period could increase the average remaining life of asset pools,[374] which would result in future decreases in the depreciation rate. Overall maintaining Hydro One's current depreciation rates results in a lower depreciation expense by 21.9 million, which avoids an increase in rates of approximately 2%[375] and also avoids potential fluctuations in future rates. As a result of these considerations, Hydro One submits that its proposed depreciation expense for 2018 and further years is appropriate.

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372 C1-6-1, Attachment 1.

373 Transcript Day 3, p 124, ll 8-12.

374 C1-6-1, p 2, ll 5-8.

375 C1-6-1, l 25.

**Issue 45. Are the proposed other revenues for 2018 – 2022 appropriate? and**
**Issue 54. Are the proposed specific service charges for miscellaneous services over the 2018-2022 period reasonable?**

As discussed at E-1-2, external revenues are earned through the provision of specific services to customers and third parties, and through joint use of Hydro One's distribution assets by third parties. These revenues offset Hydro One's distribution revenue requirement, reducing the required revenue to be collected from ratepayers.[376]

a) Specific Service Charges

A significant portion of Hydro One's External Revenue is generated by charging Specific Service Charges for miscellaneous services over and above the standard level of service as defined by the DSC. Each of these services has an OEB-approved fixed rate and is charged to a customer based on a customer's request or as the result of a customer's action or inaction that would impose a cost on Hydro One's distribution customers.[377]

Hydro One's specific service charges have been held fixed for the past ten years. In Hydro One's last distribution rates case, proceeding EB-2013-0416, the Board directed Hydro One to "file a study assessing whether its service charges reflect Hydro One's underlying costs and to propose changes" so as to mitigate under-recovery of costs. [378]

In response to the OEB's direction and as explained in H1-2-3, Hydro One completed an extensive year-long time study of the work and costs to provide miscellaneous services. Hydro One retained Elenchus Research Associates Inc.[379] for guidance and review of Hydro One's approach and methodology to ensure that it would meet the study objectives (the "Time Study"). The Time Study used the approach to specific services set out in Chapter 11 of the OEB's 2006 Electricity Distribution Rate Handbook (the "2006 Handbook") to examine the charges included in the 2006 Handbook.

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376 E1-1-2, p 1, ll 7-10.
377 H1-2-3, p 1, ll 5-9.
378 EB-2013-0416, Decision, p 51.
379 H1-2-3.

Hydro One has submitted its proposed, updated Specific Service Charges in H1-2-3. These charges with some exceptions, are based on the Time Study and are therefore cost-based and up-to-date, ensuring that there is no cross-subsidization or under-recovery taking place between customers. Furthermore, Hydro One has worked to better delineate customer connection charges and now proposes several different classes of charges in regards to customer connections that more accurately reflect the associated work.[380] Hydro One has also updated its telecom pole attachment charge in response to the OEB's recent direction on this matter.[381]

In the case of certain customer care Specific Service Charges, Hydro One has implemented a flat fee for its proposed rates "for ease of customer understanding, and to minimize the cost of system changes, ongoing operational maintenance, and agent training." [382] Unrecovered costs of a flat fee shall be borne by Hydro One's shareholder.

b) External Revenue

External revenues are earned through the provision of specific services to customers and third parties, and through joint use of Hydro One's distribution assets by third parties. These revenues are generated by charging Specific Service Charges for miscellaneous services or other revenues, not associated with OEB-specific service charges, that are based on an estimated cost of providing the external work calculated using standard labour rates, equipment rates, material surcharge and overhead rates as well as forecast volumes that Hydro One believes are reasonable.[383]

Hydro One updated its forecasted External Revenue as a result of updates provided during the oral hearing.[384] These updates have been consolidated and presented in the table below.

[380] E-1-2, p 16.
[381] Filed in this proceeding on May 28, 2018.
[382] I-54-CME-95, p 1.
[383] E1-1-2, p 3.
[384] J 11.2.

| Description | Test | | | | |
|---|---|---|---|---|---|
| | 2018 | 2019 | 2020 | 2021 | 2022 |
| | Forecast | Forecast | Forecast | Forecast | Forecast |
| Regulated Revenues | 39.3 | 40.2 | 40.4 | 41.3 | 41.6 |
| Unregulated Revenues | 3.8 | 3.8 | 3.8 | 3.8 | 3.9 |
| **Sub-Total External Revenue** | **43.1** | **44.0** | **44.3** | **45.1** | **45.4** |
| Standard Supply Service Charge | 3.9 | 3.9 | 4.0 | 4.0 | 4.0 |
| **Total External Revenue and Other** | **47.0** | **47.9** | **48.2** | **49.1** | **49.4** |

Regulated Revenues have been updated to reflect Hydro One no longer introducing some Specific Service Charges.[385] The result of not recovering charges for these services is a shift of about $341,000 from 2018 External Revenue to Hydro One's rates' revenue requirement, which will not materially impact Hydro One's customers.[386] Hydro One also proposes to maintain the current OEB-approved rate it charges for disconnections and reconnections at the meter.[387] This change will result in a reduction to External Revenue of $1.3 million.[388] Hydro One also updated its Late Payment Charges impacted by the Fair Hydro Plan, resulting in a reduction to External Revenue of approximately $2.2 million annually.[389] Furthermore, Hydro One corrected its Joint

[385] These are the following, as set out in Transcript Day 11, pp 6-7: Rate code 1, the arrears certificate; rate code 2, the statement of account; rate code 3, pulling post-dated cheques; rate code 4, duplicate invoices for previous billing; rate code 5, requests for other billing information; rate code 7, income-tax letter; rate code 8, notification charge; rate code 9, account history; rate code 10, credit reference/credit check; rate code 12, charge to certify a cheque; rate code 13, legal letter charge; rate code 31(a), vacant premise move-in with reconnect electrical service at meter; and rate code 31(b), which is a vacant premise move-in with reconnect electrical service at a pole.

[386] Transcript, Day 11, June 28, p 7.

[387] Transcript, Day 11, June 28, p 7, The reason for this is that the rate arising from the Time Study reflects the cost of sending a crew to perform a disconnection and reconnection but since the time of the Time Study, Hydro One has been installing remote disconnect meters which can be disconnected without dispatching a crew. As Hydro One continues to increase the number of remote disconnect meters in service, the overall costs associated with this activity will decline.

[388] Transcript, Day 11, June 28, pp 7 to 8, revised E1-1-2 Table 4 provided.

[389] Transcript, Day 10, June 26, p 85, ll 5-20, revised E-1-2 Table 4 to reflect the updated Retail Service Charges Revenue forecast for the 2018 to 2022 rate term.

Use charges to reflect lower forestry line clearing costs.[390] Unregulated Joint Use Revenues have been updated to reflect new vegetation management practices resulting in a $3 million annual reduction to External Revenue.[391]

As indicated on Day 10 of the oral hearing, Hydro One continues to apply its 2017 approved specific service charges in 2018 and does not propose to go back to customers who paid these charges in 2018 and collect the updated 2018 charges when they are approved.[392] As a result, Hydro One proposes to update the 2018 external revenues when it files its Draft Rate Order in this proceeding to reflect the forecast of external revenue applying the currently-approved 2017 charges until the effective date for the new 2018 charges.[393]

Hydro One submits that its proposed External Revenue and Specific Service Charges, which are largely based on the Time Study and with due consideration to the above-noted revisions, are appropriate.

[390] Transcript, Day 10, June 26, p 91 to 92.

[391] Undertaking J11.2, Forestry clearing no longer occurs around the telecom attachment space and is defect-based around energized equipment as described in Q-1-1-1-1,

[392] Transcript Day 10, June 26, p 84, ll 19-23.

[393] Transcript, Day 10, June 26, p 84, ll 24-28 and p 85, l 1.

## H. LOAD AND REVENUE FORECAST

### Issue 46. Is the load forecast methodology including the forecast of CDM savings appropriate?

Hydro One's load forecast methodology has been found appropriate by the OEB in Hydro One proceedings since 2005 and has proved to accurately forecast load in the past.[394]

Hydro One Distribution uses a number of methods, such as econometric models, end-use models, and customer forecast surveys to produce the forecasts required for its distribution business. Similar methods are used by major utilities throughout North America.[395] The load forecast methodology includes the latest Conservation Demand Management ("CDM") figures available from the IESO,[396] as well as the latest consensus forecast inputs to the load forecasting models.[397]

#### (a) LRAMVA

Going forward, consistent with Board directives, Hydro One will track revenue variances due to differences from the CDM assumed in its load forecast via a lost revenue adjustment mechanism variance account ("LRAMVA") for the years 2018-2020.[398] Thus, verified LDC energy saving results will be compared with what has been assumed in the forecast prepared for the current rate submission.[399]

Hydro One therefore submits that its load forecast methodology and forecast of CDM savings is appropriate.

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394 See E1-2-1, p 1, 17-21. Even in regards to the forecast made in 2014 for the year 2016 where there was an over-forecasting of distribution load due to unexpected events in 2015 and 2016 such as a significant drop in oil price and Canadian exchange rate, and slowdown in world economic growth, the forecast remained within one standard deviation of error.

395 E1-2-1 p 1, ll 10-12.

396 E1-2-1 Table 4; E1-2-1 Table 7; I-43-VECC -75.

397 E1-2-1.

398 F1-3-1, p 4.

399 The CDM assumptions over the forecast period regarding LDC programs are provided in E1-02-01-02.

**Issue 47. Are the customer and load forecasts a reasonable reflection of the energy and demand requirements for 2018-2022?**

The customer and load forecasts are a reasonable reflection of the energy and demand requirements for 2018-2022. As confirmed by Mr. Andre during the hearing, Hydro One is requesting approval of the updated load forecast as provided in the response to I-46-Staff-219.[400] The updated load forecast uses the 2017 actual weather-normal load as a starting point, and includes the latest economic information for 2018-2022. As discussed in Issue #7, Hydro One proposes to provide an updated customer and load forecast for 2021 and 2022 in its Application for 2021 rates that will follow the methodology described in Issues 46 and 48.

**Issue 48. Has the load forecast appropriately accounted for the addition of the Acquired Utilities' customers in 2021?**

The load forecast has appropriately accounted for the addition of the acquired customers in 2021. Hydro One's customer and load forecast for Acquired Utilities has been prepared using the same methodology, models and economic assumptions used to prepare the forecast for all of Hydro One's other customers.

More specifically, for the years 2021 and 2022, the embedded load of Norfolk and Haldimand customers is removed from the Sub Transmission (ST) rate class and their residential and general service forecasts are shown in the corresponding new acquired rate classes.[401] Similarly, the residential and general service forecasts for Woodstock customers are reflected in corresponding new urban acquired rate classes.[402] For all the Acquired Utilities, the forecasts related to Street Light, Sentinel Light and USL classes are combined with the corresponding Hydro One rate classes, and the Woodstock large user class forecast is combined with the Hydro One ST rate class.[403]

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400 Transcript, Volume 10, June 26, p 81.

401 Establishing the new acquired rate classes is discussed in Section 3 of G-2-1 and the forecast for the new acquired classes in 2021 and 2022 is shown in the updated load forecast provided in I-46-Staff-219

402 *ibid*.

403 Moving certain Acquired Utility classes to existing Hydro One classes is discussed in Section 3 of G-2-1 and the forecast for these combined rate classes in 2021 and 2022 is shown in the updated load forecast provided in I-46-Staff-219.

# I. COST ALLOCATION AND RATE DESIGN

## Issue 49. Are the inputs to the cost allocation model appropriate and are costs appropriately allocated?

As discussed at G1-3-1, Hydro One uses the OEB's cost allocation model ("CAM") which follows certain principles to ensure that costs are allocated to the rate classes causing them. Hydro One's CAM continues to use modifications, previously approved by the Board, necessary to accommodate Hydro One's specific circumstances related to the treatment of bulk distribution system assets and the use of certain density-based rate classes.[404] The 2018 and 2021 CAMs have been updated to reflect the proposed revenue requirement and rate base, as well as the charge determinants and rate class load profiles for those years. In addition, the 2021 CAM has been modified to include the six new acquired rate classes and additional adjustment factors required to allocate costs and establish rates for customers of the Acquired utilities, as discussed further under Issue 56. All 2018 and 2021 CAM allocators and weighting factors have also been reviewed and updated, as necessary. As a result, Hydro One submits that the inputs to the cost allocation model and the resulting cost allocation are appropriate.

## Issue 50. Are the proposed billing determinants appropriate?

Hydro One's proposed billing determinants reflect its proposed customer and load forecast as set out in I-46-Staff 219. Hydro One is not proposing any changes to the type of billing determinants currently approved for its existing Hydro One rate classes [405]. Customers will continue to be billed a monthly fixed charge and a kWh or kW volumetric charge, although customers in the residential classes will be migrating to a fully-fixed monthly charge over the period of the Custom IR in accordance with Board requirements.[406] For the Street Light, Sentinel Light and USL classes, customers will continue to be charged a monthly per account service charge and a volumetric charge based on estimated kWh.

[404] G1-3-1, p 1, ll 13-21.
[405] See: H1-1-1, p 25.
[406] See: H1-1-1, p 15.

Customers in the six new acquired residential and general service classes that are proposed for 2021 will be billed on the same basis as noted above, except that customers moving to the new acquired residential classes are expected to be at fully-fixed monthly charges by 2021. Hydro One proposes that customers from the Acquired Utilities currently in the Street Light and Sentinel Light classes will adopt the Hydro One billing determinants for those classes starting in 2021.

Hydro One submits that the above-described approach to billing determinants is appropriate.

**Issue 51. Are the revenue-to-cost ratios for all rate classes over the 2018 – 2022 period appropriate?**

As described in H1-1-1, Hydro One proposes to adjust class revenue recovery as necessary to move the revenue to-cost ("R/C") ratios for all rate classes to within the Board-approved ranges. The classes with R/C ratios outside the Board-approved ranges will have their R/C ratio change phased-in, if necessary, to achieve the target range while limiting total bill impacts to customers.[407] Any adjustments required to move the R/C ratios towards the Board-approved range have been done in a manner consistent with the approach previously approved by the Board.[408]

**Issue 52. Are the proposed fixed and variable charges for all rate classes over the 2018 – 2022 period, appropriate, including implementation of the OEB's residential rate design?**

The proposed fixed and variable charges for all of Hydro One's rate classes over the 2018-2022 period are appropriate. Hydro One is moving to fully fixed rates for all its residential rate classes as per existing Board policy [409] and for other classes, it is maintaining the approach to fixed and

[407] In 2018 the DGen rate class is the only class with a R/C ratio outside the Board-approved range and their R/C ratio change is phased-in over a three year period to limit total bill impacts to no more than 10% for a typical customer. In 2021, as detailed in Q-1-1-1-1, p 19, adjustments are required to the R/C ratios for four of the new acquired rate classes to bring their R/C ratio to within the Board approved range. No further R/C ratio changes are required in 2022.

[408] H1-1-1, p 8, ll 9-13.

[409] H1-1-1, pp 15-16.

variable splits previously approved by the Board.[410] In the case of customers moving to the new acquired general service rate classes in 2021, Hydro One will either adopt the fixed-to-variable split previously approved by the Board for the Acquired Utilities or it will apply a blended value of the Board-approved splits.[411]

Hydro One proposes to adopt the alternative approach to phasing in the change to the fixed charge for the DGen class as suggested by Board staff [412] as it smoothens the 2018 and 2019 bill impacts for low and high consumption customers in this class.

**Issue 53. Are the proposed Retail Transmission Service Rates appropriate?**

Hydro One has proposed to use Retail Transmission Service Rates that reflect the latest approved Uniform Transmission Rates and uses the latest rate class share of transmission charges per the methodology approved by the Board in Hydro One's prior Applications[413]. Hydro One submits that as a result, its proposed Retail Transmission Service Rates are appropriate.

**Issue 54. Are the proposed specific service charges for miscellaneous services over the 2018-2022 period reasonable? (Addressed in response to Issue 45).**

This Issue is addressed in response to Issue 45.

**Issue 55. Are the proposed line losses over the 2018-2022 period appropriate?**

As detailed in H1-5-1, Hydro One proposes to continue to use the total loss factors approved by the Board in EB-2013-0416 for all existing Hydro One rate classes for the 2018 to 2022 Custom IR period, as these remain consistent with the 5-year average historical losses.[414] For the six new acquired rate classes, Hydro One proposes new total loss factors effective 2021. The

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410 H1-1-1, p 16-17.

411 As described in H1-1-1 p 16-17 a blended value is required for Norfolk and Haldimand customers moving to the new acquired general service classes.

412 I-52-Staff-250. Under this approach and as shown in the table provided at I-52-Staff-250, the current fixed proportion of 62% for DGen rates is maintained until the fixed rate reaches the proposed 2018 fixed rate of $196.16.

413 H1-1-1, p 27 ll 11-24.

414 I-52-VECC-125.

proposed total loss factors for the new acquired rate classes use the Acquired Utilities' currently approved loss factors as a starting point and takes into account that customers of the acquired utilities now share in the use of Hydro One's bulk (sub-transmission) assets.[415] Hydro One submits that its approach to determining loss factors is appropriate.

**Issue 56. Do the costs allocated to acquired utilities appropriately reflect the OEB's decisions in related Hydro One acquisition proceedings?**

The Board's direction, in its decisions on Hydro One's Applications to acquire Norfolk Hydro, Haldimand Hydro and Woodstock Hydro, was that the customers of these utilities be charged rates that reflect the cost to serve them.[416] Hydro One's total revenue requirement in 2021 includes $25.6 M in incremental revenue requirement associated with serving the Acquired Utilities' customers.[417] Hydro One notes that this is less than the expected $39.9M in revenue that would need to be collected from Acquired Utilities' customers had they not been acquired by Hydro One.[418]

In order to satisfy the Board direction, Hydro One proposes to create 6 new acquired rate classes into which the residential and general service customers of the Acquired utilities will be placed in 2021.[419] This allows for the allocation of specific costs to the new acquired rate classes. Hydro One then applies the OEB CAM to allocate Hydro One's total costs to all rate classes in 2021, including the six new acquired rate classes. Per the cost allocation principles embedded in the CAM, the amount of fixed assets allocated to a rate class drives the allocation for the majority of revenue requirement components (e.g. OM&A, Depreciation, Net income, Cost of Debt, Taxes). As such, Hydro One developed adjustment factors to ensure the CAM is

[415] See: H1-5-1, pp 1-2 and additional calculation details provided in I-56-SEC-98

[416] EB-2013-0196/EB-2013-0187/EB-2013-0198, at p 14 (Norfolk); see also EB-2014-0244, s. 3.2, and (Haldimand) and EB-2014-0213 (Woodstock), p 9.

[417] See: I-56-SEC-96, part e) ii).

[418] This includes the $36.9M in status quo costs shown in Undertaking JT 3.18-19 plus $2.1 in depreciation costs and $0.9 in upstream Low Voltage distribution costs, as discussed by Mr.Andre during the hearing at Transcript Day 10, June 26 p 179.

[419] See: G1-2-1, pp 3-7.

allocating an appropriate amount of fixed assets required to serve the new acquired rate classes. [420]

The costs allocated to the acquired classes per the adjusted CAM results in R/C ratios of some acquired classes (Acquired Utility Urban General Service Energy Billed ("AUGe"), Acquired Utility Urban General Service Demand Billed ("AUGd"), Acquired Residential ("AR") and Acquired General Service Demand Billed ("AGSd")) below the OEB approved range. Hydro One proposes to move the R/C ratios for these classes to within the OEB approved range in 2021. This will minimize cross-subsidization among rate classes,[421] while still keeping the total bill impact for customers moving to the new acquired classes to between -1.6% to +2.9%, which is well below the +10% threshold set by the OEB.[422]

Hydro One believes that its proposed cost allocation and rate design is appropriate and fair, given that it (i) is using the principles underlying the OEB CAM to allocate costs to all rate classes, which appropriately allocates a share of common facilities and costs to the new acquired classes; and (ii) has implemented adjustment factors in the CAM, as updated in Q-1-1, to ensure the proper amount of assets are allocated to the new acquired rate classes in order to fairly reflect Hydro One's costs to serve them.

Hydro One notes that as required by the Board's decisions approving the acquisition of the Acquired Utilities, it has included the reporting information requested by the Board in regard to the incremental OM&A and capital costs for the Acquired Utilities' service areas and the savings achieved at Section A-7-1 of the Application.

[420] See: G-3-1, s. 2.2.3 as well as Q-1-1, s. 2.2 which sets out Hydro One's updates to the adjustment factor calculations to include distribution stations.

[421] See: Q-1-1, Attachment 4 for the proposed R/C ratio adjustments.

[422] See: I-53-CCC-68 for 2021 bill impacts on typical customers of all the Acquired Utilities.

## J. DEFERRAL/VARIANCE ACCOUNTS

### Issue 57. Are the proposed amounts, disposition and continuance of Hydro One's existing deferral and variance accounts appropriate?

The regulatory accounts for which Hydro One is seeking continuance and disposition, disposition only or continuance only are set out at Table 2 of F1-1-1, page 3. All the regulatory accounts reported by Hydro One Distribution have been established consistent with the Board's requirements as set out in the Accounting Procedures Handbook, Board directions or pursuant to specific requests initiated by Hydro One distribution.[423] Hydro One has described each account for which it seeks continuance and disposition, disposition only or continuance only in F1-1-1 and submits that these proposals are appropriate for the reasons detailed therein. Accounting orders were provided as part of F1-3-1 for new accounts and in answer to interrogatories for existing accounts.[424]

As noted at the oral hearing[425], the OEB issued a letter to Hydro One indicating that it will be undertaking an audit of Hydro One's Regulated Price Plan settlement process and to assess the allocation methodology Hydro One uses to assign balances for Group 1 deferral and variance accounts for all acquired utilities from 2015 onwards. The results of the audit could potentially impact the 2015 and 2016 Group 1 account balances originally proposed for disposition. As a result, Hydro One proposed to clear principal balances of Group 1 accounts as of December 31, 2014 and Group 2 balances as of December 31, 2016 with interest calculated to December 31, 2017. This proposal will result in a total debit balance of $8.3 million to be disposed, as outlined in the table below. Given the total balance being sought for disposition has significantly reduced since the initial filing, Hydro One proposes that these amounts be recovered over a one year period.

[423] F1-1-1, p 1, ll 8-11.

[424] I-57-Staff-272 and I-57-Staff-273.

[425] Transcript, Volume 10, June 26, p 86 and 87.

| Account Name | Account Number | Total Claim $Million (Interest and Principal) |
|---|---|---|
| **Group 1 (Principal as of Dec 31, 2014)** | | |
| Smart Meter Entity Charge Variance Account | 1551 | 0.5 |
| LV Variance Account | 1550 | 6.1 |
| RSVA - Wholesale Market Service Charge | 1580 | (91.6) |
| RSVA - Retail Transmission Network Charge | 1584 | 44.5 |
| RSVA - Retail Transmission Connection Charge | 1586 | 30.6 |
| RSVA - Power - Sub-Account -Power | 1588 | 8.3 |
| RSVA - Power - Sub-Account -Global adjustment | 1589 | 9.6 |
| **Total Group 1** | | **8.0** |
| **Group 2 (Principal as of Dec 31, 2016)** | | |
| RCVA | 1518/1548 | 0.7 |
| Pension Cost Differential Account | 1508 | 7.9 |
| Tax Rate Changes Account | 1592 | (4.4) |
| OEB Cost Differential Account | 1508 | (1.3) |
| Revenue Offset Difference Account - Pole Attachment Charge | 2405 | (2.3) |
| Bill Impact Mitigation Variance Account | 1508 | 2.4 |
| Microfit Connection Charge Variance Account | 1508 | (0.8) |
| DG - Other Costs - HONI - Variance Account | 1533 | 0.6 |
| DG - Express Feeders - HONI - Variance Account | 1533 | 0.0 |
| Smart Grid Variance Account | 1536 | (12.2) |
| DSC Exemption Deferral Account | 1508 | 9.7 |
| **Total Group 2** | | **0.3** |
| **Total Group 1 and Group 2** | | **8.3** |

**Issue 58. Are the proposed new deferral and variance accounts appropriate?**

As set out at F1-3-1, Hydro One is seeing approval to continue or establish the following regulatory accounts:

- Pension Cost Differential Account
- Tax Rate Changes Account
- Smart Meter Entity ("SME") Charge Variance Account
- The LRAMVA
- The CISVA
- ESM Deferral Account

- Bill Impact Mitigation Variance Account
- Other Post-Employment Benefit ("OPEB") Cost Deferral Account
- Long Term Load Transfer Rate Impact Mitigation Deferral Account

The ESM deferral account and LRAMVA are discussed above under Issue 15 and 46, respectively.

In regards to the OPEB Cost Deferral Account, in its June 2017 updated Application Hydro One requested approval of the proposed OPEB Cost Deferral Account to track the impact of the March 2017 Financial Accounting Standards Board Account Standard Update ("ASU") 2017-07 which affected the accounting of certain OPEB costs.[426] Since that time, Hydro One furthered its understanding of ASU 2017-07 standard including the eligibility of utilities to continue capitalizing OPEB costs, without the requirement of a deferral account, if approved to do so by its regulator. The US Federal Energy Regulatory Commission ("FERC") has provided such an approval for regulated entities under its jurisdiction. At the oral hearing[427], Hydro One indicated its preference for approval from the OEB, consistent with the FERC guidance, to continue capitalizing the affected costs. Such an approval would no longer require approval of the proposed account. Absent that approval, Hydro One submits that the proposed account is appropriate and should be approved by the OEB.

In regards to the CISVA, this account serves as a protection mechanism for customers as it tracks the difference between the revenue requirement associated with actual in-service capital additions during the rate year and the revenue requirement associated with the OEB-approved in-service capital additions for that year.[428] In other words, the revenue requirement associated with the amounts forecast in Table 6 of Q-1-1-1-1 will be tracked, and if Hydro One's actual cumulative in-service additions are 98% or less of the forecast amounts, the value associated with this difference will be recorded in the variance account on an annual basis. In Hydro One's next rate rebasing Application, any balance in the account will be brought forward for disposition

[426] F1-3-1.
[427] Transcript, Day 4, June 15, p 46.
[428] See: A-3-2, p 10 and I-58-CME-8.

to customers.[429] The 2% "deadband" which results in the 98% amount is required in order to ensure that appropriate behaviours are being incented[430] and to align incentives with the proposed revenue cap index's stretch mechanism. Moreover, Hydro One proposes to exclude verifiable productivity savings from the calculation of CISVA in order to ensure that true productivity savings are incented throughout the term of the custom IR plan[431]. The process associated with achieving and quantifying verifiable savings places the onus on Hydro One to prove the achievement of these savings in future rate proceedings.[432]

In regard to the other above-noted accounts, Hydro One has detailed the reasons it requires each account at F1-3-1 pages 2-7 and submits that these accounts are appropriate for the reasons detailed therein.

**Issue 59. Is the proposal to discontinue several deferral and variance accounts appropriate?**

Hydro One is not seeking continuance of the following accounts:

- Rural or Remote Electricity Rate Protection ("RRRP") Variance Account;
- Bill Impact Mitigation Variance Account[433];
- Revenue Offset Difference Account – Pole Attachment Charge; and
- Revenue Difference Account – Pole Attachment Charge.

As detailed in F1, Tab 1, Schedule 1, there are no future requirements associated with the purposes for which these accounts were originally established. Accordingly, Hydro One submits that these accounts should be discontinued.

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429 See: A-3-2, p 10.

430 I-17-Energy Probe-14.

431 I-58-CME-9.

432 I-25-Staff 123; I-10-Energy Probe-11.

433 Hydro One notes that the Bill Impact Mitigation Variance account that is proposed to be discontinued was originally established in EB-2013-0416 to mitigate the bill impacts for customers that were expected to experience significant bill impacts in 2015 as a result of the rate class review accepted by the OEB in that proceeding. That account is distinct from the new Bill Impact Mitigation Variance Account for which Hydro One is seeking approval to mitigate bill impacts of customers of the Acquired Utilities that are transitioning to Hydro One's legacy rate classes.

## CONCLUSION

This Application reflects a balance between Hydro One's goals of being a responsible steward of the assets, meeting customer needs and preferences, and achieving an acceptable rate impact.

The chosen investment plan – Plan B-Modified – is the result of Hydro One's efforts to strike the right balance between those goals. The plan was developed through an iterative process that directly involved the senior leadership team and the Board of Directors. Plan B-Modified represents the lowest level of capital spending that Hydro One can achieve, while still maintaining the condition of its assets. This is directly responsive to the needs and preferences of Hydro One's customers as well as Hydro One's obligation to be a responsible steward of its assets.

Indeed, the Application represents a focus on controlling and reducing costs within Hydro One's control during the 2018 rebasing year. As a result, proposed 2018 OM&A costs are 1.1% below the 2017 Board approved level as a component of overall revenue requirement, and 2.7% below 2017 Board approved OM&A costs.

Furthermore, Hydro One's rates revenue requirement includes significant and quantifiable levels of productivity and efficiency savings. Embedded in the proposed rates are forecasted savings (that Hydro One is at risk for) that total approximately $398M, including $69.8M in the 2018 rebasing year. Improvements in OM&A expenditures are seen in areas such as fleet costs, vegetation management, and information technology.

In order to ensure that Hydro One's commitment to improved performance continues over the remainder of the term, it is proposing a framework that has incentives to achieve improved performance over the term. The framework is similar to the one approved by the Board in the Toronto Hydro decision, which the Board characterized as being "structured so as to support the achievement of RRF objectives."[434] In that decision, the Board stated that, "regulatory predictability is a necessary component of an effective regulatory framework."[435]

[434] EB-2014-0116, Decision, p 6.
[435] EB-2014-0116, Decision, p 4.

In that light, Hydro One has proposed components of that framework that the Board has endorsed and ensured to address the areas where the Board identified the need for improvement. Specifically, this Application includes the following features that the Board has approved:

- A five year term;
- An annual rate adjustment index for OM&A reflecting inflation minus productivity;
- A 'C factor' method of funding its capital plan that is intended to correspond to Hydro One's capital program execution over the life of the plan and that is customized to its business needs and customer preferences; and
- An Earning Sharing's Mechanism providing 50% sharing of revenues in excess of 100 basis points over approved ROE.

It also includes the following features which the Board identified as wanting in previous applications, namely:

- Evidence of the corporate policy that went into developing the capital plan, in particular, Hydro One's consideration of different cost/reliability scenarios to inform its plan and its ultimate decision, based on customer feedback, to pursue "Plan B modified";
- A capital plan based on the impact of asset performance on reliability, as opposed to just asset age;
- Extensive benchmarking and performance monitoring;
- Ongoing customer engagement, including the customer feedback that went into the selection of Plan B modified; and
- Ongoing productivity requirements, which are backed up by incentives and employees are evaluated on that basis.

In addition, the Application includes unique features that are driven by Hydro One's unique situation, namely, the integration of the Acquired Utilities. As set out herein, this integration is being done in accordance with OEB policies, namely, ensuring that the rates for the customers of the Acquired Utilities reflect the cost of serving them. To this end, when the Acquired Utilities are integrated in 2021:

- the integration largely follows OEB-approved cost allocation methodologies;

- Hydro One proposes to update key inputs of the cost allocation model in its 2021 application, namely those related to load forecast and all components of the cost of capital; and

- Hydro One is proposing a revenue cap because the new acquired classes being established in 2021 for customers of the Acquired Utilities will not have existing rates in 2020 that can be adjusted in 2021 via a price cap index.

Finally, the Application carefully considers customer needs and feedback. It focuses on and incents appropriate outcomes with the use of scorecards required by the Board and created by Hydro One after much consideration. Hydro One's Distribution System Plan and proposed capital spending is the result of significant planning work which considered appropriate planning criteria, condition of assets, as well as service quality and reliability. This plan also reflects significant productivity gains and benchmarking.

Based on the foregoing, Hydro One submits that the Application should be approved as proposed.

All of which is respectfully submitted this 20th day of July, 2018.

*Signed in the original*

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