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September 17, 2019

Via RESS

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
PO Box 2319
2300 Yonge Street, 27th floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

**Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro")
Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Reply Submission**

In accordance with OEB Procedural Order No. 9, please find Toronto Hydro's Reply Submission enclosed. Physical copies will follow via courier.

Please contact me directly if you have any questions or concerns.

Respectfully,

Daliana Coban
Director, Regulatory Applications and Business Support
Toronto Hydro-Electric System Limited

cc: Lawrie Gluck, OEB Case Manager
Michael Millar, OEB Counsel
Parties of Record
Amanda Klein, Toronto Hydro
Andrew Sasso, Toronto Hydro
Charles Keizer, Torys LLP

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, Schedule B to the *Energy Competition Act, 1998*, S.O. 1998, c.15;

AND IN THE MATTER OF an Application by Toronto Hydro-Electric System Limited for an Order or Orders approving or fixing just and reasonable distribution rates and other charges, effective January 1, 2020 to December 31, 2024.

REPLY ARGUMENT OF TORONTO HYDRO-ELECTRIC SYSTEM LIMITED

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INTRODUCTION

This is Toronto Hydro's Reply submission in its Custom Incentive Rate application for 2020 to 2024 rates. As with Toronto Hydro's Argument-in-Chief, this Reply is organized in accordance with the Board approved issues list in this proceeding. This submission, together with the Argument-in-Chief constitutes the totality of Toronto Hydro's submissions.

These submissions are a reply to submissions from 11 reply parties – spread over nearly 500 pages – with each party making a number of claims. Toronto Hydro has responded thoroughly to the claims made resulting in this lengthy reply. However, despite the number of claims raised and the consequential length of this reply, Toronto Hydro respectfully submits that the fundamental issue for the OEB Panel to consider in this application is actually much simpler:

> *What is the appropriate level of capital and OM&A funding, and what flexibility does Toronto Hydro require to implement its plan during the 2020-24 rate period?*

These inputs – *funding and flexibility* – are the key determinants of whether Toronto Hydro can deliver on the outcomes that matter most to its customers: reliability, safety, customer service, environment, public policy responsiveness and financial performance. Toronto Hydro proposed a balanced plan that delivers these key customer-focused outcomes and provides benefits to ratepayers, with a relatively modest rate increase. Toronto Hydro's plan accords with customer feedback to maintain current service levels and make targeted improvements, *while* keeping rate increases as low as possible: below 1.1% each year for the typical residential customer.

There are, of course, many discrete issues in this proceeding, but they are all connected. Whether the claim is for small reductions on individual programs, a decimal point in the rate-setting framework, ring-fencing of certain types or categories of work – it all comes down to the fundamental question of what is the appropriate level of funding and flexibility. Toronto Hydro submits that the parties' claims must be viewed through this practical lens and considered from the perspective of how they would impact the outcomes to be achieved through the proposed and resulting approved plan.

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APPENDICES

1.0 GENERAL

1.1 Has Toronto Hydro responded appropriately to all relevant OEB directions from previous proceedings?

Toronto Hydro undertook a robust customer engagement process

1. As thoroughly discussed in the AIC, Toronto Hydro undertook a robust and enhanced customer engagement process to obtain broad, deep, and candid feedback from a cross-section of all customers and to ensure that its plan for 2020-2024 is heavily informed by customer needs and preferences, and delivers customer-focused outcomes in accordance with the Board's directives and the RRFE.[1]

2. OEB Staff acknowledged that: (1) this process was an improvement on the customer engagement process conducted for the previous CIR application; and (2) Toronto Hydro appropriately responded to the Board's directives on obtaining and leveraging customer feedback for the purpose of business planning. OEB Staff noted that "*the two phase customer engagement process allowed customer feedback to inform both the planning and refinement of its business plan*"[2] and that "*Toronto Hydro's customers in all rate classes generally supported Toronto Hydro's plan*." [3] CCC also acknowledged that that Toronto Hydro and Innovative undertook a significant effort to educate and engage customers.[4]

3. Nevertheless, AMPCO, BOMA, CCC, SEC, and Mr. Hann criticized Toronto Hydro's comprehensive customer engagement process, and alleged that the results are invalid and should be disregarded by the Board because:

   a) Toronto Hydro and Innovative provided customers insufficient, inaccurate, or misleading information;

   b) Customers were confused about Toronto Hydro's plan; and

   c) Customers do not support Toronto Hydro's plan.

4. With respect, these claims are without merit, as they are either based on a misunderstanding of the nature and function of the customer engagement process

[1] Argument-in-Chief at paras 4-8.
[2] OEB Staff Submission at page 7.
[3] OEB Staff Submission at pages 7-8.
[4] CCC Submission at pages 6-7.

or are directly contradicted by uncontroverted evidence, including the expert evidence of Innovative on whose expertise the Board has relied in its own engagements with customers.

5. The evidence demonstrates the prudence and appropriateness of the content and parameters of the customer engagement process that Toronto Hydro undertook in respect of this Application. The conclusions that Innovative drew with respect to customers' needs, priorities, and preferences are based on, and derived from, this robust unbiased process, and its factual results. Furthermore, they are underpinned by Innovative's deep expertise and broad experience with customer research. For these reasons and as explained in further detail below, these claims should be rejected.

Toronto Hydro's robust engagement process provided customers sufficient and accurate information, which allowed them to provide reliable feedback.

6. AMPCO, BOMA and CCC claimed that the information provided to customers was either insufficient, inaccurate, or misleading. The thrust of these claims is that Toronto Hydro should have: (i) shared forecast expenditures and resulting bill impacts during Phase 1; (ii) shared Toronto Hydro's rate of return on equity over the 2015 to 2024 period;[5] (iii) modelled a broader range of plans including ones that results in a decrease in reliability;[6] and (iv) shared reliability trends in Phases 1 and 2.[7]

7. Toronto Hydro respectfully submits that the Board should dismiss these arguments because they are contrary to the evidence, fail to consider the actual timing and structure of customer engagement, and represent *post-facto* suggestions for a customer engagement process which is demonstrably compliant with OEB expectations. The specific allegations that parties made in respect of the sufficiency and accuracy of information shared with customers are each addressed below.

8. Parties claimed that forecast expenditures and bill impacts should have been shared with customers at the time of the Phase 1 engagement. However, the evidence is clear that this information was not available at the time of Phase 1 engagement. That was not an omission – it was by design. The first phase of the customer engagement process was designed to ascertain customers' needs and preferences in advance of business planning, so that information could be incorporated into the

[5] CCC Submission at page 7.
[6] BOMA Submission at page 38 and 44-45.
[7] AMPCO Submission at page 8.

utility's planning efforts.[8] As Toronto Hydro's Manager of Regulatory Applications explained at the Oral Hearing:[9]

> [W]e wanted to understand the customer's experience. It was designed, if I can use the term, as a customer journey sort of engagement upfront. It was open-ended. It was to hear as much as possible directly from customers what their experience has been with the utility and what their needs are specifically.

9. Toronto Hydro designed this open-ended engagement in direct response to OEB feedback and guidance provided in the utility's 2015-2019 CIR decision, where the OEB critiqued Toronto Hydro for engaging customers only after the plan had been developed, noting:[10]

> Achievement of RRFE outcomes relies on an ongoing effort by the distributor to engage customers in a process designed to inform its plans. Without this, it is unlikely that a distributor will be able to align customer needs with its business needs. This engagement process is intended to educate customers and distributors of each other's issues and priorities. The OEB expects distributors to develop plans based on its customers' informed input on the service that distributors provide.

Toronto Hydro struck an appropriate balance in providing customers meaningful information to gain genuine feedback from customers

10. AMPCO, BOMA, and CCC claimed that customers were unable to provide meaningful feedback because of the inclusion or exclusion of certain data points such as past rates, or Toronto Hydro's return on equity. With respect, this ignores the nuanced realities of a customer engagement process in general. It also ignores how in conducting *this* specific customer engagement process, Toronto Hydro prioritized being responsive to the OEB's guidance to it in the 2015-2019 rate rebasing decision.[11]

11. In conducting a customer engagement process, there are a number of factors that must be considered: these include limited time with customers, necessary (versus

[8] OH Volume 7 (July 9, 2019) at page 17, lines 9-11; Exhibit 1B, Tab 3, Schedule 1 at page 2, lines 16-20, 1B-CCC-9.
[9] OH Volume 8 (July 11, 2019) at page 32, lines 22-27.
[10] EB-2014-0116, Decision and Order (December 29, 2015) at page 8.
[11] Exhibit 1B, Tab 3, Schedule 1, Appendix A at page 21-23.

discretionary) context to provide, and information preferences of the customers themselves. As the expert from Innovative explained,[12] "*we have only so much time in a conversation before we lose the public […]. And so we have to do essentially a triage exercise to say what is the most important thing to get feedback on.*" In light of these considerations, Toronto Hydro and Innovative had to make reasonable choices in the selection of background information and the design of engagement questions to ensure the effectiveness and accessibility of the process,[13] especially with regards to the telephone surveys.[14]

12. Customer preferences themselves also drive choices around what information to conclude. As summarized by the expert witness:[15]

> When you are doing a consultation, you need to provide people with context. The most important bit of context people tell us they want before they get into that, is they want to know what's the ballpark of the whole plan. They want to know the overall cost ballpark of the whole plan. … So we need to introduce the costs to them before we get into the issues. And so that in fact is what we've done. [emphasis added]

13. Toronto Hydro provided significant context for its customer engagement process. This included focus group discussions about the various ways in which customers might interact with Toronto Hydro,[16] information about Toronto Hydro's relative standing to other utilities in respect of capital and operating expenditures,[17] capital projects that can directly impact day-to-day customer experience,[18] the operational context and regulated nature of Toronto Hydro,[19] and the ability for customers to indicate their preferences for planning purposes, along with the ability to see the operational and bill impacts of those choices.[20] Toronto Hydro and Innovative made all of these enhancements in direct response[21] to the OEB's feedback in the CIR

[12] TC Volume 4 (February 22, 2019) at page 23, lines 2-7.
[13] OH Volume 7 (July 9, 2019) at page 24, lines 5-10.
[14] OH Volume 7 (July 9, 2019) at page 70, lines 3-8.
[15] OH Volume 7 (July 9, 2019) from page 55, line 16 to page 56, line 20.
[16] TC Volume 4 (February 22, 2019) at page 7, lines 14-21.
[17] TC Volume 4 (February 22, 2019) at page 8, lines 20-25; Exhibit 1B, Tab 3, Schedule 1, Appendix A, Appendix 2.1 at page 15.
[18] OH Volume 7 (July 9, 2019) at page 25, lines 6-21.
[19] OH Volume 7 (July 9, 2019) from page 117, line 10 to page 118, line 6.
[20] OH Volume 7 (July 9, 2019) at page 73, lines 5-24, page 123, lines 9-27, and from page 124, line 22 to page 125, line 24.
[21] Exhibit 1B, Tab 3, Schedule 1 at page 1, lines 11-21; Exhibit 1B, Tab 3, Schedule 1, Appendix A at pages 22-23.

2015 decision to educate customers and develop plans based on customers' informed input.[22]

14. Telephone surveys in Toronto Hydro's Phase 2 customer engagement process took customers approximately 20 minutes to complete,[23] which for anyone who has taken a survey, is a significant commitment. Given unlimited time and attention of customers, Toronto Hydro would of course also like to include more contextual information, however that is not reality. Indeed, Toronto Hydro also asked customers for feedback on the consultation process itself, and customers generally provided positive feedback about the engagement approach, the content, and the scope.[24] The expert from Innovative observed that customers generally felt the process to be a worthwhile and relevant investment of their time:[25]

> People don't want to do this every day, but they get this is a really important thing in their life and when they go through it and they see what is going on, they're very interested in it. They're very intrigued. Again, they're not going to make it a hobby, but they really like the process.

15. BOMA submitted that Toronto Hydro should have modelled a broader range of planning scenarios for customer feedback, specifically a plan that would result in decreased reliability along with a no increase or a rate decrease.[26] However, the key take-away from the Phase 1 engagement was that customers expect Toronto Hydro to spend the minimum level that is necessary to maintain current service levels and make targeted improvements in areas experiencing below average service.[27] Consequently, Toronto Hydro did not put to customers in Phase 2 a plan that results in deteriorated reliability because, in addition to being contrary to grid stewardship, such a plan would have been misaligned with customers' expressed needs and expectations.

16. Conversely, Toronto Hydro did provide customers a variety of reliability options to as part of the Phase 2 engagement. This included asking customers to provide feedback on the trade-offs between increased costs and increased reliability, as well giving customers the option of doing less in certain programs in order to reduce

[22] EB-2014-0116, Decision and Order (December 29, 2015) at page 8.
[23] See e.g. Exhibit 1B, Tab 3, Schedule 1, Appendix A, Appendix 3.2.1 at page 1.
[24] OH Volume 7, (July 9, 2019) at page 124, lines 10-21; Exhibit 1B, Tab 3, Schedule 1, Appendix A, at page 15.
[25] OH Volume 7 (July 9, 2019) at page 127, lines 8-13. See also from page 126, line 10 to page 127, line 13.
[26] BOMA Submission at page 38.
[27] OH Volume 7 (July 9, 2019) from page 62, line 14 to page 63, line 5.

costs. For example, in the online customer feedback portal (workbook), customers had the option to choose the pacing of the Paper Insulated Cable ("PILC") and Network Unit replacement programs and observe the estimated bill impacts from their choices.[28] Customers' choices showed variability according to their priorities and the nature of the program. For example, while a majority of customers supported the proposed pace or an accelerated pace for PILC and Network Unit replacement programs,[29] a plurality of customers preferred to not increase the pace of weather-hardening programs.[30]

17. Contrary to BOMA's criticisms, it is clear that as part of Phase 2 customers had sufficient and meaningful opportunities to express a preference for lower reliability in exchange for lower costs. However, the results showed that most customers did not select this option. These results validated the feedback that customers provided in Phase 1 (i.e. maintain current service levels), the feedback on the basis of which the plan was developed.

18. AMPCO,[31] BOMA,[32] and CCC[33] also claimed that reliability performance trends should have been shared with customers during both Phases 1 and 2 of the engagement. Respectfully, their criticism is without merit because it ignores both the organization of the engagement process and the natural limitations of customer engagement. The parties' claim should be rejected on the basis of uncontroverted evidence, as Toronto Hydro submits below.

19. As demonstrated above, Toronto Hydro's objective in Phase I of the engagement process was to obtain feedback about customers' needs and preferences in an open-ended manner. For this reason, Toronto Hydro deliberately omitted from Phase I discussions or questions about the utility's reliability performance trends and benchmarking. Contrary to the intervenors' claim, it would not have been appropriate to introduce these granular discussion points before allowing customers to broadly express their priorities and concerns. Doing so would have eliminated customers' ability to set the broad parameters of the conversation and narrowed down the focus of the engagement prematurely.[34]

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[28] OH Volume 7 (July 9, 2019) at page 73, lines 5-24; Exhibit 1B, Tab 3, Schedule 1, Appendix A, Appendix 3.1 at pages 23-25.
[29] Exhibit 1B, Tab 3, Schedule 1, Appendix A, Appendix 2.1 at pages 39-40 and 42-43.
[30] Exhibit 1B, Tab 3, Schedule 1, Appendix A, Appendix 2.1 at pages 48-49.
[31] AMPCO Submission at page 8.
[32] BOMA Submission at pages 44-45.
[33] CCC Submission at page 7.
[34] Exhibit 1B, Tab 3, Schedule 1 at page 2, lines 19-20; OH Volume 8 (July 11, 2019) from page 31, line 6 to page 33, line 7.

20. In Phase 2, Toronto Hydro provided significant background information about reliability in both the online customer feedback portal (workbook)[35] and each of the telephone and online surveys.[36] However, an in-depth discussion of Toronto Hydro's past reliability performance or relative performance against other utilities as intervenors suggested would not have been appropriate in the context of Phase 2 for two reasons. First, Toronto Hydro had to make the most of the limited engagement time it had with customers to obtain their feedback on planning-specific choices.[37] This required Innovative to reasonably circumscribe the breadth of the content to keep the engagement focused and accessible to customers.[38]

21. Second, as discussed above, a major objective of Phase 2 of the customer engagement process was to confirm that Toronto Hydro properly interpreted customer feedback it received in Phase 1,[39] where the key message was that customers expect Toronto Hydro to spend the minimum level that is necessary to maintain current service levels and make targeted improvements in areas experiencing below average service.[40] Innovative observed that feedback from Phase 2 was aligned with Phase 1.[41] Therefore, given the absence of pressing concerns by customers about general reliability, it would not have been appropriate for Toronto Hydro and Innovative to introduce more complexity to the engagement by pursuing an in-depth exploration of reliability at the expense of more directly relevant general and plan-specific topics.[42]

22. Aside from the broader information concerns of intervenors as discussed above, Mr. Hann took issue with the use and technical accuracy of the term "aging equipment" as a general substitute for "defective equipment". With respect, it is important to note that, empirically, aging is the key driver of defective equipment outages.[43] Therefore, the use of the term "aging equipment" is an appropriate proxy for defective equipment. What's more is that a narrow focus on technical terms is not always helpful for the purposes of a broad and accessible customer engagement process. Toronto Hydro submits that this representation was justified to improve customers' understanding by making the key concept of defective equipment more accessible and relatable to customers to help them make a meaningful choice

[35] See e.g. Exhibit 1B, Tab 3, Schedule 1, Appendix A, Appendix 3.1 at pages 19-20.
[36] See e.g. Exhibit 1B, Tab 3, Schedule 1, Appendix A, Appendix 3.2.1 at page 10, Appendix 3.2.2 at page 10, and Appendix 3.2.3 at page 10.
[37] TC Volume 4 (February 22, 2019) at page 23, lines 2-7.
[38] OH Volume 7 (July 9, 2019) at page 24, lines 5-10 and at page 70, lines 9-14.
[39] Exhibit 1B, Tab 3, Schedule 1 at page 5, line 4.
[40] OH Volume 7 (July 9, 2019) from page 62, line 14 to page 63, line 5.
[41] OH Volume 7 (July 9, 2019) at page 61, lines 5-21 and page 71, lines 16-19.
[42] OH Volume 7 (July 9, 2019) from page 121, line 23 to page 122, line 1.
[43] See for example Exhibit 2B, Section D2.

within the context of the overall engagement.[44] As Toronto Hydro's Manager of Regulatory Applications explained: "*one of the things that needs to be considered when constructing these sort of customer-facing materials, is the terminology that we use with customers and whether it's going to be understandable to them.*"[45]

23. Toronto Hydro's 18-month customer engagement process provided customers ample opportunity to raise concerns that the utility should address, with regards to both the engagement process and the substantive aspects of Toronto Hydro's plan and overall service.[46] There is no evidence to suggest that this process resulted in a lack of any salient information or data points, or problems with certain terminology, or a lack of high-quality reliable customer feedback. Indeed, the written and oral evidence of Toronto Hydro's expert Innovative demonstrates just the opposite.[47]

24. SEC, AMPCO and BOMA argued that customer engagement results cannot be trusted because there is evidence to suggest that the process confused customers. With respect, these assertions are based on cherry-picking limited information, mischaracterizing it and overgeneralizing it.

25. For example, AMPCO and SEC inferred that all, a majority of, or even some of the customers were confused solely on the basis of two individual statements out of dozens of customer statements that were presented in Innovative's evidence and the thousands of responses that informed Innovative's conclusions. As the expert witness made clear, while it is possible for those two customers out of a respondent group of 37 customers to have been confused, it is improbable for any such confusion to be so prevalent and widespread as to invalidate the results of the Key Account Telephone Survey or any other engagement activity.[48] AMPCO and SEC's arguments are therefore misguided and should not be given any weight.

26. Contrary to intervenors' assertions that customers were not provided sufficient or adequate information during the customer engagement process, Toronto Hydro's uncontroverted evidence demonstrates that Innovative's customer engagement methodology provided crucial background information and context at a level that is

[44] Exhibit 1B, Tab 3, Schedule 1, Appendix A at pages 21-22; TC Volume 4 (February 22, 2019) from page 10, line 27 to page 12, line 1 and at page 23, lines 1-26; OH Volume 7 (July 9, 2019) at page 23, lines 3-11, page 24, lines 5-10, page 25, lines 3-21, page 55, lines 16-26, page 117, lines 1-28, page 121, lines 19-26; OH Volume 8 (July 11, 2019) at page 12, lines 24-28, page 13, lines 1-7, page 58, lines 23-25.
[45] TC Volume 4 (February 22, 2019) at page 11, lines 1-5.
[46] TC Volume 4 (February 22, 2019) from page 6, line 1 to page 9, line 1.
[47] Exhibit 1B, Tab 3, Schedule 1, Appendix A, see especially at page 15.
[48] OH Volume 7 (July 9, 2019) at page 126, lines 10-19.

accessible to customers[49] and also offered open-ended opportunities[50] in both phases of the process for customers to identify any needs or concerns that were not being met by Toronto Hydro.

A majority of customers support Toronto Hydro's plan or an accelerated version of it.

27. BOMA asserted that Toronto Hydro did not accurately represent the results of the customer engagement process and challenged the factual results that are the basis of the Innovative Report.[51] As discussed below, BOMA's argument is demonstrably inaccurate based on the record, and should be rejected.

28. The results of Toronto Hydro's customer engagement process undeniably demonstrate that the majority of customers support the proposed plan. [52] As confirmed by Innovative's Report and summarized in testimony: [53]

> Yes, Mr. Brett, and there is a footnote on that page, footnote 12, which discusses the specific results, a telephone survey results for the plan received 71 percent residential, 55 percent small business, and 73 percent mid-market customer support, the majority of key account customers interviewed, 25 out of 37 supported the utility's plan, and there is a reference to Exhibit 1B, tab 3, Schedule 1, Appendix A.

29. BOMA focused on customers' initial responses in the telephone surveys that Toronto Hydro's general approach is the wrong approach and apparently takes this initial outcome at face value.[54] In doing so, BOMA ignored clear evidence that a majority of customers provided this response at the beginning of telephone surveys, *before* they had the opportunity to understand Toronto Hydro's plan, the trade-offs associated with it, and explore individual programs and their potential customer benefits and outcomes. As Innovative noted in its report, a plurality of participants felt Toronto Hydro's general approach to be the wrong approach "*in the absence of a discussion of specific benefits for customers.*" [emphasis added].[55]

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[49] TC Volume 4 (February 22, 2019) at page 23, lines 2-7; OH Volume 8 (July 11, 2019) from page 12, line 24 to page 13, line 4 and from page 23, line 23 to page 24, line 4.
[50] OH Volume 8 (July 11, 2019) at page 4, lines 8-14 and from page 10, line 26 to page 11, line 2.
[51] BOMA Submission at pages 34-45.
[52] Exhibit 1B, Tab 3, Schedule 1, Appendix A at pages 3, 5, and 8.
[53] OH Volume 6 (July 8. 2019) at page 51, lines 6 - 13
[54] BOMA Submission at pages 36-37 and 43.
[55] Exhibit 1B, Tab 3, Schedule 1, Appendix A at page 15.

30. However, once customers were provided choices about the specific trade-offs to be made as part of the 2020-2024 business planning process, customers were able to make more informed decisions and a majority ended up supporting the plan.[56]

31. As the Innovative expert witness explained at the oral hearing, this result is remarkable because customers were more likely to retain their initial negative assessment of Toronto Hydro's plan and continue rejecting it by the end of the survey, due to confirmation bias. The fact that a majority of customers overcame their natural confirmation bias and changed their opinion to support the plan is evidence of an informed and deliberate choice on the part of the respondents:[57]

> We now have a situation in which people have looked at these individual choices, reconsidered and given the total impact that their choices are on the plan, then they come to an informed decision. When they make that informed decision, despite the confirmatory bias that would lead you to think that they might end up opposed, they end up supporting it.

32. Finally, BOMA challenged Innovative's observations asserting that they *"do not present a truly accurate picture of the customers' needs and preferences"* and *"are an effort to spin the results to favour [Toronto Hydro]."*[58] BOMA did not present any evidence in support of this assertion. Instead, it relied only on the fact that Innovative highlighted in its report filed in this proceeding that the majority segments of customers either supported Toronto Hydro's plan or an accelerated version of it. The rationale for BOMA's strenuous objections to this approach is not clear and, in any case, is demonstrably rebutted by the record. There is nothing improper with Innovative's reporting methodology, as it is fully aligned with the stated objectives of Phase 2 of the engagement process. After determining customers' priorities in Phase 1, Toronto Hydro developed its strategic parameters and created a plan that was intended to maintain safety and reliability performance at current levels while keeping prices as low as possible and allowing the utility to meet its business needs and legal obligations.[59]

33. As Toronto Hydro's utility witness summarized it at the Oral Hearing, Toronto Hydro's goal for Phase 2 of the engagement process was "*to confirm from customers whether or not we got it right, in terms of what we heard from them in*

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[56] 1B-BOMA-42.
[57] OH Volume 7 (July 9, 2019) from page 56, line 21 to page 57, line 18.
[58] BOMA Submission at pages 37-42.
[59] OH Volume 7 (July 9, 2019) from page 110, line 28 to page 111, line 25.

the first phase of customer engagement with respect to their needs and priorities and the outcomes that they valued."[60] Customers' opinion of Toronto Hydro's plan, as interpreted by Innovative, was a gauge of this objective, i.e. whether or not Toronto Hydro's plan matched customers' initial feedback.

34. Innovative's findings demonstrate that a majority of customers either supported Toronto Hydro's plan as a proper reflection of their priorities or that Toronto Hydro can do even more to respond to those priorities. It was important and appropriate for Innovative to highlight these findings from Phase 2 for Toronto Hydro to understand the alignment of its penultimate plan with customers' expectations and priorities, and Innovative concluded that Toronto Hydro was successful in that endeavour.[61] As detailed further in the evidence, Toronto Hydro in fact further optimized its plan in response to customer feedback from Phase 2.[62]

35. In conclusion, BOMA's challenges to Toronto Hydro's customer engagement process are without merit and should be dismissed.

36. As discussed earlier under Issue 1.1, other intervenors' criticisms of the customer engagement process are also contradicted by Toronto Hydro's evidence. By contrast, Staff noted that Toronto Hydro has appropriately responded to the Board's direction by improving its engagement process and accepts Toronto Hydro's evidence that customers in all rate classes generally support this plan. Therefore, the Board should reject all intervenors' arguments on customer engagement and accept Toronto Hydro's submissions.

1.2 Is the proposed effective date of January 1, 2020 appropriate?

37. None of the parties challenged the proposed effective date. Toronto Hydro submits that the effective date is appropriate and should be approved.

1.3 Are the rates and bill impacts resulting from Toronto Hydro's application appropriate?

The proposed rates and bill impacts resulting from Toronto Hydro's plan and application are appropriate and should be approved by the OEB.

38. Toronto Hydro's plan is going to result in an average annual increase of 3.0% to base distribution rates for a typical residential customer with a monthly consumption of 750 kWh. However, with the inclusion of rate riders, customers will

[60] OH Volume 7 (July 9, 2019) at page 111, lines 19-22.
[61] 1B-BOMA-36.
[62] 2B-Staff-73.

experience a total bill impact of 1.1%, which is below the inflation rate.[63] Furthermore, actual rate impacts will be even lower once the revenue requirement updates identified in response to undertaking J1.2 are factored in. These rates and the resulting bill impacts are reasonable and the OEB should approve them.

39. AMPCO submitted that the bill impacts for the Large User customer class are not appropriate because customers are being asked to fund a significant capital plan, and in return Toronto Hydro is not proposing any reliability benefits.[64] Similarly, SEC argued that the increases to base distribution rates that would result from Toronto Hydro's application are not appropriate and that customers would receive no benefits from increased spending.

40. The value proposition of the 2020-24 capital plan has been discussed at length in thousands of pages of application evidence, interrogatory and undertaking responses, and countless days of oral evidence. AMPCO and SEC's arguments intend to circumvent all of this evidence by boiling the value proposition down to a trade-off between spending versus reliability. However, their arguments stem from the flawed, oversimplified, and unsubstantiated premise that the relationship between cost and benefits – spending and reliability – is one-for-one. The comprehensive evidence in the Distribution System Plan demonstrates that it is nowhere near that simple. Reliability is indeed a key outcome of the plan, but there are other outcomes (e.g. customer service, safety, environment) and drivers (e.g. capacity, PCBs) that affect the proposed level of expenditure. Issue 3.2 explains in detail why the proposed expenditures are the minimum level required to achieve all of the outcomes of the plan, including maintaining general reliability at current levels, in accordance with customers' expressed needs and preferences.

41. BOMA and Energy Probe took the position that the OEB should consider Issue 1.3 with regard to base rate impacts, rather than total bill impacts, which include the effect of rate riders. With respect, this isn't appropriate or consistent with Board policy. The total bill represents the entire impact of the application, which includes of course the approval of rate riders from the clearance of deferral and variance accounts and other amounts. What's even more is that the total bill reflects what customers experience as a result of the proposals put forward by Toronto Hydro. Therefore, it is an appropriate and valuable measure to assess the impact of the

[63] The bill impacts are summarized in J7.4. Toronto Hydro notes that Staff's reference to undertaking J7.4 is correct. The reference to J4.6 in the Argument-in-Chief was a drafting error.
[64] AMPCO Submission at page 2.

application. That is why the OEB itself uses this measure when it issues public notices for rate proceedings.[65]

42. As previously noted, the net bill impact from Toronto Hydro's plan will be well below the rate of inflation, at less than 1.1%.[66] Contrary to the assertions of BOMA, the credits included in the rate riders are not merely owed to differences in timing. In fact, they include credits from recent productivity achievements undertaken by the utility – such as an incremental $85.2 million from the net gains from the sale of unused properties that have been consolidated.[67]

43. In any event, the timing argument put forward by BOMA and Energy Probe with respect to the consideration of bill impacts is a moot point because the ratemaking regime is specifically designed to incorporate DVAs to address, as appropriate, timing differences in credits and debits for customers and utilities:[68]

> It is the nature of deferral and variance accounts, and that is of course why we have them. There is in some cases … time lags around certain aspects of rates and ratemaking.

44. The OEB explicitly recognizes and encourages the use of deferral and variance accounts in a variety of contexts;[69] therefore, the consideration of total bill impacts which includes the effect of rate riders is appropriate and in fact necessary to evaluate the full effect of an application on customers' bills.

45. In his submissions on this issue, Mr. Hann referred to a customer letter of comment on the record and claimed that Toronto Hydro did not adequately respond to the customer in respect of what the utility is doing to control costs.[70] In fact, Mr. Hann went as far as to allege that Toronto Hydro has no "desire" to control costs and improve performance. With respect, this submission is out context and contrary to the evidence on the record in this proceeding.

46. With respect to the context, Toronto Hydro notes that the customer in question asked for an explanation of why her electricity bill is higher than that of her

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[65] OEB Notice of Hearing (September 28, 2019).
[66] J7.4, Appendix A. This interrogatory response does not include the revenue requirement updates identified in response to undertaking J1.2, which would reduce the bill impact below 1.1%.
[67] Exhibit 2B, Section E4 at page 5, lines 15-18 and 24-27, and page 6, lines 1-8; Exhibit 4A, Tab 2, Schedule 12 from page 8, line 18 to page 10, line 9; Exhibit 8, Tab 1, Schedule 1 at page 11, lines 9-16; Exhibit U, Tab 9, Schedule 1 at page 9, lines 1-6; 2B-Staff-76(b); 8-Staff-146(f).
[68] OH Volume 7 (July 9, 2019) at page 191, lines 12-15.
[69] See e.g. OEB Handbook for Utility Rate Applications (October 13, 2016), Appendix 2 at page iii.
[70] Mr. Hann Submission at pages 5-6.

neighbour despite having a smaller household.[71] Therefore, Toronto Hydro's response to the customer was largely focused on explaining the different charges on the bill and how those charges affect the bill depending on various factors.[72] The response points to the fixed distribution charge for residential customers as one of these factors that can affect the comparability of the bill between this customer and her neighbor. Toronto Hydro also noted in the response that it is unable to provide a precise comparison between the customer's bill and that of her neighbour without additional information about both customers' households.

47. On the issue of controlling costs and improving performance, Mr. Hann's bald assertion is completely discredited by the evidence and should be rejected by the Board. The evidence demonstrates the following:

a) Toronto Hydro has a long-standing history of continuous improvement and productivity that has continued to evolve for nearly two decades. The utility achieved over $2.4 billion of productivity savings between 1998 and 2014[73] and continued building upon those successes during the 2015 to 2019 period in terms of both increasing efficiency[74] and improving performance.[75]

b) Toronto Hydro's strong performance in areas such as reliability, cost performance in specific programs, total cost performance, and unit cost performance on capital construction and maintenance activities is confirmed by external benchmarking.[76]

c) Furthermore, in creating its 2020-2024 plan, Toronto Hydro developed a customer-focused outcomes framework that facilitates continuous improvement in both cost and performance, and measures the effectiveness of the utility's plans.[77]

d) Last but not least, Toronto Hydro's CIR framework is inherently designed to protect customers and incent productivity.[78]

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[71] Exhibit 1B, Tab 3, Schedule 5 at page 8, lines 19-25.
[72] Exhibit 1B, Tab 3, Schedule 5 from page 10, line 2 to page 13, line 4.
[73] EB-2018-0165, Toronto Hydro, Distribution Rates Application Overview at page 21; Evidence Overview Presentation Transcript (May 3, 2019) at page 28, lines 27-28 and page 29, lines 1-6; OH Volume 7 (July 9, 2019) at page 167, lines 23-28; EB-2014-0116, Exhibit 1B, Tab 2, Schedule 5, Appendix A.
[74] Exhibit 1B, Tab 2, Schedule 1 at pages 8-20; see also section 4.2 "Cost Control and Productivity Measures" in each OM&A program filed under Exhibit 4A, Tab 2.
[75] 1B-CCC-15.
[76] Argument-in-Chief at paras. 37-39.
[77] Exhibit 1B, Tab 2, Schedule 1.
[78] Argument-in-Chief at paras. 44 and 46-49.

Toronto Hydro undertook a robust business planning process with supported strategic parameters

48. SEC and AMPCO questioned Toronto Hydro's development of its strategic parameters as part of its business planning process and specifically raised issue that the asset condition assessment information (ACA) was not available for Toronto Hydro when it developed its strategic parameters.[79] SEC additionally noted that PSE's total cost benchmarking report was provided to Toronto Hydro at a date that precluded its use by Toronto Hydro in its development of the strategic parameters, implying that the utility's business planning process was faulty as a result.[80] SEC and AMPCO raised these two observations in an attempt to discredit Toronto Hydro's robust business planning and customer engagement process. For the reasons below, Toronto Hydro submits that the Board should give no weight to the SEC and AMPCO claims as they are assertions not rooted in the record and in some cases, demonstrably inaccurate.

49. The record in this application detailing Toronto Hydro's development of its strategic parameters and the overall business planning process is extensive and uncontroverted. Toronto Hydro used many inputs in its development of the strategic parameters that set its rate, capital, and OM&A limits.

50. Toronto Hydro's testimony affirmed that the business planning process executed a holistic analysis balancing all of the inputs including the PSE total cost benchmarking report: "*...we tried to balance each and every one of these inputs. So what would it mean if we looked to become more competitive with respect to total costs? What would it mean for system performance, what would it mean for reliability?*"[81]

51. SEC's attempt to discredit Toronto Hydro's business planning process by stating that the final PSE total cost benchmarking report was not available to Toronto Hydro when it developed its strategic parameters is clearly not supported given the testimony confirming that the business planning process utilized the available PSE information and ultimately the strategic parameters developed by Toronto Hydro were accepted by customers.

52. The same fact noted above also applies to SEC's and AMPCO's assertion that the final ACA information and EA Technology's detailed review was not available to support Toronto Hydro's development of its strategic parameters. The fact was

[79] SEC Submission at page 36; AMPCO Submission at page 19.
[80] SEC Submission at page 36.
[81] OH Volume 1 (June 27, 2019) at page 102, lines 1-7

confirmed at the Oral Hearing: "*MS. NARISETTY: Majority of it was there. Refinements were made throughout the process and it was a highly iterative process. And the final plan and the final asset condition assessment results are in alignment with the final plan.*"[82]

53. The testimony supports that Toronto Hydro's business planning process utilized the available PSE benchmarking and ACA information to develop the strategic parameters where were ultimately accepted by customers. Toronto Hydro submits that the Board give no weight to the assertions of SEC and AMPCO.

[82] OH Volume 3 (July 3, 2019) at page 124, lines 7-11.

2.0 CUSTOM INCENTIVE RATE-SETTING

2.1 Are all elements of Toronto Hydro's Custom Incentive Rate-setting proposal for the determination of rates appropriate?

54. Extensive submissions were made by OEB Staff and the Intervenors with respect to this issue. For ease of reading, Toronto Hydro's reply is organize generally following the structure used by OEB Staff. Specifically:

1) The Need for a CIR Application
    a. Toronto Hydro meets the threshold for CIR
    b. Toronto Hydro's CIR is distinct from cost of service ratemaking
    c. Alternate proposals severely underfund necessary capital expenditures
        i. Capital-Related Revenue Requirement, Capital Expenditures, and Ratemaking Values
        ii. Parties' alternate rate-setting proposals are a step backwards for customers and the grid that serves them

2) Custom Price Cap Index (CPCI) Factors and Values
    a. Capital Factor
    b. Inflation Factor
    c. Base Productivity Factor
    d. Stretch Factor
    e. Funding Cut Provision
    f. Growth Factor
    g. Mitigating CPCI Ratemaking Risk

3) CIR Framework Benefits for Customers
    a. Productivity
    b. Performance Benchmarking
    c. Earnings Sharing Mechanism and Capital-Related Revenue Requirement Variance Account

1) The Need for a CIR Application

a. Toronto Hydro meets the threshold for CIR

55. OEB Staff agreed that Toronto Hydro's application meets the threshold test for the OEB's Custom Incentive Rate-setting ("CIR") methodology.[83] OEB Staff nevertheless proposed that the OEB may wish to signal to Toronto Hydro that Toronto Hydro's next rate period (circa 2025-2029) could be set on a different basis than CIR.[84] In that way, OEB Staff are effectively asking the OEB panel to either make changes to generic policy through a particular utility's rate application (i.e. eliminate CIR or change the basis for it), or to fetter the discretion of a future panel. With respect, on either interpretation, the submission is inappropriate and should be rejected.

56. What's more, OEB Staff's proposal assumes that Toronto Hydro has already decided to seek a CIR application for its next rate period. That is simply not the case. As the record makes clear, Toronto Hydro has not yet assessed what ratemaking framework it will apply under for its next rate application, as this will depend on a number of factors that are not yet known or knowable. In selecting a rate-setting option, Toronto Hydro will continue to examine its options through the lens of existing OEB policy and guidance at the time of preparing its application, customer needs and preferences, system need, benchmarking information, and other data points.[85]

57. Toronto Hydro recognizes that it may not always require a CIR framework in order to be responsive to the requirements of what Toronto Hydro's customers need and want, and to the requirements of the grid and the city that the utility serves. However, and as demonstrated throughout the utility's argument-in-chief and this reply, for the current rate period, Toronto Hydro's proposed CIR is the only rate-setting mechanism that enables it to be responsive to these requirements.

58. In making the determination that CIR is the appropriate rate-setting mechanism to address its specific needs and circumstances, Toronto Hydro relied on the OEB's guidance in the RRF, the Utility Rate Handbook and the 2015 CIR application, which included approval of the same rate framework and nearly the same values (with the exception of the stretch factor) that Toronto Hydro proposes now. As the OEB affirmed in that decision "*regulatory predictability is a necessary component of an*

[83] OEB Staff Submission at page 30.
[84] OEB Staff Submission at page 31.
[85] OH Volume 6 (July 8, 2019) at page 85, lines 12-19.

effective regulatory framework." [86] In proposing various arbitrary and unsupported amendments to Toronto Hydro's rate-making formula and the associated values, various parties now seek to make what is in effect a collateral attack on the OEB's rate-setting policies, its previous approval of Toronto Hydro's CIR framework, and the principle of regulatory predictability. For these reasons alone, Toronto Hydro submits that the alternative proposals relating to Toronto Hydro's CIR rate-setting framework should be rejected. However, these proposals should also be rejected on their (lack of) merits, as addressed through this issue 2.1 of the reply submission.

b. Toronto Hydro's CIR is distinct from cost of service ratemaking

59. OEB Staff (and supportive intervenors) claimed that Toronto Hydro's CIR Framework is akin to a multi-year Cost of Service ("COS") application.[87] OEB Staff's implicit conclusion is that because of this alleged near-equivalence, Toronto Hydro's rate application is deficient and the OEB should apply a variety of punitive measures to reduce the utility's funding during the 2020 to 2024 period, especially with respect to capital. Toronto Hydro addresses each of these proposed punitive measures on their merits throughout this issue 2.1 of its reply submission. This particular section of issue 2.1 focuses on the theoretical foundation – the flawed premise – that the punitive measures are based on: namely, the claim that Toronto Hydro's CIR is largely equivalent to a multi-year COS.

60. With respect, there is a significant risk that these sorts of ratemaking policy abstractions can distract from what's most important: investing in the grid and utility operations to ensure that outcomes valued by customers can be achieved now and in the future. As is discussed throughout the record in this proceeding, Toronto Hydro's argument-in-chief and this reply argument, this application is about setting rates to fund a plan that is responsive to the needs and preferences of Toronto Hydro's customers, the needs of the grid, and needs of the world-class city that the utility serves.[88] The purpose of policies like the RRF is to ensure that the ratemaking tools are in place to enable utilities to achieve those outcomes.

61. Even at the level of ratemaking policy, this claim of near-equivalence between Toronto Hydro's CIR and a multi-year COS is a false equivalency premised on a faulty assumption. OEB Staff pointed to superficial and narrow similarities between CIR and COS in general, and from this, concluded that: (a) the two rate-setting approaches are effectively the same; and (b) Toronto Hydro's proposed CIR is

[86] EB-2014-0116, Decision and Order (December 29, 2015) at page 3.
[87] For example, OEB Staff Submission at pages 14, 17-18.
[88] Evidence Overview Presentation Transcript (May 3, 2019) at page 6, lines 23-28 and page 7, lines 1-8; Argument-in-Chief

deficient.[89] However, these claims necessarily involve ignoring critical differences. When those differences are brought into the analysis, it is clear that the two frameworks are demonstrably different – both in general, and in the case of Toronto Hydro's CIR. For these reasons, and as explained in further detail below, OEB Staff's assessment (and the supportive submissions of the other parties) should be rejected.

62. In general, OEB Staff's submission is based on the idea that if a capital funding mechanism is multi-year and incorporates cost forecasts, then it is effectively a cost of service approach.[90] What this position amounts to is OEB Staff claiming that, quite apart from Toronto Hydro's CIR, the very concept of CIR should be eliminated from the OEB's policy framework as a rate-setting option. Toronto Hydro has two responses to this.

63. First, CIR by definition is a multi-year capital funding solution that incorporates cost forecasts. This is made clear in the OEB's initial RRF Report (2012), as well as the Rate Handbook (2016). In particular, in the RRF Report, the OEB sets out that the test for CIR eligibility is a large, multi-year or highly variable capital program that exceeds historic levels, and that a utility is expected to file "robust evidence" of cost forecasts and to "have its rate base adjusted prospectively for actual spend."[91] The Rate Handbook elaborates on the expectation for CIR filers, including that it is appropriate for a CIR to be informed by a five-year forecast of costs.[92] In this way, the premise of OEB Staff's evaluation of the equivalency between COS and CIR is wrong.

64. Second, if OEB Staff wishes to challenge or seek to change the basis for CIR or its availability as a rate-setting option, then a utility's rate application is not the appropriate forum to do so. Toronto Hydro submits that it is most appropriate as the subject of a generic industry-wide consultation.

65. In addition to being properly the subject of generic consideration, whether CIR *should* exist in the future and in what form is also not relevant to what is being adjudicated in this application. In the present circumstances, CIR is an available rate setting option, and this fact is the starting point for Toronto Hydro's application. Indeed, OEB Staff appears to agree with this starting point given their assessment

[89] OEB Staff Submission at pages 16-18.
[90] OEB Staff Submission at page 18.
[91] Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach (October 18, 2012) *[RRF Report]* at page 14, 19 and 20.
[92] OEB Handbook to Utility Rate Applications (October 2016), at page 26.

that Toronto Hydro's Application meets the threshold test for CIR (as discussed above).

66. However, OEB Staff's claim that Toronto Hydro's proposed CIR and a multi-year COS are similar (or the same) is demonstrably false. In the case of Toronto Hydro's CIR, there are notable differences between it and a COS approach, including:

a) *CIR shifts the risk more squarely on to the utility*. Under CIR, a utility must manage within the rates set for a term of at least five years, and is not eligible for incremental funding (through mechanisms such as the ICM) to address unexpected incremental investment needs.[93] This puts considerably more forecast risk on CIR filings than COS applications. In Toronto Hydro's Application, this is all the more true due to the utility's core objective of keeping prices as low as possible for customers, and making investment trade-offs as a result.

b) *Toronto Hydro's CIR provides much greater protections for customers.* In addition to the general requirements of CIR, Toronto Hydro's approach adds incremental ratepayer protections. Toronto Hydro's CIR Framework includes a voluntary earnings sharing mechanism ("ESM"), and a voluntary asymmetrical capital variance account ("CRRRVA"), both of which also require the utility take on additional risk. Both mechanisms provide protections for ratepayers in the event that Toronto Hydro receives more revenue during the rate period than it forecasted as part of the rate-setting process.[94] COS has no such protections.

c) *Toronto Hydro's CIR rates are set through a price-cap framework that decouples costs from rates*. Toronto Hydro's CIR Framework includes a Base Productivity Factor, Stretch Factor, and a Growth Factor that decouple costs and revenues from rates. Irrespective of whether cost savings are achieved within the utility, the framework automatically reduces customers' rates; thus, customers enjoy up-front productivity savings.[95] In Toronto Hydro's

[93] Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach (October 18, 2012) *[RRFE Report]* at page 19 and 20.
[94] Exhibit 1B, Tab 4, Schedule 1 at pages 14-15; Exhibit 9, Tab 1, Schedule 1 at pages 10-14.
[95] Exhibit 1B, Tab 4, Schedule 1 at pages 5-7; OH Volume 7 (July 9, 2019) at page 79, lines 14-16. EB-2014-0116, Decision and Order (December 29, 2015) at page 18; Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach (October 18, 2012) *[RRFE Report]* at page 17. Contrary to the OEB Staff Submission at page 19, this does have the effect of decoupling costs and rates.

case, these amounts are significant and material to its operations.[96] By contrast, a COS application is demonstrably a straight cost pass-through with no such features to decouple cost from rates, or to provide guaranteed productivity benefits to customers.

d) *Toronto Hydro's CIR includes a comprehensive outcomes framework linked to customer needs and preferences*. Toronto Hydro developed a rigorous customer-focused outcomes framework (based on customer input), and a suite of 15 custom measures and associated targets for the 2020-2024 plan. These measures are incremental to the OEB's existing 29 metric and reporting requirements, for a total of 44 measures to be reported to the OEB annually. The DSP links investment needs to the outcomes that the plan is designed to achieve. A COS application includes no such commitment to an outcomes framework and incremental metrics to measure results.[97]

67. Another version of OEB Staff's criticisms that Toronto Hydro's CIR is equivalent to COS comes in the form of an assertion that the plan includes elements which reduce risk to Toronto Hydro and transfers capital risk to customers.[98] Parties such as SEC claimed that if a utility receives funding above IRM, then that utility has shifted risk to customers and is somehow "gam[ing] the system".[99] With respect, these are more of the same assertions that do not have a basis in fact, policy, or logic, and Toronto Hydro submits the OEB should reject them.

68. These claims amount to an argument that either the OEB was wrong in creating CIR as part of the Renewed Regulatory Framework, or that all utilities should be on IRM. This approach should be rejected for the reasons discussed in paragraph [12 and 13 above]. What's more is that this claim relies on disregarding the reality that there is a category of utilities that, in IR years, have a significant gap between their capital expenditure requirements and capital funding embedded in rebased rates. This fact was at the heart of the OEB's creation of CIR in RRF. Through its Decision in the last rebasing proceeding, the OEB confirmed that this issue affects Toronto Hydro.

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[96] OH Volume 7 (July 9, 2019) at page 35, lines 24-28; Exhibit 1B, Tab 4, Schedule 1 at page 10, lines 11-15; Exhibit 4A, Tab 1, Schedule 1 at page 3, lines 11-16. For examples of the numerous cost pressures in excess of the I-X that it receives with respect to OM&A, please refer to Toronto Hydro's Argument-in-Chief at para 183. These notably include cost pressures such as general inflationary pressures in the City of Toronto and wage increases. For examples with respect to capital cost pressures, please refer to JTC4.30.2.

[97] Exhibit 1B, Tab 2, Schedule 1, Appendix A. The scorecard features 1 custom measures and29 OEB measures identified on the Electricity Distributor Scorecard (EDS) and the Electricity Service Quality Requirements (ESQRs).

[98] OEB Staff Submission at page 38.

[99] SEC Submission, at paras 2.2.1 through 2.2.5.

Through the record in this proceeding, Toronto Hydro demonstrated that there continues to be a gap, and that the gap is more than $1 billion.

69. SEC does not explain what supposed "game" the OEB created through RRF that utilities are now playing by seeking rates through CIR applications. Based on its customer-driven needs, Toronto Hydro developed a plan. The needs-based plan met the OEB's CIR criteria. Toronto Hydro filed its application on that basis. A 13,000 page record has developed through the filing and proceeding, which demonstrates the need is real and pressing, and that CIR is the only way to fund the capital and operational expenditures necessary to address the need. The plan would deliver significant customer benefits at a rate increase that is well below inflation: less than 1.1% for the typical residential customer. This is not a game; this is the regulatory process at work, achieving a balance between customer needs, utility investments to meet the needs, and the resulting rates to fund the investments.

70. The utility's proposed capital expenditures are for the benefit of customers: the capital funding supported by its proposed rates is necessary for Toronto Hydro to deliver outcomes that matter to customers. Even the return generated from these investments drives direct benefits to customers in at least two ways: (a) approximately 40% of annual net income is reinvested back into the utility; and (b) strong financial performance drives high credit ratings, which result in low interest rates that help contribute to keeping prices as low as possible.[100]

71. VECC and other intervenors argued that COS combined with either ACM, ICM, or some combination of the two is more appropriate than CIR. For example, VECC states, "In our assessment the Board's ACM/ICM framework was contemplated to address the issue of extraordinary capital requirements under incentive ratemaking."[101] These proposals would result in lengthy, expensive annual rate proceedings that are ill-suited to the needs of Toronto Hydro and its customers, and contrary to the OEB rate-setting policy option that is designed to address those needs.

72. Certain intervenors assert that in filing pursuant to CIR instead of some other rate-setting option, Toronto Hydro is reducing its risk profile. Toronto Hydro's evidence underscores that the utility bears significant risk under the proposed framework. Toronto Hydro will be required to manage a constrained plan within the five year

[100] 1C-Staff-48; JTC3.8; Exhibit 1C, Tab 3, Schedule 8; Exhibit 5, Tab 1, Schedule 1.
[101] VECC Submission at page 8.

funding envelope (and without the availability of incremental capital funding)[102] at a time of concentrated growth in the City of Toronto, and amid reliability and safety risks that drive the potential for significant, unanticipated capital needs[103] during the five year term:[104]

> [W]e are at risk of underfunding the need in the system and, if anything, underfunding our ability to deliver on outcomes. We are walking a very, very thin tightrope with respect to being able to deliver on reliability and safety and other outcomes that customers value and that we value as well. And from that perspective, there is significant risk in the plan. And that comes out of, of course, trying to create a constrained plan and keeping ourselves consistent with what we heard from customers and trying to maintain a rate increase that is as low as possible."[105]
> [emphasis added]

73. Further, while the utility takes on the risk of managing a constrained plan over the rate period, it also ensures that ratepayers are protected through a number of mechanisms, including the CRRRVA.[106] Contrary to what OEB Staff and others assert, the CRRRVA is not a capital top-up mechanism. It is the means by which Toronto Hydro's CIR satisfies the OEB's stated expectation in the RRF that "*a distributor's application under Custom IR [must] demonstrate its ability to manage within the rates set, given that actual costs and revenues will vary from forecast*."[107] The CRRRVA meets this key expectation under the RRF by giving Toronto Hydro the "*required flexibility to plan and execute its capital investment strategy in response to the various factors that may require the shifting of projects and project spending earlier or later in the Custom IR term*."[108] It also goes further and provides an insurance mechanism for customers by ensuring that any cumulative underspend be returned to ratepayers, whereas any cumulative overspend is at the risk of the utility and its shareholder.

74. This reality is very different than the selective points that OEB Staff and others make to support the flawed assertions that the proposed CIR is akin to COS, or that CIR somehow entails less risk for Toronto Hydro or more risk for customers. In their

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[102] As discussed above, CIR filers are not eligible for ICM.
[103] OH Volume 8 (July 11, 2019) at page 74, lines 23-28 and page 75, lines 1-5.
[104] OH Volume 8 (July 11, 2019) at page 77, lines 26-28 and page 78, lines 1-7.
[105] OH Volume 8 (July 11, 2019) at page 85, lines 1-15.
[106] OH Volume 8 (July 11, 2019) at page 77, lines 17-28 and page 78, lines 1-7.
[107] Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach (October 18, 2012) *[RRFE Report]* at page 19.
[108] EB-2014-0116, Decision and Order (December 29, 2015), Section 3.22 at pages 52-53.

assessment, the *only* distinguishing feature between Toronto Hydro's CIR and a multi-year COS is that in Toronto Hydro's CIR, a stretch factor is applied to the capital factor.[109] As demonstrated above, this is simply not the case. To the contrary, there are numerous areas of difference, ratepayer benefits and protections, and utility risks: all of which are deeply rooted in the OEB's policy guidance and expectations under the RRF, the Rate Handbook, and the OEB's Decision in Toronto Hydro's 2015-2019 application.

75. Further, whether or not Toronto Hydro's CIR rate framework is structurally the same or similar to a multi-year COS was a live subject in its 2015-2019 application. Parties put forward the same assertions then as they do now, and the OEB rejected them. In particular, in approving Toronto Hydro's CIR framework in the face of claims that was a multi-year COS by a different name, the OEB found that:

> "Toronto Hydro's rate framework proposal incorporates features that are aligned with the RRFE's objectives. […] The OEB accepts that Toronto Hydro's rate framework is structured so as to support the achievement of RRFE objectives." [110]

76. Toronto Hydro's rate-making formula is structurally the same as the one the OEB approved in that application. Indeed, the only difference between the utility's OEB-approved 2015-2019 formula and the one it proposes in this application is *not in structure*, but in the values of the Stretch Factor, Growth Factor, and C-Factor, which are designed to be updated in a rebasing proceeding, just as the Inflation Factor is designed to be updated in annual rate updates.

77. Further, if anything, the rate framework being put forward by Toronto Hydro in this application has only evolved <u>further away from COS</u> since the utility's 2015 to 2019 application. Toronto Hydro incorporated additional customer-focused, incentive-based, and outcomes-driven features into its application:[111]

    a) Enhanced customer engagement approach and thorough integration of customer feedback into planning;

    b) A customer-focused outcomes framework and associated metrics;

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[109] OEB Staff Submission at page 18.
[110] EB-2014-0116, Decision and Order (December 29, 2015), Section 3.22 at page 6.
[111] Argument-in-Chief at para 1.

c) Improved analytical tools and processes; and

d) Increased use of internal and external benchmarking.

78. For all these reasons, Toronto Hydro submits that the claim that Toronto Hydro's CIR is nearly-equivalent or even structurally similar to a COS should be rejected.

c. Alternate Proposals Severely Underfund Necessary Capital Expenditures

79. Various parties made suggestions for changes to Toronto Hydro's CIR framework and the values associated with the different variables of that framework.[112] Toronto Hydro addresses each of these in turn in section 2 below. However, prior to discussing the individual mechanics and merits of each of those proposals individually, Toronto Hydro notes that the effect of these proposals is a dramatic contraction to its capital program.

80. These proposals should be rejected as they are antithetical to the outcomes that customers value, and the needs of the grid that serves them. The funding reductions driven by these proposals would erode (if not eliminate) the progress that Toronto Hydro has made for the benefit of its customers. As the record makes clear, Toronto Hydro has gained critical ground as a result of concerted effort in the last decade,[113] and this plan is about sustaining the gains the utility has made in key areas such as reliability, safety, customer service and productivity. As one witness put it during presentation day, "*our overwhelming concern right now is not backsliding*."[114] What's more is that this plan is at its core about delivering on outcomes that customers value: safety, reliability, customer service, environment, public policy responsiveness and financial performance. The funding that the proposed rates, and rate-setting framework provide is necessary to achieve these outcomes.[115]

81. Specifically, the changes parties proposed would have the effect of reducing Toronto Hydro's annual capital expenditures to well below recent historical levels (2015 to 2019), and at the extreme end of the proposals, taking them back to levels

[112] For example, SEC Submission at pages 13-18 and CCC Submission at pages 8-12.
[113] 1B-CCC-15; J3.2 at page 8, Table 2; Evidence Overview Presentation Transcript (May 3, 2019) at pages 12, 27-30.
[114] Evidence Overview Presentation Transcript (May 3, 2019) at page 8, lines 24-26.
[115] Argument-in-Chief at paras. 30-35 and paras. 62-65.

below what the OEB approved in 2009.[116] Toronto Hydro's performance in 2009 was well below what it is today.

82. Although intention is less relevant than effect, Toronto Hydro is unclear whether or not parties intended to massively defund Toronto Hydro's capital program, as their submissions did not identify or explain the effects of the proposals. Moreover, the effects of their proposed ratemaking alterations are at odds with their proposals for reductions to the capital expenditure program discussed in section 3.2.

83. For example, on the one hand, OEB Staff acknowledge that there is at least an approximate annual average of $513 million worth of capital expenditure "need" in Toronto Hydro's DSP.[117] However, when the effects of OEB Staff's proposed ratemaking alterations are quantified (i.e. higher Stretch Factor value, incremental stretch through a Funding Cut Provision, higher Growth Factor value), the effect would be to leave Toronto Hydro with capital expenditure funding of approximately $455 million per year on average: this is an average of $58 million underfunding per year relative to the acknowledged need. Further, Toronto Hydro notes that while OEB Staff's proposals result in an average is $455 million in capital expenditure funding per year, the actual effects are even more dramatic when separating the rebasing year from the outlier (non-rebasing) years. On OEB's Staff's analysis, Toronto Hydro's capital program funding would be $474 million in 2020, and drop to an average of $451 million in 2021 to 2024. This is an average annual reduction of 22% for 2021 to 2024 compared with Toronto Hydro's proposals. This compares to OEB Staff's proposal set out in Issue 3.2 to reduce capital spending by 8-9%.

84. These dramatic shifts in capital expenditure funding are due to the large consequences of small decimal point changes to variables in Toronto Hydro's ratemaking formula, which have a different effect on funding capital expenditures than they do on capital revenue requirement. For this reason, Toronto Hydro sets out below a more detailed explanation of how these ostensibly small alternations to the framework lead to dramatically negative, and in some instances, catastrophic consequences for the utility's capital program.

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[116] No party provided the financial impact on the capital plan if that party's proposals for CIR Framework were adopted by the OEB. Several parties did propose eliminating the C-Factor from the CPCI in Toronto Hydro's OEB-approved CIR Framework. The calculated effect of that single proposal would be a $1.5 billion reduction to Toronto Hydro's capital plan. This does not include the effect of other concurrent proposals by those parties related to the Base Productivity Factor, Stretch Factor, Funding Cut Provision, Growth Factor, or other such adjustments. It also does not include any other reductions proposed in relation to other Issues.

[117] OEB Staff Submission at pages 63-64.

i. Capital Revenue Requirement, Capital Expenditures, and Alternative Proposals

Capital Revenue Requirement under Toronto Hydro's CIR

85. In the 2020 rebasing year, Toronto Hydro's capital expenditures are paid for through revenue requirement funding via a standard rebasing approach.[118] Roughly half of the funding comes from the depreciation expense. The other half is funded by increases in the cost of capital (i.e. equity and debt) in the rebasing year. [119]

86. As the OEB and parties are well aware, depreciation provides the "return of capital" from past capital expenditures and enables the utility to reinvest that same amount in capital expenditures for the current year. It does so on a "dollar for dollar" basis.

87. Existing debt and equity, however, predominantly pay for the cost of capital in the current year that financed capital expenditures in *prior years*. New funding for new debt and equity must be obtained through rate increases in the current year if debt and equity are to pay for new capital expenditures in the current year.

88. The costs of debt and equity in the rebasing year's revenue requirement do not themselves indicate how much capital is funded by debt and equity in that year: it is the increase over the prior year that is instructive.

89. For example, in 2020, depreciation of $266 million would equal $266 million of capital revenue requirement, and would fund $266 million of capital expenditures that year on a "dollar for dollar" basis. [120] Also in 2020, the increase in the cost of debt and equity by $10 million in that year from $252 million to $262 million would fund an additional $251 million of capital expenditures that year. The other $252 million of the cost of debt and equity in 2020 would fund the historic capital expenditures that were financed in prior years. There are $13 million of PILs cost consequences arising from these capital investments. The 2020 PILs are set by the OEB to fund those costs dollar for dollar. Depreciation, debt and equity, and PILs together fund a total capital program of $517 million in 2020, inclusive of the PILs consequences.[121] The figures from this example are drawn from J1.7 and are reproduced below.

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[118] OH Volume 6 (July 8, 2019) at page 79, lines 5-8; Exhibit 1B, Tab 4, Schedule 1 at page 2, lines 17-26 and page 3, lines 1-2.
[119] Exhibit 1B, Tab 4, Schedule 1, Table 2 at page 9 provides a sense of the breakdown of the various components of the capital revenue requirement in J1.7.
[120] Exhibit 4B, Tab 1, Schedule 1, Appendix A. Toronto Hydro notes that this amount is embedded in the capital revenue requirement amounts provided in J1.7 and J1.8.
[121] U-VECC-71.

Table 1: Capital-Related Revenue Requirement Components (J1.7)

Capital Related Revenue Requirement Component	2020	2021	2022	2023	2024
Interest Expense	100.2	105.4	110.8	117.1	123.0
Return on Equity	162.0	170.4	179.1	189.3	198.8
Depreciation	265.5	281.5	292.3	314.0	327.1
PILs/Taxes	12.7	22.0	13.4	27.7	40.4
Capital-related RR	**540.5**	**579.3**	**595.6**	**648.1**	**689.4**

90. In the non-rebasing years (i.e. 2021-2024), $266 million of Toronto Hydro's annual capital expenditures would continue to be funded by the $266 million of depreciation set in the rebasing year (2020) and that would be embedded in distribution rates throughout the rate period. Any incremental capital expenditures would need to be funded by incremental rates that fund incremental debt and equity, incremental depreciation, and incremental PILs.

91. We can use 2021 as an example of how capital expenditures are funded in a non-rebasing year. Toronto Hydro's plan proposes $579 million in capital expenditures that year. As noted in the paragraph above, the first $266 million of those capital expenditures are funded by the $266 million of depreciation embedded in rates. However, all of the cost of debt and equity embedded in rates is funding the ongoing costs of financing capital expenditures from prior years (2020 and earlier). Accordingly, in 2021, there is a $313 million gap between the plan for capital expenditures and the funding for capital expenditures.

92. IRM would provide very little incremental funding to close that gap. Assuming an "I-X" rate increase of 1.2% in 2021, there would be a $6.5 million increase in capital-related revenue.[122] That incremental $6.5 million would fund incremental $55 million of capital expenditures for a total of $321 million in 2021 capital expenditures.[123] This is well short of the $579 million in needed capital expenditure funding.

93. Toronto Hydro submits that in establishing ACM and ICM, the OEB did not expect a utility to bring forward annual applications using those mechanisms in order to fund

[122] $540.5 million x 1.2% = $6.5 million.
[123] $266 million + $55 million = $321 million.

45% of the utility's capital program. Yet, as the example above illustrates, that is what many intervenors are proposing.

94. RRF intends CIR to close the gap, and CPCI does exactly that.[124] Instead of the $6.5 million in incremental capital-related revenue under "I-X", the CPCI funds $39 million in incremental capital-related revenue in 2021.[125] The incremental $39 million would fund all of the $313 million gap, less the built-in up-front productivity discount for ratepayers.

95. Over the 2021-2024 period, the CPCI funds $351 million of incremental capital-related revenue, which funds $1.5 billion of capital expenditures. Not approving the CPCI or its core element, especially the C-Factor, would massively defund the capital expenditure plan, leading to disastrous consequences for those connected to and affected by the grid.

Capital revenue requirement under alternate ratemaking proposals

96. Parties make two categories of proposals alternative to Toronto Hydro's CIR rate-setting approach: (a) that the C-factor should be eliminated; or (b) that the C-factor should be maintained, but that values for existing variables in the ratemaking framework should change and/or new variables should be added. Both these approaches drive dramatic reductions in Toronto Hydro's capital expenditure funding, ranging from funding levels *below* what IRM would provide, to funding levels *below* the utility's 2015 to 2019 actuals. Toronto Hydro addresses specific claims relating to each of these variables in section 2 below. Here, Toronto Hydro sets out the practical effect of them.

97. For example, SEC claims that the C-factor should be eliminated.[126] The effect of eliminating the C-factor would be to put Toronto Hydro on IRM. However, SEC goes further, and also makes additional claims that would have the effect of putting Toronto Hydro on a ratemaking regime that would provide capital expenditure funding that is *less than IRM*. In particular, SEC asserts that instead of applying in the industry-wide value for Base Productivity (which is 0%), the OEB should apply a 0.31% Base Productivity Factor. SEC further asserts that the OEB should apply a 0.25% Growth Factor, which is not a standard variable in IRM. As these factors both

[124] Exhibit 1B, Tab 4, Schedule 1, Table 2 at page 9 provides a sense of the breakdown of the various components of the capital revenue requirement in J1.7.
[125] $14 million for the cost of incremental debt and equity; $16 million for incremental depreciation; and $9 million for PILs.
[126] SEC submission at page 35. Other parties make similar submissions (see AMPCO Submission at page 5; OEB Staff Submission at pages 14-16).

have the effect of reducing Toronto Hydro's available revenue requirement, they also reduce its capital expenditure funding.

98. The practical effect of SEC's proposal would be to fund Toronto Hydro's capital expenditures at approximately $175 million per year in the outlier (non-rebasing) years, compared with Toronto Hydro's proposed $574 million per year in those same years. This is a cumulative five-year decrease of $1,714 million compared to Toronto Hydro's plan, and a decrease of $253 million compared to IRM. [127]

99. Toronto Hydro submits that cutting back the capital plan by hundreds of millions of dollars, let alone nearly $2 billion dollars, would amount to a total disregard of the Distribution System Plan and the record as a whole. It would be an unconscionable result that would decimate Toronto Hydro's capacity to provide service to its customers with immediate and long-lasting disastrous consequences to people's lives, their business operations, and the Canadian economy. It is unquestionably contrary to the public interest. Moreover, this approach is patently inconsistent with setting rates on the basis of CIR. For all these reasons, the approach of eliminating the C-factor should be rejected.

100. In at least one version of their submissions,[128] all parties claim that the C-factor should be accepted, as is consistent with setting rates on the basis of CIR. However, parties claim that the values of the deductive variables (i.e. productivity, stretch, and growth should be higher, and a further deductive variable (i.e. Funding Cut Provision) should be added. For example, SEC claims that it is appropriate to: increase the value of the Productivity Factor, increase the value of the Stretch Factor, increase the value of the Growth Factor, and add a specialized Funding Cut Provision of 0.64% for capital. The practical effect of this is to fund capital expenditures at an average of $508 million per year in the outlier (non-rebasing) years compared with $574 million average per year in Toronto Hydro's plan. This is a cumulative five-year decrease of $383 million compared to Toronto Hydro's plan. And this is *before* the additional reductions to capital that SEC proposes in issue 3.2 are factored into the analysis.

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[127] OEB Staff asserts at pp. 26-27 that the depreciation available to fund capital expenditures using the 4GIRM mechanism would be comparable to the funding available to other distributors. Toronto Hydro notes that the implications for very few of those distributors (if any) is hundreds of millions of dollars. Toronto Hydro also notes that those other distributors may not be sufficiently funding their capital programs, and this may point to a broader issue that warrants consideration in a generic proceeding. None of OEB Staff's submissions on this point considered the capital needs or circumstances of any of the distributors, and reverted to abstract calculations using percentages of percentages.

[128] Some parties such as SEC and AMPCO make alternate arguments.

101. For ease of reference, the devastating effects of various parties proposals on Toronto Hydro's capital program are summarized in the table below. Given that proposals to eliminate the C-Factor are patently unreasonable and contrary to the OEB's CIR policy set out in RRF, as well as the OEB's established precedent, they are excluded from the table. Further, the table only pertains to CIR Framework (Issue 2.1) proposals and excludes the cost or funding consequences of proposals pertaining to other Issues.[129]

Table 2: Summary of Parties' Proposed Adjustments to CPCI

	Inflation	Base Productivity	Stretch Productivity	Funding Cut Provision	Growth	Total CapEx Cut from THESL Proposal
OEB Staff	TH	0	0.45	0.64	0.25	$290 million
AMPCO	TH	n/a	0.6	0.64	0.25	$320 million
BOMA	TH	0	0.45	n/a	n/a	$191 million
CCC	TH	n/a	1.0	0.64	0.25	$402 million
EP	TH	0	0.45	0.64	0.25	$290 million
PWU	TH	0	0.3	n/a	0.2	$116 million
SEC	TH	0.31	0.6	0.64	0.25	$383 million
VECC	TH	0	0.6	0.6	0.25	$312 million

102. In all cases, these proposals result in dramatic, unreasonable and unsubstantiated reductions in Toronto Hydro's available capital expenditures to support its plan. Toronto Hydro's proposed level of funding is necessary to continue the utility's asset renewal program, and maintain its performance in accordance with customer expectations and good utility practice. Any reduction to the capital expenditure funding available will compromise Toronto Hydro's ability to make the required investments and continue to deliver the current level of service and performance that the city needs and that customers expect going forward. Reductions of the magnitude proposed by parties would drive significant negative consequences.

103. More specifically, the combined capital expenditure (Issue 3.2) and ratemaking proposals (Issue 2.1) made by the parties would mean that Toronto Hydro's capital program in the non-rebasing years would be reduced towards a primarily reactive approach, with available funding being directed toward chasing failed assets and fulfilling basic legal obligations to the extent feasible. The ability to perform an effective level of asset management would be all but eliminated on both the System and General Plant side of the business, likely leading to results such as: (a) an

[129] Note that DRC, GTAA, and Mr. Hann did not file CPCI proposals.

immediate increase in worst performing feeders;[130] (b) a steady decline in system average reliability;[131] (c) significant stress on the grid, system controllers, and crews due to a persistent state of operational contingency;[132] (d) steadily increasing costs and timelines to connect customers;[133] (e) an increase in PCB-contaminated oil spills and the associated liabilities;[134] (f) increasingly limited ability to accommodate distributed energy resources in a timely or cost-effective manner;[135] (g) the deterioration of stations buildings, work centers and fleet;[136] (h) and the inability to adequately support critical IT infrastructure leading to cyber security risks.[137]

104. Furthermore, over the course of the 2020-2024 rate period, chronic and severe underfunding would result in the steady accumulation of asset failure risk and the gradual depletion of available station-level system capacity. This in turn would lead inevitably to detrimental service and tremendous cost inefficiencies of managing the system reactively that would have impacts to customers well beyond 2024, including unpredictable and high rate increases for future generations.

105. As the analysis shown above illustrates, Toronto Hydro's capital expenditure spending is very sensitive to adjustments to the CIR Framework and CPCI rate-setting variables. Adjusting the variables by mere decimals changes capex spending by hundreds of millions, and in some cases, by nearly two billion dollars. No party stated that was its intent. Indeed, the submissions of OEB Staff and Intervenors with respect to Issue 3.2 indicate broad agreement that Toronto Hydro has significant capital needs in order to maintain and improve outcomes for customers.[138]

106. For all of these reasons, Toronto Hydro submits that the parties' various proposals for adjustments to the utility's ratemaking framework should be rejected.

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[130] Area Conversions (Exhibit 2B, Section E6.1), Network System Renewal (Exhibit 2B, Section E6.4), Overhead System Renewal (Exhibit 2B, Section E6.5), Stations Renewal (Exhibit 2B, Section E6.6), Underground System Renewal – Horseshoe (Exhibit 2B, Section E6.2), Underground System Renewal – Downtown (Exhibit 2B, Section E6.3), System Enhancements (Exhibit 2B, Section E7.1)
[131] Please refer to the Reactive Scenarios for SAIDI and SAIFI – Defective Equipment in Exhibit 2B, Section E2 at pages 15-16.
[132] Exhibit 4A, Tab 2, Schedule 7.
[133] Exhibit 2B, Section E5.1.
[134] Exhibit 2B, Section C2.5.1 at pages 24-25; Exhibit 2B, Section E2.2.3.2 at page 36, lines 16-21; Exhibit 2B, Sections E6.2, E6.3, E6.5 and E6.7; OH Volume 3 (July 3, 2019) at page 36, lines 7-11.
[135] Exhibit 2B, Section E5.1, Section E5.5 and Section E7.2.
[136] Exhibit 2B, Section E8.2 and Section E8.3.
[137] Exhibit 2B, Section E8.1.
[138] This is evident in their proposed reductions to capital expenditures as part of Issue 3.2, which range from $84.6 million (PWU) to $590 million over the rate period.

ii. Parties' alternate rate-setting proposals are a step backwards for customers and the grid that serves them

107. As illustrated above, many of the positions advanced by OEB Staff and the Intervenors would be a big step backward in time – as far back as 2009. With respect, these proposals are, at their core, a variation on a single theme: reject the evidence, disregard the conclusions of expert reports, ignore the low rate increase, and order a pre-Renewed Regulatory Framework (implicitly if not explicitly).

108. The proposals disregard the basis for, and value driven by, the RRF: "to support the cost-effective planning and operation of the electricity distribution network – a network that is efficient, reliable, sustainable, and provides value for customer."[139]

109. In 2009/2010, before the RRF came about, the industry was in the process of transitioning from a cost-of-service based framework to a performance-based framework. It soon became clear to the OEB, Toronto Hydro, and the sector-at-large that pure COS or basic IRM were not enough – that other rate-setting options for utilities were required with atypically large, sustained capital needs. The shared experience of Toronto Hydro's 2012 COS and subsequent 2012-2014 IRM/ICM application underscored this consensus. Toronto Hydro's capital funding was set at IRM levels, despite extensive evidence that the utility needed to undertake a concerted asset renewal strategy. As a result, the utility's capital program contracted to IRM levels of $288 million in 2012,[140] which had negative effects on its internal and external resources, as well as its customers. While Toronto Hydro received incremental funding through ICM in 2013 and 2014, it was necessarily a protracted process, and the project-by-project (ring-fencing) approach failed to provide the utility the flexibility required to efficiently and effectively plan and execute its capital program.[141]

110. During the IRM/ICM period, the percentage of Toronto Hydro's assets past end of useful life increased, and the utility experienced significant declines in condition across most asset categories.[142] Indeed, following the experience with Toronto Hydro's ICM, the OEB – having introduced the CIR rate-setting option for utilities with large, multi-year capital needs as part of the RRF in 2012-2013 – proceeded to

[139] Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach (October 18, 2012) at page 1.
[140] See EB-2014-0116, Exhibit 2A, Tab 6, Schedule 2 (OEB Appendix 2-AA)
[141] OH Volume 6 (July 8, 2019) at pages 129-131 and at page 133, lines 20-24.
[142] EB-2014-0116, Toronto Hydro's Reply Argument, para 73 at pages 26-27.

change the criteria for ICM filers in late 2014 so that only discrete projects would qualify for ICM treatment going forward.

111. This effectively closed-off the ICM option to a utility in Toronto Hydro's circumstances by making ICM the path for utilities requiring one-off funding for a few large projects, or that for other reasons are not filing rebasing applications for extended periods.[143] Accordingly, CIR became the only option for Toronto Hydro with its annual need to execute many large programs (each of which is composed of several large projects or hundreds of moderate projects).

112. Toronto Hydro filed its first CIR in July 2014 seeking 2015-2019 distribution rates according to the Board's new rate-setting mechanism. The Board approved that application noting the following in its Decision:[144]

> Toronto Hydro's rate framework proposal incorporates features that are aligned with the RRFE's objectives. Toronto Hydro will be incented to achieve improved performance over the life of the plan. Its "C factor" method of funding its capital plan is intended to correspond to its capital program execution over the life of the plan and is a customized solution to its business needs. The OEB has determined that Toronto Hydro's rates will be set on a 5 year Custom IR basis. The OEB accepts that Toronto Hydro's rate framework is structured so as to support the achievement of RRFE objectives….

113. It is not a coincidence that Toronto Hydro's current plan aligns so closely with the OEB's criteria for setting rates, and produces low rate increases, funds a large capital program, and achieves outcomes that customers' value. The OEB has gone to lengths through the RRF,[145] its Decision in Toronto Hydro's 2015-2019 Rate Application,[146] and the 2016 Rate Handbook[147] to provide utilities with a clear path that, if followed, will achieve the result of balanced utility performance. Toronto Hydro invested significantly and spent over three years preparing and presenting an application and evidence that aligned as closely as possible with that OEB direction.[148] Adherence to the OEB's framework has produced excellent results for

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[143] EB-2014-0219, Report of the Board, New Policy Options for the Funding of Capital Investments: The Advanced Capital Module (September 18, 2014), at pages 13-14.
[144] EB-2014-0116, Decision and Order (December 29, 2015) at page 6.
[145] Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach (October 18, 2012).
[146] EB-2014-0116, Decision and Order (December 29, 2015).
[147] Handbook for Utility Rate Applications (October 13, 2016).
[148] Exhibit 4A, Tab 2, Schedule 18, Appendix A; OH Volume 5 (July 5, 2019) at page 30, line 28 and page 31, lines 1-25, and page 32, lines 6-12.

Toronto Hydro's customers over the 2015-2019 period in the form of improved service and better outcomes.[149] Over the 2020-2024 period, it will sustain that level of service at very little incremental cost for customers (less than 1.1% per year for the typical residential customer).[150]

114. Given this, Toronto Hydro is surprised that any party would propose a return to the 2009,[151] or 2012 to 2014 situation.[152] These are times when Toronto Hydro's system was performing more poorly, and when customers were receiving comparatively lesser performance on outcomes that matter to them.[153] For these reasons, Toronto Hydro submits that the OEB should reject these proposals for modifications to the utility's ratemaking framework.

2) CPCI Factors and Values

a. C-Factor

115. AMPCO and SEC assert that the OEB should remove the C-Factor from the CIR Framework.[154] The C-Factor is at the very core of the CIR Framework. It is the principal element that makes it a "Custom PCI" and a "Custom IR". It is the means by which the CPCI achieves the CIR's core function: to fund a large, multi-year capital program that is unlike historical experience. AMPCO advises that it performed an analysis that led it to the conclusion that there should be no C-Factor. Toronto Hydro respectfully submits that AMPCO's analysis must be deeply flawed and incomplete.

116. Above, Toronto Hydro reiterated the explanation of how the C-Factor is necessary to fund capital expenditures in the IR years (2021-2024). In the absence of the C-Factor, annual capital spending falls to the OEB-approved 2020 depreciation amount: $266 million, or slightly more with IRM. Given that Toronto Hydro's plan is

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[149] Argument-in-Chief at para. 23. For example, Toronto Hydro has delivered measurable performance improvements in key areas of its operations like reliability and safety (1B-CCC-15 and J3.2 at Table 2).
[150] OH Volume 7 (July 9, 2019) at page 47, lines 23-24. As stated in paragraph 10 of the Argument-in-Chief, actual rate impacts will be event lower than this once the revenue requirement updates identified in J1.2 are factored in.
[151] As noted above, this is capital expenditure funding effect of SEC's proposal to eliminate the C-factor and return Toronto Hydro to IRM, increase the value of certain variables, and add variables not included in IRM.
[152] Some parties suggest that IRM plus ICM may be a viable option for Toronto Hydro. See for example OEB Staff Submission at page 14, SEC Submission at pages 11-12.
[153] Exhibit 1B, Tab 2, Schedule 1 at pages 8-20; 1B-CCC-15; Evidence Overview Presentation Transcript (May 3, 2019) at page 8, lines 16-17; Evidence Overview Presentation (May 3, 2019) at slide 7, with the associated transcript at Evidence Overview Presentation Transcript (May 3) at page 12, lines 16-19; OH Volume 6 (July 8, 2019) at page 84, lines 18-25.
[154] AMPCO Submission at page 5; SEC Submission at pages 6-7.

for average annual capital spending of $574 million in 2021-2024, this would be a total reduction of $1.5 billion for the 2021-2024 period.

117. AMPCO states that its position is based on its analysis of Toronto Hydro's system renewal category.[155] With respect, it is impossible to understand what inferences AMPCO drew from looking at Assets Past Useful Life and the Asset Condition Assessment to justify its proposal. However, Toronto Hydro notes that AMPCO's proposal has the practical effect of eradicating the investments in the system renewal category in 2021-2024.

118. The SEC proposal is not directed at any specific programs or category of spend in the 2021-2024 period, but its proposal still amounts to a $1.2 billion reduction of a $2.8 billion proposed capital program. Again, respectfully, this is not credible.

119. BOMA asserts that Toronto Hydro's CIR Framework, particularly on account of the C-Factor, is inconsistent with the RRF.[156] This is incorrect. The issue was already adjudicated by the OEB, as discussed and cited above. Moreover, the C-Factor is the essence of how the CIR Framework meets its fundamental purpose of addressing large, multi-year capital funding needs. Toronto Hydro submits that it is an inefficient and inappropriate use of the regulatory process for BOMA to attempt to have CIR fundamentals re-opened in this proceeding. The appropriate venue to reconsider OEB ratemaking policy is in a generic industry-wide consultation.

b. Inflation Factor

120. OEB Staff[157] and the Intervenors agree that the Inflation Factor should be set as proposed by Toronto Hydro. Specifically, the Inflation Factor should be updated annually based on the OEB-approved inflation factor. The Inflation Factor is the only ratemaking variable in the CPCI that will not be locked in during the Draft Rate Order process following the OEB Decision in this main proceeding. The Inflation Factor is updated annually.

121. OEB Staff also agrees with Toronto Hydro that if the OEB changes its methodology for determining the Inflation Factor, Toronto Hydro would need to consider the effect on the approved CIR plan at that time.[158]

[155] AMPCO Submission at page 5.
[156] BOMA Submission at page 15.
[157] OEB Staff Submission at page 34 and 52.
[158] OEB Staff Submission at page 34 and 52.

122. Conversely, SEC asserts that in adopting the OEB's inflation factor methodology during this proceeding, Toronto Hydro and its customers must accept the repercussions of any changes to the methodology during the plan period.[159]

123. Toronto Hydro's Plan that is before the OEB is a set of programs that need to be funded through the Inflation Factor and other ratemaking provisions. If that Inflation Factor funding would be reduced due to a change in the OEB's inflation factor methodology, then that would likely change the Plan. SEC did not address this important issue in asserting its position.

124. Rather than waiting for the OEB to consider the issue in its next rebasing application, it would be prudent for the OEB to consider the issue at the next available opportunity. For example, the OEB might establish a variance account to ensure that Toronto Hydro can continue to work the Plan, or the OEB might decide that greater or lesser funding should drive corresponding changes to the outcomes on the performance scorecard.[160]

125. As OEB Staff notes, the first opportunity to consider the issue would be the next annual rate update proceeding.[161]

c. Base Productivity Factor

126. Similar to the Inflation Factor, OEB Staff[162] and the Intervenors[163] agree that the Base Productivity Factor should be set as proposed by Toronto Hydro. Specifically, the Base Productivity Factor should be 0% for the plan period.[164]

127. OEB Staff also agrees with Toronto Hydro that if the OEB changes its methodology for determining the Base Productivity Factor, Toronto Hydro would need to consider the effect on the approved CIR plan at that time.[165]

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[159] SEC Submission at page 14.
[160] This appears to be consistent with the position of CCC in its Submission at page 8.
[161] OEB Staff Submission at page 34.
[162] OEB Staff Submission at pages 34 and 52.
[163] VECC Submission at page 5; BOMA Submission at page 6.
[164] CCC Submission at pages 9-10 combines assertions in relation to the X-Factor and S-Factor. Given the lack of detail in the CCC submissions on this topic, Toronto Hydro submits they should be disregarded. CCC's only clear reference is to the Handbook, which Toronto Hydro addressed in interrogatory response 1B-Staff-20.
[165] OEB Staff Submission at pages 35 and 52.

128. Conversely, SEC asserts that in adopting the OEB's inflation factor methodology during this proceeding, Toronto Hydro and its customers must accept the repercussions of any changes to the methodology during the plan period.[166]

129. Toronto Hydro's Plan that is before the OEB is a set of programs that need to be funded through the CPCI and other ratemaking provisions. If that CPCI funding would be reduced due to a change in the OEB's base productivity factor methodology, then that would likely change the Plan. SEC did not address this important issue in asserting its position.

130. Rather than waiting for the OEB to consider the issue in its next rebasing application, it would be prudent for the OEB to consider the issue at the next available opportunity. For example, the OEB might establish a variance account to ensure that Toronto Hydro can continue to work the plan, or the OEB might decide that greater or lesser funding should drive corresponding changes to the outcomes on the performance scorecard.[167]

131. As OEB Staff notes, the first opportunity to consider the issue would be the next annual rate update proceeding.[168]

132. With respect to the Base Productivity Factor, SEC asks the OEB to consider a value of 0.31% rather than 0%.[169] SEC offers no quantification of the impact of this proposal on Toronto Hydro's funding. In fact, the entirety of the SEC submission on this point is two sentences.

133. There would be lasting practical consequences if the OEB were to adopt SEC's brief proposal. OM&A funding during the period would be reduced by over $9 million. By way of illustrating the magnitude of this proposal, that is the equivalent of eliminating the Disaster Preparedness Management program for 3 years. The reduction in capital funding would result in reduced capital expenditures of $63 million. Similarly illustratively, that is the equivalent of eliminating all spending on Overhead System Renewal for more than a year.

134. Toronto Hydro notes that the RRF applies the base productivity factor on an industry-wide basis for all rate-setting options.[170] Toronto Hydro submits that the

[166] SEC Submission at page 14.
[167] This appears to be consistent with the position of CCC in its Submission at page 8.
[168] Staff Submission at page 35.
[169] SEC Submission at page 16.
[170] J7.6

proper forum to re-examine the OEB's Base Productivity Factor policy is a generic proceeding.

d. Stretch Factor

135. OEB Staff proposes a Stretch Factor of 0.45%,[171] in part based on the recommendation of PEG, and in part based on that being the mid-point between Toronto Hydro's proposal and a generic benchmarking figure of 0.6%.[172] Toronto Hydro disagrees with OEB Staff's logic and its conclusion in making this proposal.

136. There is a risk that seemingly small abstract numbers like 0.45% can become disconnected from the underlying system operations and reinvestment that they fund.[173] Stepping back from those minute details, a Stretch Factor of that level would reduce Toronto Hydro's OM&A funding over the period by over $12 million. This is equivalent to cutting the Disaster Preparedness Management Program for the entire upcoming rate period – a program that serves "*to prepare for, respond to, and recover from disasters or large-scale emergencies (e.g. severe storms, major system/facility disruptions) at both a system and corporate level.*"[174] It would also lead to capital expenditure reductions of over $90 million. This is equivalent to eliminating the Copeland Phase 2 project and the Local Demand Response investments proposed as part of the Stations Expansion Program – which are critical investments that have a direct "*impact on Toronto Hydro's ability to connect customers to its distribution system*."[175] A Stretch Factor of 0.6% would reduce OM&A funding by millions more, and capital spending by tens of millions more.[176]

137. In this proceeding, the OEB's generic benchmarking that produces the 0.6% figure is not part of the record.[177] There is no evidence that it produces a result that should be used in any way by the OEB in determining Toronto Hydro's Stretch Factor.

138. Indeed, the creator of the OEB's generic benchmarking is PEG. PEG does not support the use of that generic benchmarking for Toronto Hydro. Toronto Hydro

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[171] A Stretch Factor of 0.45 is also supported by various intervenors, for example BOMA Submission at page 11.
[172] OEB Staff Submission at page 32.
[173] This was addressed in the Oral Hearing testimony of Mr. Seal in Volume. 6 at page 78.
[174] Exhibit 4A, Tab 2, Schedule 6 at page 1, lines 8-10.
[175] Exhibit 2B, Section E7.4 at page 1, line 8.
[176] These practical implications are a critical counter-point to assertions like VECC's at page 7 of its submission. There VECC curiously chastises PSE and PEG for being too accurate, nihilistically offers that calculating a stretch factor is inherently inaccurate, and essentially urges the OEB to substitute the objective expert-based RRF methodology for VECC's subjective guesstimate.
[177] Despite that the generic benchmarking study it is not part of the record, certain intervenors assert that the OEB should rely on it in setting the S-Factor. This includes VECC Submission at page 6.

submits that if it is not an appropriate point of reference even for PEG, then nor should it be for the OEB.

139. In fact, all the evidence in this proceeding is that the generic benchmarking and its 0.6% assessment are not reasonable, let alone not correct. The PSE and PEG econometric benchmarking evidence in this proceeding is expert and thoroughly tested. After more than a year of scrutiny in this proceeding, there is only an evidence-based determination of a Stretch Factor of 0.3% or 0.45%.

140. Many intervenors followed OEB Staff's lead in encouraging the OEB to, in some way, factor the generic benchmarking at its 0.6% data point into its decision-making.[178] Those submissions appear to advance 0.6% as a punitive measure. At this value, it would not operate as an incentive, though that is what RRF envisions.[179] Toronto Hydro submits that the OEB should reject the intervenor submissions advocating 0.6% in the same way that PEG dismissed 0.6%.

141. As between the PSE finding of 0.3% and the PEG finding of 0.45%, Toronto Hydro submits that neither OEB Staff nor the intervenors have demonstrated that PSE's methodology or result is not sufficient to determine the correct Stretch Factor. Toronto Hydro respectfully submits that the OEB test for rate application evidence is reasonableness. Given the close alignment in the final methodologies by PSE and PEG, and the close proximity of the results of their custom econometric benchmarking reports,[180] Toronto Hydro submits that the PSE evidence is reasonable and therefore meets the appropriate standard of review for rate-setting. The Board should rely on this evidence to set the stretch factor value.

142. The Stretch Factor is based on forecasted costs run through the econometric model. In the event that the OEB Decision sets out funding that reduces the forecasted costs of the plan, during the Draft Rate Order process, the model should be updated. Toronto Hydro submits that PSE should re-run its model to determine whether the implications of the OEB Decision result in a Stretch Factor of 0.3% or some other value.

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[178] At AMPCO Submission page 4, in supporting a 0.6 S-Factor, that intervenor goes so far as to assert that Toronto Hydro is a "poor cost performer", despite the fact that even PEG's evidence demonstrates that Toronto Hydro's actual costs are only slightly higher than predicted by its econometric benchmarking model. Submissions that are not grounded in the evidence are unhelpful to the OEB and create inefficiencies in the regulatory process.

[179] Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach (October 18, 2012) *[RRFE Report]* at page 7.

[180] This was noted during the Oral Hearing at OH Vol 7 (July 9, 2019) at page 144, lines 19-27.

e. Funding Cut Provision

143. The OEB Staff Submission proposes a new Funding Cut Provision in the form of an incremental stretch factor to be applied to capital, over and above the stretch factor discussed above.[181] Essentially, OEB Staff would combine this new feature with the econometrically calculated Stretch Factor proposed by PEG to escalate the Stretch Factor to 1.09%.[182] OEB Staff asserts that this proposal is intended to incentivize Toronto Hydro to further increase productivity. With respect, Toronto Hydro disagrees with this bald assertion.

144. Despite OEB Staff's efforts to brand this proposal as a "factor" in the CPCI formula,[183] Toronto Hydro submits that this proposal is not an incentive, and it would not increase productivity. If implemented, it would dramatically reduce Toronto Hydro's capital expenditures, and its effect would only be to harm the utility's ability to deliver on outcomes that matter to customers. For these reasons, Toronto Hydro submits that the Funding Cut Provision should be flatly rejected by the OEB.

145. OEB Staff does not articulate the financial consequences of its proposal, but they are critical to understand. The Funding Cut Provision on its own would lead to a reduction in capital spending of $130 million. That is the equivalent of eliminating the Underground Downtown Program for the entire 2020-2024 period – a program which is "*designed to deliver reliability improvements, mitigate asset failure and public safety risks within the downtown cor*e."[184] Combined with the OEB Staff proposed Stretch Factor, the total reduction in capital spending would be $220 million. That is the equivalent of eliminating the Network Condition Monitoring and Control Program (*needed to modernize the grid in the downtown network which serves key customers like banks and hospitals*) [185] and the Stations Expansion Program (*needed to alleviate capacity constraints and to connect customers to the distribution system*) [186] for the 5 year period. A funding cut of this magnitude can only hurt the quality of service customers receive and the integrity and sustainability of the grid. The consequences of the Funding Cut Provision was never put to Toronto Hydro's witnesses. Without that point of reference, OEB Staff is asking the OEB to "take a leap into the dark".

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[181] OEB Staff Submission at page 46. OEB Staff denotes this with the symbol "Cx".
[182] OEB Staff Submission at page 47.
[183] OEB Staff also refers to it as an "incremental stretch factor".
[184] Exhibit 2B, Section E6.3 at page 1, lines 16-17.
[185] Exhibit 2B, Section E7.3 at page 1.
[186] Exhibit 2B, Section E7.4.

146. Just as the record does not support hundreds of millions of dollars of direct cuts to Toronto Hydro's proposed capital program, the record does not support indirect cuts to the proposed capital program.

147. With respect to OEB Staff's assertion that there is some sort of incentive to the utility within the Funding Cut Provision cannot be true. In theory, an incentive would be such that spending less than a target amount would create savings that would accrue to the utility. However, all capital savings are returned to ratepayers through the CRRRVA. Neither the Funding Cut Provision nor the Stretch Factor as applied to capital provide any incentive to Toronto Hydro.

148. Regardless of OEB Staff's incorrect conclusions about incentives, Toronto Hydro is proposing a large, needs-based, outcomes-oriented capital plan that is overwhelmingly supported by customers. It defies logic that after being forced to spend significantly less as a result of the Funding Cut Provision, Toronto Hydro would voluntarily spend even less than that in a revised plan. Toronto Hydro takes its roles as service provider to its customers and steward of the grid extremely seriously. The on-the-ground, front-line, reality is that notwithstanding significant productivity achievements and plans for future productivity, ultimately there is a very large amount of work that must be done that costs billions of dollars over the plan period.

149. A mechanism as significant as the Funding Cut Provision is a major departure from the RRF and OEB-approved CIR Framework. It is not incentive-based, and it does not incent productivity. More than that, OEB Staff explicitly describes it as a modification of CIR to turn it into something like COS and 4GIRM.[187] This is a stark admission. Just as it is not appropriate for OEB Staff to directly push a utility to COS and 4GIRM, it is not appropriate to indirectly convert a CIR Framework into a COS and 4GIRM framework.

150. OEB Staff's proposal is a *de facto* penalty to the utility for selecting CIR, even when the utility meets the CIR threshold criteria. Toronto Hydro submits that as matters of policy and procedure, this is unreasonable and unjust and the OEB should reject it.

151. As a matter of policy, RRF provides 3 discrete rate-setting options, but as a matter of fact, OEB Staff's proposal effectively eliminates one of those options. Such a major shift in ratemaking policy warrants a comprehensive review. However, the

[187] OEB Staff Submission at page 47.

Funding Cut Provision did not arise through a generic policy proceeding. Neither was it set out in an updated Handbook or Filing Requirements. It was not even advanced during Interrogatories or in the several months leading up to the Oral Hearing when expert evidence reports were exchanged and scrutinized. Instead, the prospect of a 0.64% Funding Cut Provision was first filed in an undertaking response two days after the end of the Oral Hearing.

152. The calculation, operation, and implications of the Funding Cut Provision was not tested at all in this proceeding and therefore cannot be relied upon to formulate just and reasonable rates. PWU highlights the weakness of this proposal: simply changing the year of the analysis produces a value less than half of the 0.64%.[188]

153. While OEB Staff developed the Funding Cut Provision based on information gleaned from PEG, PEG itself does not appear to support the Funding Cut Provision.[189] There is nothing on the record to support that this reasonable measure to impose on Toronto Hydro's capital funding.

154. OEB Staff's dramatically different approaches to the Stretch Factor and the Funding Cut Provision help illustrate the insufficiency of the latter.

155. Since its first information requests about the PSE study (within a week of Toronto Hydro filing its Application in August 2018), OEB Staff and their expert PEG spent months reviewing PSE's work. At the Technical Conference, during the Oral Hearing, and through three rounds of Interrogatories, OEB Staff tested PSE's evidence on extremely nuanced details of econometrics. All of this analysis was done in support of the S-Factor values. Yet, for the Funding Cut Provision – which is 4 times larger than the Stretch Factor differential, and is a novel proposal that has profound consequences for Toronto Hydro and its customers – a similar due process was not followed in this proceeding.

156. The only precedent for anything that remotely resembles the Funding Cut Provision is a much smaller provision of 0.15 which was implemented for Hydro One.[190] However, although PSE and PEG both evaluated Hydro One as a poorer benchmarking performer than Toronto Hydro,[191] the Funding Cut Provision that OEB Staff proposed for Toronto Hydro is more than 4 times greater than the provision in

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[188] PWU Submission at page 5.
[189] J10.5; Exhibit M1 at page 9; OH Volume 10 (July 15, 2019) at page 29, lines 4-8: "*Dr. Higgin: … So just to conclude this part you are staying with your 0.45 stretch factor for the CIR plan …? Dr. Lowry: Yes, we are*."
[190] EB-2017-0049, Decision and Order (March 7, 2019) at page 31.
[191] EB-2017-0049, Exhibit M1 and Exhibit A, Tab 3, Schedule 2, Appendix 2 relative to results provided in Exhibit M1 filed as part of this application and Exhibit 1B, Tab 4, Schedule 2.

the Hydro One case. This disproportionality demonstrates that the Funding Cut Provision is not grounded in empirical evidence, and therefore should be rejected.

157. Moreover, the fact that it appears to operate in a directionally opposite manner from the stretch factor suggest that OEB Staff are supportive of a paradigm where better cost performance does not result in better access to funding: poorer cost performers are hit with a higher S-Factor, while better cost performers are hit with a higher Funding Cut Provision.

158. Toronto Hydro submits that for all these reasons, OEB Staff's proposal for a Funding Cut Provision should be rejected.

f. Growth Factor

159. OEB Staff asserts that the OEB should reject Toronto Hydro's proposal for a Growth Factor of 0.2%, and instead set the Growth Factor at 0.25%.[192] Numerous Intervenors endorsed that approach.[193] Toronto Hydro submits that it is the wrong approach, for reasons both principled and practical.

160. Toronto Hydro respectfully submits that as a matter of principle, the OEB should generally follow its own precedents when faced with identical facts. Even though it is own precedents do not bind the OEB, administrative law and policy weigh in favour of doing so for reasons of fairness and regulatory predictability.

161. The relevant precedent is Toronto Hydro's last CIR proceeding, in which the OEB approved a Growth Factor of 0.3%.

162. OEB Staff states that Toronto Hydro's rounding was "incorrect". However, Toronto Hydro's rounding was based on the OEB precedent. Neither OEB Staff nor the Intervenors provided any explanation for why the OEB precedent is wrong. Nor did they provide any rationale for departing from the precedent. Their lack of substantiation could lead to the conclusion that they are simply "cherry-picking" a preferred result.[194]

163. Practically, the effect of adopting a 0.25% Growth Factor would be a $4 million reduction to revenue requirement over the period. If that additional growth does not materialize, this would lead to a $14 million shortfall for the capital program. As

[192] OEB Staff Submission at page 49.
[193] AMPCO Submission at page 5; CCC Submission at page 11; SEC Submission at page 17.
[194] As a counter-point to this proposal to reduce funding by rounding to a different decimal place, PWU Submission at page 5-6 provides examples of where departing from other decimal place precedents would increase funding.

a point of comparison, that is roughly equivalent to ceasing work for a year on the Load Demand program. That program is necessary to enable growth by reworking heavily loaded feeders. [195]

164. As the example illustrates, and as discussed further above, seemingly minor adjustments to the CIR formula have significant consequences for the capital program and thus Toronto Hydro's capacity to achieve outcomes that benefit customers amid significant challenges, such as deteriorating infrastructure, a growing city, climate change, and cyber-attacks.

165. Toronto Hydro submits that OEB precedent and the evidence support a Growth Factor of 0.2%.

g. Mitigating CPCI Rate-setting Risk

166. In replying to the submissions of other parties with respect to the Need for the CIR Framework and the CPCI Factors and Variables, the risks associate with the seemingly interchangeable, but demonstrably unique elements of capital-related revenue requirement, in-service additions, and capital expenditures is readily apparent.

167. Traditionally, the OEB rate-setting process as it pertains to funding for capital investments in utility infrastructure is centred on capital spending. This is evident in the filing requirements for Chapter 2 and Chapter 5. It is especially true in CIR applications.[196] Toronto Hydro's application, which OEB Staff commended on its clarity,[197] adhered very closely to that guidance. Toronto Hydro recommends that the OEB take its own guidance from this approach in authoring its Decision in this proceeding in order to avoid the unintended consequences discussed above[198]

168. Specifically, Toronto Hydro recommends that the OEB take one of two approaches. Either of which would provide clarity to all parties, who would then back-solve to these intended results during the Draft Rate Order process.

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[195] Exhibit 2B, Section E5.2.
[196] RRF at page 20, "Under Custom IR, planned capital spending is expected to be an important element of the rates distributors will be seeking, and hence will be subjected to thorough reviews by parties to the proceeding…. A distributor on the Custom IR method will have its rate base adjusted prospectively to reflect actual spend at the end of the term, when it commences a new rate-setting cycle."
[197] OEB Staff submission at page 6.
[198] The challenges associated with converting CRRR and RR-related stretches to capex are illustrated in 2B-Staff-75

a) The first approach would be to only make a Decision with respect to the capex for the rebasing year and an annual average capex for the outlying years.

b) The second approach would to create a safety net in the Decision, in which the OEB would make an overarching ruling that, "Notwithstanding the specific comments in this Decision, and recognizing the complex interplays of the various rate-setting elements in CIR application, the OEB's determination is that Toronto Hydro's rates should fund capex of no less than $517M in 2020 and no less than an annual average of $574M in the outlying years."

169. Toronto Hydro submits that these would be reasonable means of resolving the issue at hand. Toronto Hydro agrees with the other parties that subsequent to this proceeding, there would be value in a generic review of OEB rate-making policy. Toronto Hydro disagrees with the submissions of others that the OEB should use this Decision to "send a message to the sector." That's not constructive, and tends to lead to much more confusion in the sector as dozens of utilities rush to parse language and intent. Just as the OEB created a 2016 Rate Handbook to draw in the lessons learned through the early years of RRFE rate-making, these past few years have provided additional experience that warrants reflection. The concerns raised about CIR frameworks and future rate-setting options for utilities should be addressed in an orderly manner in a generic proceeding.

3) CIR Framework Benefits for Customers

170. In various submissions, OEB Staff and Intervenors questioned how customers benefit from the CIR Framework. The focus of these challenges were not focused on the value customers receive as a result of the investments and operations that the CIR Framework funds. Rather, the submissions focused on fiscal protections.

171. Toronto Hydro submits that these benefits and customer protections were addressed in length in the written evidence, oral testimony, and Argument-in-Chief.

172. Here, Toronto Hydro replies to the submissions of the other parties by highlighting four topics that pertain to this issue, which Toronto Hydro submits have been mischaracterized and incorrectly downplayed by OEB Staff and intervenors.

173. Specifically, the CIR Framework provides benefits in the form of, among other things: Productivity, Performance Benchmarking, Earnings Sharing Mechanism, and Capital-Related Revenue Requirement Variance Account.

a. Productivity

174. OEB Staff[199] and the Intervenors assert that Toronto Hydro has not achieved the required level of productivity over the 2015-2019 period and that Toronto Hydro makes an insufficient commitment to productivity for the 2020-2024 period. With respect, this conclusion is contradicted by the record, which demonstrates that: (a) Toronto Hydro's CIR Framework inherently and necessarily drives productivity by automatically reducing annual rate increases well below inflation;[200] (b) Toronto Hydro achieved significant productivity throughout 2015-2019, building on a long history of the same;[201] and (c) Toronto Hydro's plan for 2020-2024 forecasts significant incremental productivity.[202]

175. Toronto Hydro notes that OEB Staff variously takes the view that historical information[203] and forecast information[204] are not sufficient to assess utility performance. Toronto Hydro submits that evidence of historical achievements is relevant and important because it provides the OEB with a factual basis to evaluate the credibility of Toronto Hydro's future plans, including the utility's ability to achieve efficiencies without sacrificing effectiveness. Evidence of forecasts are at the core of forward-looking utility plans and rate proceedings.

176. For example, with respect to OM&A in the 2015-2019 period, Toronto Hydro's rate increases were reduced by a factor of 0.6% in each of the IR years (i.e. 2016-2019). That is, if the inflation rate used by the OEB in a given year was 1.8%, then Toronto Hydro's rate increases for OM&A were held to 2/3 of that amount (i.e. 1.8% inflation minus 0.6% stretch factor equals 1.2% rate increase).

177. While these numbers seem relatively small, for a utility the size of Toronto Hydro, they translate into extremely large dollar amounts. For example, in the first year of

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[199] For example, OEB Staff Submission at page 19 asserts that a 0.3% stretch factor is inadequate as it does not incorporate a sufficient productivity incentive to reflect the level of continuous improvement that should be expected of a utility that is seeking approval of a Custom IR framework (with C-factor treatment for capital) for the second time.
[200] OH Volume 7 (July 9, 2019) at page 190, lines 17-28; Evidence Overview Presentation Transcript (May 3, 2019) at page 7, liens 16-20.
[201] For example, see Exhibit 1B, Tab 2, Schedule 1 at pages 8-12; 1B-CCC-14; OH Volume 5 (July 5, 2019) at page 104, liens 10-22 and lines 25-28; J3.2; OH Volume 7 (July 9, 2019) at page 169, lines 5-28 and page 170, lines 1-14. Please also see Argument-in-Chief at para. 23. Additionally, the UMS unit cost benchmarking study provided in Exhibit 1B, Tab 2, Schedule 2, Appendix B concluded that Toronto Hydro is a better than average cost performance on 10 of the 11 categories benchmarked.
[202] For example, see Exhibit 1B, Tab 2, Schedule 1 at pages 8-12; 1B-CCC-14; OH Volume 5 (July 5, 2019) at page 104, liens 10-22 and lines 25-28; J3.2; OH Volume 7 (July 9, 2019) at page 169, lines 5-28 and page 170, lines 1-14. Additionally, the UMS unit cost benchmarking study provided in Exhibit 1B, Tab 2, Schedule 2, Appendix B concluded that Toronto Hydro is a better than average cost performance on 10 of the 11 categories benchmarked. These references directly rebut OEB Staff's Submission at pages 19-20 where OEB Staff assert that Toronto Hydro has not demonstrated its productivity.
[203] OEB Staff Submission at page 20.
[204] OEB Staff Submission at pages 44-45.

the period, Toronto Hydro's rates that fund OM&A increased by $1.5 million less than what was necessary just to cover inflationary costs. This is how Toronto Hydro's OEB-approved CIR Framework guarantees customers the benefits of productivity.

178. For customers, the effect of the CIR Framework only gets better over the period. That is because not only does that reduction continue throughout the period, but there is a compounding effect because another 0.6% discounts rates each and every year after 2015. The total effect of these front-end discounts for customers was $15 million just in relation to what they would have otherwise paid to fund the reasonable costs of Toronto Hydro's OM&A programs.

179. With respect to OM&A in the 2020-2024 period, Toronto Hydro's proposal, supported by its expert evidence prepared by PSE, would provide customers with additional discounts of $8 million over the period in relation to OM&A.

180. With respect to Capital, in the 2015-2019 period, the discount for customers was $28 million. According to Toronto Hydro's proposal, in the 2020-2024 period, the discount for customers will be $17 million.[205]

181. Accordingly, over the ten year period, the OEB-approved CIR Framework would provide Toronto Hydro customers a guaranteed total discount of $45 million. As discussed above, the capital-related revenue discount for customer provides a value much greater than "dollar for dollar." That is, customers get the benefit of tens of millions of dollars of capital expenditures that they don't pay for.

182. Other parties argue that Toronto Hydro should be required to detail how it has been able to provide customers with every dollar of this $45 million financial benefit through productivity initiatives. Indeed, in a COS or ICM rate-setting process, that would be a normal course part of the proceeding. That is because those frameworks require line-by-line productivity adjustments. It is a very manual process.

183. With CIR, ratepayers get the benefit of productivity achievements in the rebasing year, and the automatic, guaranteed, up-front, IR productivity adjustments that persist throughout the period. Toronto Hydro has provided considerable evidence

[205] These considerable capital discounts for customers highlight the incorrectness of the OEB Staff assertion at p. 23 that "capital spending is unconstrained". The CIR Framework automatically imposes very large constraints, which provide ratepayers with exceptional value for money.

as to its past and recent productivity achievements, as detailed throughout the evidence.[206]

184. For the reasons noted in earlier sections of this Reply Argument, Toronto Hydro submits that the OEB should assess Toronto Hydro's productivity achievements and commitments through the lens of CIR. The evidence demonstrates that over the ten year period, Toronto Hydro's customers benefit not only from tens of millions of dollars of discounts, but also improved and sustained levels of service. This has been achieved notwithstanding considerable external pressures such as deteriorating infrastructure, a growing city, climate change, and cyber-attacks. These pressures and others create a compelling need for funding *greater than* inflation. It is only through a deep and pervasive commitment to continuous improvement in achieving productivity that Toronto Hydro has managed and will continue to manage to withstand these pressures, while achieving the outcomes that benefit customers, and concurrently providing millions of dollars of discounts to customers.

b. Performance Benchmarking

185. OEB Staff[207] and the intervenors[208] agree that the RRF and the Handbook require performance benchmarking for CIR Applications.

186. Traditionally, performance benchmarking has focused solely on the econometric benchmarking performed by firms such as PSE and PEG. In preparing this Application, and in response to OEB direction in the last application and the Handbook, Toronto Hydro engaged in additional performance benchmarking. The submissions of other parties with respect to benchmarking and other objective performance assessments of Toronto Hydro are addressed here.

<u>PSE</u>

187. Over the course of this proceeding and Toronto Hydro's previous CIR proceeding, Toronto Hydro and OEB Staff have spent nearly $2 million on experts to perform the required econometric benchmarking.

188. Toronto Hydro expects that its customers would demand value for that money.

[206] Including, for example, in response to interrogatory 1B-CCC-14.
[207] OEB Staff Submission at page 19.
[208] For example, BOMA Submission at page 31.

189. Toronto Hydro submits that the value is crystalizing in this proceeding. Specifically, both Toronto Hydro's expert (PSE) and OEB Staff's expert (PEG) ultimately arrived at very similar conclusions. As confirmed by its expert, Toronto Hydro perceives that these many be the mostly closely aligned conclusions that PSE and PEG have arrived at in any OEB proceeding. This suggests that their econometric assessments of Toronto Hydro's performance are quite accurate.

190. For example, both PSE[209] and PEG[210] agree that benchmarking Toronto Hydro using econometrics should include comparisons with utilities serving large American cities, incorporate an urban core variable, and various other elements.

191. Also, in their results, not only are PSE's finding of 0.3 and PEG's finding of 0.45 very close, but for most years of the studied period, the consultants both arrived at a finding of 0.3.[211] This provides customers and the OEB with nearly a consensus assurance of Toronto Hydro's performance. The table from the evidence that illustrates this alignment is provided below:[212]

Year	PSE TC Results	PSE—Average Results Prior 3 Years	PEG TC Results (2012 Capital Level)	PEG—Average Results Prior 3 Years
2015	-18.4%		-7.6%	
2016	-15.7%		-3.1%	
2017	-13.8%		-0.2%	
2018	-10.5%	**-16.0%** (SF=0.15%)	3.5%	-3.6% (SF=0.30%)
2019	-9.3%	**-13.3%** (SF=0.15%)	4.8%	0.1% (SF=0.30%)
2020	-7.2%	**-11.2%** (SF=0.15%)	7.5%	2.7% (SF=0.30%)
2021	-5.5%	**-9.0%** (SF=0.30%)	9.4%	5.3% (SF=0.30%)
2022	-3.3%	**-7.3%** (SF=0.30%)	11.8%	7.2% (SF=0.30%)
2023	-1.6%	**-5.3%** (SF=0.30%)	13.8%	9.6% (SF=0.30%)
2024	-0.1%	**-3.5%** (SF=0.30%)	15.4%	11.7% (SF=0.45%)
CIR Avg.	**-3.5%**		**+11.6%**	

192. Rather than embrace the rigor of these analyses, OEB Staff submits that the OEB should also consider a generic Ontario-wide benchmark in evaluating Toronto Hydro's performance.[213] Respectfully, this is illogical. The OEB should use the best evidence available: the $2 million customized utility-specific benchmarking. OEB Staff's proposal would dilute the integrity of the process.

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[209] Exhibit 1B, Tab 4, Schedule 2; OH Volume 9 (July 12, 2019) at pages 69-72.
[210] Exhibit M1; OH Volume 10 (July 15, 2019) at page 116, lines 7-12.
[211] Exhibit 1B, Tab 4, Schedule 2 at page 12; and Exhibit M1 at page 62.
[212] Exhibit M3 at page 19.
[213] OEB Staff Submission at page 32 and 35.

193. It is also curious that OEB Staff highlight the generic Ontario-wide benchmark[214] and recommend the inclusion of Canadian utility benchmarks[215] while preferring the PEG specialized study over the PSE specialized study, even though PEG rejected Ontario comparators, and PSE included Ontario comparators.[216] Further, this position taken by OEB Staff is one of making "the perfect the enemy of the good",[217] and "moving the goal posts"[218] from one application to another.

194. Toronto Hydro submits that the expertly prepared PSE evidence is of exceptional quality, and more than meets the standard for the OEB to rely on it in setting rates. It is the best available evidence.[219] Further, PSE refined its methodology in direct response to OEB guidance and direction,[220] and it would be wasteful and procedurally unfair to now change the case to be met.

195. Toronto Hydro also observes that in response to a SEC interrogatory, PSE provided benchmarking with respect to the 10 largest distributors in Ontario, which would have resulted in a 0.15 finding for Toronto Hydro,[221] but neither OEB Staff nor SEC chose to include that reference point in their submissions, despite the exhaustive effort and considerable expense that goes into preparing interrogatory responses.

196. SEC makes much of the forecasted trend,[222] especially the one calculated by PEG, but neglected to remind the OEB that Toronto Hydro has consistently out-performed PEG's forecasts.[223] That is, PEG takes an overly pessimistic view. This was addressed during the Oral Hearing: [224]

> MR. STERNBERG: And just -- I am going to talk to years going forward. But in terms of historical years from -- well, certainly from 2010 through

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[214] OEB Staff Submission at page 32 and 35.
[215] OEB Staff Submission at page 42.
[216] OH Volume 9 (July 12, 2019) at page 112, lines 16-21.
[217] See also OEB Staff Submission at pages 39-40 with respect to the congested urban variable.
[218] See also OEB Staff Submission at pages 43-44 with respect to OEB Staff dismissing expertly selected Ontario comparators as insufficient, and preferring a study with no Ontario comparators, despite the 2015 CIR Decision's direction that Toronto Hydro try to include Ontario comparators. EB-2014-0116, Decision and Order (December 29, 2015) at page 16: *"While the OEB agrees that the premise of an urban core variable warrants further investigation, it cannot determine that the evidence demonstrates that it exists. As well as the issues with sample size, it is not clear to the OEB how much of Toronto Hydro service area is part of the urban core, or what percentage of the capital projects proposed by Toronto Hydro will be undertaken within that area."*
[219] PEG's benchmarking was filled with inconsistencies and inaccuracies which were highlighted in PSE's Reply Report (Exhibit M3 at pages 6-8). Over the course of the proceeding, PEG was able to gradually address those issues through the assistance of PSE. PEG acknowledged the shortcomings of its work under cross examination (OH Volume 10 (July 15, 2019) at pages 124-125). The more that PEG corrected its errors, the closer its result came to that of PSE.
[220] Exhibit 1B, Tab 4, Schedule 2 at pages 30-35.
[221] 1B-SEC-21.
[222] SEC Submission at pages 6-7.
[223] Toronto Hydro addressed the trend issue in response to 1B-SEC-23.
[224] OH Volume 10 (July 15, 2019) at page 121, lines 12-28.

> 2015, as we saw in the last application, PEG's opinion was that Toronto Hydro for each of those years was, or would be well above the benchmark. Your opinion now when we look at table 10 is for each of those years, 2010 to 2015, Toronto Hydro's actual costs were below the predicted benchmark costs. Fair?
>
> DR. LOWRY: Yes.
>
> MR. STERNBERG: And in the last application, PEG forecasted Toronto Hydro's cost performance would be more than 30 percent above the benchmark in each of the years 2015 to 2019. But the results for those years in your current model are also significantly different, as we see in table 10. Is that fair as well?
>
> DR. LOWRY: Yes.

197. Unlike utilities on 4GIRM, Toronto Hydro's CIR Framework does not provide it with the opportunity to gain the benefits of beating the OEB-approved performance forecast on an annual basis. Toronto Hydro provided extensive explanation throughout the proceeding to explain why its costs have increased (needed capital investments),[225] and noted that despite cost pressures, it continues to perform at cost levels below benchmark expectations.[226]

198. OEB Staff speculates on Toronto Hydro's 2025 performance. However, 2025 is out of scope in this proceeding. Toronto Hydro understands that going into any rebasing, it bears the onus of explaining its performance.

199. Toronto Hydro notes the flaws in the positions of OEB Staff and the Intervenors, and reiterates its position in support of the OEB accepting the PSE performance benchmarking for the purpose of setting Toronto Hydro's 2020-2024 rates.[227]

200. While Toronto Hydro stands firmly in support of its Plan, in the event that the OEB makes adjustments that reduce the forecasted costs, the econometric model that the OEB accepts for ratemaking must be re-run in order to calculate an accurate

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[225] OH Volume 4 (July 4, 2019) at pages 131-132; J5.6; OH Volume 7 (July 9, 2019) at page 168, lines 2-6 as well as page 169, lines 5-28 and page 170, lines 1-4.
[226] Exhibit 1B, Tab 4, Schedule 2; OH Volume 6 (July 8, 2019) at page 103, lines 27-28 and page 104, line 1; OH Volume 9 (July 12, 2019) at page 156, lines 3-6. The OEB Staff Argument at p. 21 characterizes this as deteriorating efficiency. Toronto Hydro disagrees with the characterization. Toronto Hydro's capital costs are increasing to address historic underspending, which has gradually brought Toronto Hydro's actual costs in line with expected costs.
[227] A detailed examination of why the PSE evidence is better than the PEG evidence is discussed in 1B-EP-12. OH Volume 9 (July 12, 2019) at pages 58-63; OH Volume 10 (July 15, 2019) at page 124, lines 9-28 and page 125, line 1.

result for the plan period.[228] This is a necessary corollary to using forecasts of cost performance in rate-setting. Toronto Hydro is advised by PSE that PSE could perform the recalculation in approximately one week after receiving the high level OM&A and capital data points.

UMS

201. Whereas the benchmarking by PSE was a continuation of and improvement upon the PSE assessment in Toronto Hydro's 2015-2019 application, the benchmarking by UMS was directly in response to the OEB's specific guidance in that proceeding on how Toronto Hydro should enhance its next CIR.[229]

202. OEB Staff is critical of the UMS study, asserting that the UMS methodology should not have including the use of its professional judgment to perform normalization adjustments.[230] During the Oral Hearing that question was put to Mr. Cummings, an OEB-qualified expert from UMS, to which he responded:

> MR. CUMMINGS: What's the basis? It is 29 years of benchmarking experience on UMS Group's part. It is a process that we used for all of our learning consortia, and all of the benchmarks and it has served us really well. It has served our consortias very well, as a way to – we don't just go across the continent we go across the world. So it becomes a number we can use as a normalizer, and typically we are not surprised when we start to dig deep into underlying issues that are causing unit rates to be higher or lower. It tends to bear out.
>
> So it's been tested by, if you will, actual observation and it's been used consistently. So we didn't change out approach for this study versus what we do – .[231]

203. In light of this testimony, Toronto Hydro submits that very little weight can be given to OEB Staff's assertion. OEB Staff were not qualified as experts, and did not lead contradicting expert evidence. The question of normalization methodology was put squarely to the expert who authored the study, and his response resolved the matter. Professional judgment is an inherent part of designing benchmarking assessments, which was vividly displayed in the exchanges in this proceeding

[228] 1B-SEC-23
[229] EB-2014-0116, Decision and Order (December 29, 2015) at page 19, 24, and 47.
[230] OEB Staff Submission at page 21-22.
[231] OH Volume 8 (July 11, 2019) at page 116, lines 4-14

between the experts from PSE and PEG. OEB Staff did not challenge Mr. Cummings' qualifications during the proceeding, and provided no explanation why Mr. Cummings' testimony on this issue is insufficient. Toronto Hydro submits that the OEB should accept the UMS report as a sufficient and persuasive assessment of Toronto Hydro's cost performance.

204. OEB Staff further assert that notwithstanding the UMS findings, Toronto Hydro has "plenty of room for improvement in terms of cost performance."[232] In the Oral hearing, this same point was put to UMS by BOMA:[233]

> MR. BRETT: … So what you are saying -- I understand you to be stating that in terms of developing methodologies for assessing unit costs, THESL is about where the industry is. IN other words, it's in line with the industry, meaning it is at about the same level of -- I am speaking about unit costs from a point of view of measuring productivity and performance.
>
> So if THESL's in line with the industry, it is a way of saying that it is about the same place the industry as a whole is. Is that fair?
>
> MR. CUMMINGS: That's a fair statement, with one additional statement which is – which I have not found in many utility's, which is they have initiatives in place to address that.

205. Given this testimony, and the testimony responsive to OEB Staff's other assertion, it is unclear what OEB Staff's standard is for unit/cost benchmarking or its position on what a commitment to continuous improvement in cost performance should look like.

206. Mr. Cummings, who brings nearly 30 years and a North American-wide perspective to this proceeding, confirmed that in his expert opinion Toronto Hydro's cost performance is consistent with that of its peers. Further, he testified that what distinguishes Toronto Hydro's productivity and cost performance is that unlike many of its peers, Toronto Hydro has initiatives in place to further improve.

207. Toronto Hydro submits that this is precisely the type and quality of study that the OEB requested that Toronto Hydro perform. With respect, Toronto Hydro submits that the positions taken by OEB Staff are misaligned with that direction. The UMS

[232] OEB Staff Submission at page 21-22.
[233] OH Volume 8 (July 11, 2019) at page 151, lines 16-22

report and testimony were a check on Toronto Hydro's results and direction: they confirm that the utility is achieving good results for customers, and is continuing to head in the right direction. Toronto Hydro respectfully submits that the OEB should also draw the conclusion from the UMS evidence that the OEB's approach to ratemaking and performance regulation is similarly achieving good results for customers, and pointing utilities in the right direction.

Other Performance Benchmarking and Assessments

208. Toronto Hydro's performance benchmarking evidence extends well beyond the econometric benchmarking assessment by PSE and the unit/cost assessment by UMS. Toronto Hydro filed 6 benchmarking studies and 21 reports in total.[234] Toronto Hydro submits that volume of third party reviews of the utility's performance and plans on the record in this proceeding may be unprecedented.

209. Toronto Hydro put four of the authors of the most crucial third party reports on the stand for cross-examination by all parties: Mr. Lyle on the topic of customer engagement; Mr. Cummings on the topic of unit/cost benchmarking; Mr. Morris on the topic of asset management; and, Mr. Fenrick on the topic of performance benchmarking. Toronto Hydro submits that this also providing an unusually significant opportunity for others to test its evidence.

210. Toronto Hydro prepared and filed these exhaustive materials, and made available its external resources in addition to 16 senior utility managers, because the utility understands that the expectations for those filing CIR applications are necessarily high. In addition, the request for $4.2 billion in funding over 5 years warrants comprehensive, professional, fact-based decision-making, and Toronto Hydro has a primary role to play in bringing forward evidence of the considerable needs of its customers that necessitate this level of spending. Toronto Hydro recognizes the comments of OEB Staff, which characterize this as, "a comprehensive application that was well organized and articulated."[235] Central to this application were those performance assessments by leading professional firms.

211. OEB Staff implies that the CIR Framework providing significant funds for investment in the system largely through the C-Factor, which results in rate increases, and cost

[234] Please refer to Argument-in-Chief, Appendix A for a full list and description of the reports.
[235] OEB Staff Submission at page 6.

performance rising to expected levels based on benchmarking, is somehow failing of CIR.[236] Toronto Hydro disagrees.

212. Toronto Hydro respectfully submits that RRF, the Handbook, and the Filing Requirements also reflect a different view than that expressed by OEB Staff. Namely, OEB policy prescribes a more robust rate-setting process, including more extensive evidence and third party benchmarking. This allows the OEB to substantiate and proportionately fund demonstrated significant capital investment need for the benefit of customers. This enables the OEB to address situations like that of Toronto Hydro. Toronto Hydro submits that through its performance benchmarking and other evidence, it has complied with OEB policy and enabled the OEB to order the necessary funding.

c. Earnings Sharing Mechanism and Capital-Related Revenue Requirement Variance Account

213. The Earnings Sharing Mechanism ("ESM")[237] and the Capital Related Revenue Requirement Variance Account ("CRRRVA")[238] protect rate payers from utility overearnings during the rate period. The OEB established these accounts in the last CIR application as customer protection mechanisms,[239] and Toronto Hydro proposes to continue them in the current application. Various intervenors criticized the customer protection offered by these mechanisms.

214. Some submissions by other parties with respect to Toronto Hydro's proposed ESM and CRRRVA were made in relation to Issue 2, while others were in Issue 8.

2.2 Is Toronto Hydro's proposed custom scorecard appropriate?

215. The utility's scorecard features 44 distinct metrics including 15 custom metrics that provide a balanced view of the most important outcomes of the plan.[240] Despite criticisms to the contrary, Toronto Hydro submits that the proposed custom scorecard effectively tracks Toronto Hydro's performance against the six outcomes

[236] OEB Staff Submission at pages 16-17.
[237] Exhibit U, Tab 9, Schedule 1 at page 14, Table 18 shows the 2015-2018 ESM calculations.
[238] Exhibit 9, Tab 1, Schedule 1 at pages 10 to 14 includes evidence about the 2015-2019 CRRRVA.
[239] EB-2014-0114, Ontario Energy Board, Decision and Order (December 29, 2015) at pages 48-49 and 52-53.
[240] OH Volume 7 (July 9, 2019) at page 174, lines 27-28 and page 175, lines 1-14. Exhibit 1B, Tab 2, Schedule 1, Appendix A. The scorecard features 15 custom measures and 29 OEB measures identified on the Electricity Distributor Scorecard (EDS) and the Electricity Service Quality Requirements (ESQRs).

of its plan, holds the utility accountable to measurable performance over the rate term, and is therefore appropriate.[241]

216. OEB Staff noted that Toronto Hydro complied with OEB direction in the last application to develop more comprehensive performance metrics,[242] and concluded:[243]

> [T]he custom measures proposed by Toronto Hydro reflect a reasonable list of metrics upon which its performance can be measured during the 2020-2024 period.

217. CCC also agreed that the proposed scorecard is reasonable,[244] but challenged the cost control targets, as did OEB Staff. SEC[245] and BOMA[246] also put forward various critiques of Toronto Hydro proposed cost control measures. VECC and Energy Probe took the general position that the entire scorecard should include targets, while AMPCO and Mr. Hann proposed specific changes to Toronto Hydro's proposed scorecard. Energy Probe and SEC challenged how the DSP Implementation measures the capital plan. For the reasons that follow, Toronto Hydro submits that these claims should be rejected.

218. DRC made several requests of the Board relating to Toronto Hydro Electric Vehicle (EV) integration and Distributed Energy Resource (DER) grid modernization[247]. DRC requests of the Board include requests to order Toronto Hydro to track and record capital and operating expenses associated with its EV integration, DER grid modernization, load impacts from the City of Toronto bus electrification, order Toronto Hydro to conduct customer and stakeholder research, consider exempting certain DER investments from the C-Factor, and consider benefits and productivity gains associated with the proposed capital plan's DER investments. Toronto Hydro submits that the Board reject all of DRC's requests which are tantamount to requesting the Board order actions on Toronto Hydro that should be determined through a generic consultation. Additional reasons for rejecting DRC's requests are outlined later on in this reply to Issue 2.2.

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[241] Handbook for Utility Rate Applications (October 13, 2016) at pages 16-17; OH Volume 7 (July 9, 2019) at page 175, lines 1-14.
[242] OEB Staff Submission at page 9.
[243] OEB Staff Submission at page 54.
[244] CCC Submission at page 13.
[245] SEC Submission at pages 28-29.
[246] BOMA Submission at pages 45-48.
[247] DRC Submission at pages 4 -5.

219. More generally, the intervenors' submissions on this issue imply that Toronto Hydro's commitment and accountability to continuous improvement is in some way lacking. With respect, these concerns however are misguided and contradictory to the evidence. They should not be given any weight by the Board in its evaluation of the proposed scorecard.

220. The evidence in the proceeding overwhelmingly demonstrates exactly the opposite. Namely, that Toronto Hydro's commitment and accountability to continuous improvement are strong. For example, the evidence demonstrates that the utility:

    (i) is a strong performer relative to its peers across a range of cost and performance benchmarks;[248]

    (ii) has realized millions of dollar of productivity and performance benefits for its customers;[249] and

    (iii) has a strong track record and robust corporate culture of continuous improvement and productivity.[250]

221. Throughout the vast evidentiary record in this proceeding there are countless examples of current and future productivity initiatives as well as past and future performance achievements.[251] This evidence demonstrates the robustness of Toronto Hydro's productivity and performance culture and the pervasiveness of its commitment to continuous improvement in cost efficiency and performance. Toronto Hydro's witnesses affirmed this commitment throughout the hearing.[252]

222. In light of this evidence, and with regard to the specific rebuttals outlined below, Toronto Hydro submits that the proposed custom scorecard is appropriate and should be approved as requested by the utility.

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[248] Argument-in-Chief at para. 51; EB-2018-0165, Distribution Rates Application Overview at page 4; Evidence Overview Presentation Transcript (May 3, 2019) at page 8, lines 10-21; Handbook for Utility Rates Applications (October 13, 2016) at pages 9 and 15-17.
[249] J3.2; Evidence Overview Presentation Transcript (May 3, 2019) at page 28, line 28 to page 30, line 11.
[250] J3.2; J6.3; J6.10; J10.3; JTC2.23; 4A-AMPCO-96.
[251] Exhibit 1B, Tab 2, Schedule 1, page 11 of 29, lines 1-11; Exhibit 2B, Section E8.3 Exhibit 1B, Tab 2, Schedule 1, page 19, lines 11-15; Exhibit 4A, Tab 2, Schedule 7, pages 14-17; Exhibit 4A, Tab2, Schedule 11, page 7, lines 15-22; 1B-CCC-14; 1B-CCC-19; 2B-BOMA-77; 3-AMPCO-68; JTC4.30.2.
[252] OH Volume 1 (June 27, 2019) at page 91, lines 7-19; OH Volume 1 (June 27, 2019) from page 111, line 20 to page 112, line 6; OH Volume 2 (June 28, 2019) at page 149, line 8 to page 150, line 17; OH Volume 2 (June 28, 2019) at page 152, lines 8-26; OH Volume 5 (July 5, 2019) at page 13, line 27 to page 14, line 11; OH Volume 5 (July 5, 2019) at page 103, line 23 to page 104, line 22; OH Volume 5 (July 5, 2019) at page 105 line 6-19; OH Volume 6 (July 6, 2019) at page 11, lines 15-22; OH Volume 6 (July 8, 2019) at page 79, line 16 to page 80, line 14.

The cost metrics and targets are appropriate and should be approved.

223. Toronto Hydro proposed two cost control metrics on its custom scorecard: average cost per wood pole replacement cost and vegetation management per kilometer.[253]

224. SEC challenged the adequacy of the proposed cost control measures, and Toronto Hydro's commitment to these measures.[254] Specifically, SEC criticized Toronto Hydro for putting forward cost control metrics that do not represent a sufficient portion of the total OM&A and capital spending over the plan term, and for not including the cost control measures on its corporate scorecard. SEC also challenged Toronto Hydro for proposing new cost control measures and abandoning the ones on its 2015-19 scorecard. With respect, these criticisms are without merit and should be dismissed because they ignore specific evidence about why and how the cost control metrics were selected, as well as more general evidence about broader performance measurement context within which these metrics are situated.

225. Specifically, Toronto Hydro's custom cost control metrics are complementary to the cost efficiency measures on the Electricity Distributor Scorecard (the "EDS"), which evaluate the utility's total cost performance on a variety of metrics (e.g. cost per customer, cost per line km, total cost efficiency). The addition of two custom measures brings the total number of cost control measures on the scorecard to five, out of a total of 44 measures (including 15 custom measures).

226. The custom measures proposed by Toronto Hydro reflect a balanced view of the material aspects and outcomes of the plan:[255]

> We then chose … an incremental 15 measures on top of the existing measures on the Board's scorecard that we felt augmented that scorecard in a way that really reflected both the material aspects of the plan and the objectives of that plan, and also the aspects of performance that we felt customers would care about.

227. The evidence disproves SEC's improper and unsubstantiated suggestion that the cost metrics were selected to replace the previous plan metrics and somehow skirt accountability for setting targets.[256] As Toronto Hydro's Manager of Regulatory Applications explained at the oral hearing, the utility selected the particular cost control metrics in order to provide customers and the OEB insight into the utility's

[253] Exhibit 1B, Tab 2, Schedule 1 at page 7, Table 1.
[254] SEC Submission at pages 28-29.
[255] OH Volume 7 (July 9, 2019) at page 174, line 19-24 and also at page 175, line 1-2.
[256] SEC Submission at page 30.

cost performance in two key aspects of its business: the overhead renewal program and vegetation management. These are two material programs of the capital and OM&A plan that contribute to system health (i.e. asset condition) and reliability performance, both of which are also part of the custom scorecard. As the witness explained, the together the cost control and reliability measures provide "*helpful symmetry*" of the cost and performance in two key areas of the plan.[257]

228. Toronto Hydro's proposed cost control metrics are not featured on the corporate scorecard but they roll up into scorecard through their contribution to the reliability measures on the corporate scorecard, namely SAIDI and SAIFI.[258] Toronto Hydro's witness explained that the metrics on its corporate scorecard are designed to unify all of the company's employees towards a common purpose of achieving corporate outcomes, [259] and that all metrics include elements of cost control.[260] Therefore, contrary to SEC's criticism, it would not be appropriate (or useful) to put singular cost control metrics on the corporate scorecard.

229. In any event, not including these metrics on its corporate scorecard doesn't mean that Toronto Hydro "*doesn't take them seriously"* as SEC baldly suggested in their argument.[261] Indeed, the record makes clear that exactly the opposite is true. As the witness explained at the Oral Hearing the performance management system at Toronto Hydro consists of multiple layers of metrics and governance and is designed to drive all parts of the utility towards the accomplishment of strategic outcomes:

> Every corporate KPI fits into a larger framework at Toronto Hydro in terms of how we manage performance. I think I referenced that pyramid earlier, and the corporate scorecard is at the top, and underneath it are additional layers of how we measure and govern performance that feed up. [262]
>
> … I think the art and science of a corporate scorecard is we're trying to break down what the company does into its simplest components, our four pillars of operations, people, financial, and customer. And then each year the task is to choose what is essentially a handful of

[257] OH Volume 7 (July 9, 2019) at page 178, lines 9 -28 and page 179, lines 1-14.
[258] Exhibit 2B, Section C2.
[259] OH Volume 7 (July 9, 2019) at page 41, lines 1-4 and page 187, lines 4-19.
[260] OH Volume 7 (July 9, 2019) from page 184, line 19 to page 185, line 2.
[261] SEC Submission at page 28.
[262] OH Volume 7 at page 183, lines 12-17.

> metrics that spread across these four pillars and unite hundreds of employees towards the same objective.[263]

230. The regulatory scorecard is one of these layers of governance. Despite SEC's allegations to the contrary, Toronto Hydro's proposal to publicly report the proposed custom scorecard represents a commitment to be held accountable to its performance on these measures over the course of the plan,[264] as well as in the next rebasing application when it comes in for a review by the Board.

231. CCC and OEB Staff argued that the OEB should set "improve" targets for the cost control metrics to incent continuous improvement. Toronto Hydro disagrees, and submits that it isn't necessary or feasible to set measurable improvement targets for these metrics.

232. Just as it was unnecessary for the OEB to establish targets for the cost efficiency metrics on the EDS, it is unnecessary to mandate continuous improvement on the proposed cost control metrics by setting a target on these metrics.[265] Utilities regulated by the OEB understand that there is an expectation of continuous improvement:[266]

> MR. RUBENSTEIN: But in the cost control custom metrics, you have none that have targets. Those are the only two.
>
> MR. HIGGINS: That's correct, and I am just -- I am pausing because I am thinking about the existing [EDS] scorecard and the cost control measures that are there. And I believe they also are reported in the same manner, there are not targets. There's a general expectation of continuous improvement. So it is similar in that way.

233. As highlighted above, the evidence on the record in this proceeding demonstrates that Toronto Hydro delivered on the Board's expectation of continuous improvement in the past, and that the utility is committed to doing so in the future:[267]

> MR. LYBEROGIANNIS: I think, Mr. Rubenstein, as I was mentioning, throughout everything that we do, productivity is a consideration,

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[263] *Ibid*, at page 187, lines 4-10.
[264] OH Volume 7 (July 9, 2019) from page 174, line 19 to page 175, line 14.
[265] OH Volume 7 (July 9, 2019) at page 180, lines 1-13.
[266] OH Volume 7 (July 9, 2019) from page 179, line 26 to page 180, line 6.
[267] OH Volume 1 (June 27, 2019) from page 96, line 24 to page 97, line 13.

> and like I said, on the OM&A side, we have identified cost-control measures. Many of those are related to what we're doing on the capital side of the program.
>
> At the high level, when you asked the question about how can we track and how can we assess whether Toronto Hydro is being productive, I wanted to draw your attention to … our custom performance scorecard measures, which are unit cost measures, and there is information on record as to how those unit costs have trended in recent years, and we will proceed to continue to monitor those measures and report on those measures.
>
> So that is another avenue that can be used to assess the productivity of the organization on the capital side of the business.

234. This commitment to cost control and efficiency is also evident in the results of the Unit Cost benchmarking study which placed Toronto Hydro in the second quartile for 10 out of 11 cost categories compared to 17 peer electric utilities across North America.[268] Toronto Hydro submits that these results are indicative of the ongoing success of its cost control efforts (e.g. strong procurement and project governance practices, process improvements to increase project wrench time). Toronto Hydro expects to utilize this UMS study and future studies to inform its efforts to push towards first quartile performance.[269]

235. Furthermore, Toronto Hydro submits that it is not feasible to set measurable improvement targets for the proposed cost control metrics. As these were new measures developed for the purpose of the UMS Unit Cost study, Toronto Hydro does not have the full data set or the requisite operational experience to set reliable targets or baselines.[270] Toronto Hydro's General Manager of Engineering explained the reasons for not being able to set baselines for these two measures:[271]

> The first reason is, this particular measure when you are looking at unit costs, there is volatility naturally from one year to the next, and the advice that we have received from our consultant UMS is that it's most appropriate to use a multi-year average.

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[268] J3.2 at page 1, lines 11-6; Exhibit 1B, Tab 2, Schedule 1, Appendix B at page 7.
[269] JTC4.30.2 at page 3, lines 6-16.
[270] 2B-PWU-3; OH Volume 2 (June 28, 2019) from page 16, line 8 to page 18, line 11.
[271] OH Volume 2 (June 28, 2019) at page 15, lines 1-18.

> In this particular case we have selected a three-year average. It would probably be better to use a five-year average. So at this point in time what we don't have is five consecutive three-year averages to do that.
>
> The second reason why it is not appropriate at this point in time is, this is a relatively new framework for Toronto Hydro. We are implementing it, and one example is we don't know how the volatility, for example, will4 influence positively or negatively this particular measure and its effectiveness.
>
> So because of those two reasons, we are unable at this point in time to set a base line that we think would be appropriate.

236. OEB Staff asserted that five years simple data should be sufficient to set targets for the cost control measures.[272] However, Staff's assertion is contrary to the evidence of what a full dataset requires. Consistent with the unit cost methodology, each input in the data set requires a three-year average.[273] A complete data set therefore requires five three-year rolling averages as noted in the Table 3 below:[274]

Table 3: Dataset Requirements for Unit Cost Measures

Year	Dataset Required (Available)
1	2014-2016 Average (Available)
2	2015-2017 Average (Available)
3	2016-2018 Average (Available)
4	2017-2019 Average (Not Available)
5	2018-2020 Average (Not Available)

237. Despite not having sufficient historical data to set baselines or targets for the custom cost control metrics, Toronto Hydro nonetheless decided to include these metrics on the scorecard to bring visibility to them and to hold itself accountable. The measures are helpful indicators of cost performance and enable the utility and the OEB to gain experience analyzing and managing unit cost trends.[275] In making the decision to include these metrics on the custom scorecard despite not having an

[272] OEB Staff Submission at pages 54-55.
[273] Exhibit 1B, Tab 2, Schedule 1, Appendix B at page 12.
[274] JTC2.11.
[275] OH Volume 7 (July 9, 2018) at page 181, lines 14-25.

appropriate historical baseline, Toronto Hydro was instructed by the OEB's guidance in the Utility Rate Handbook that: [276]

> A utility may propose measures for which five years of data is not yet available if it commits to collecting and reporting the data through the course of the plan. Furthermore, the lack of historical data should not be a barrier to the setting of new measures, especially if these are important to monitoring a utility's future performance… [emphasis added]

238. In summary, Toronto Hydro submits that the proposed custom cost control metrics and the objectives to track, monitor and report on these metrics with a view to achieving continuous improvement where possible, are appropriate, reasonable and should be approved.

The current and proposed DSP implementation measure is appropriate

239. Energy Probe and SEC took issue with the DSP implementation measure on the EDS (which also appears on the corporate scorecard). Specifically, they challenged that it tracks capital expenditures rather than in-service additions,[277] and argued that it's not an appropriate measure of capital efficiency or performance because it only tracks and rewards spending. Toronto Hydro respectfully submits that these concerns are meritless and should be dismissed because they ignore key evidence that: (a) explains the rationale for tracking spending; and (b) puts this measure in the proper context of Toronto Hydro's robust performance management system.

240. The DSP implementation measure appears on both the EDS and the corporate scorecard because it is an operationally useful measure. Its usefulness stems from the fact that it tracks dollars spent consistent with how budgets are executed and managed throughout the company.[278] Measures that are equally applicable and meaningful across the entire company are good candidates for the corporate scorecard as they can achieve the scorecard's purpose of uniting the Company towards the common goal of *working the plan*.[279]

241. Furthermore, the DSP implementation measure sits within a larger context of three other corporate scorecard measures related to capital which work "*together measure much more than dollars spent, but exactly what we have done with the*

[276] Handbook for Utility Rate Applications (October 13, 2016) at page 17.
[277] Energy Probe Submission at page 16.
[278] OH Volume 7 (July 9, 2019) from page 40, line 26 to page 41, line 14.
[279] OH Volume 7 (July 9, 2019) at page 187, lines 4-14.

dollars in terms of achieving outcomes, things like how frequently our customers are experiencing outages due to defective equipment, when they do, how long they're out for, how efficiently we're able to connect new customers."[280] Therefore, contrary to SEC and Energy Probe's claims, the corporate scorecard does a lot more than *reward management for spending money on capital*.

242. In any event, Toronto Hydro also tracks and manages in-service additions.[281] It does so at the appropriate sub-levels of the performance management pyramid, along with a host of other detailed key performance indicators that provide checks and balances in terms of how the "dollars" are being spent to achieve operational results and outcomes for customers. As Toronto Hydro's EVP of Public, Regulatory, and Legal Affairs explained at the Oral Hearing:[282]

> And of course, the corporate scorecard is just one aspect of the company's approach to governance and performance management. If you kind of visualize a pyramid, it is at the top of the pyramid and underneath it are multiple layers of metrics and governance.
>
> So what we do on the capital side is we have additional items such as, we manage plan to actual capital projects. We also look at in-service additions. We track our year-ahead readiness by getting our designs ready for the following year's execution program. So again, it is at the detailed level. We look at the health of our assets. We look at worst performing feeders and key accounts and so on.
>
> So within that there are checks and balances around working the specific plan, as far as the details and the granular pieces underneath it. [emphasis added]

243. Toronto Hydro submits that the DSP implementation measure on the regulatory scorecard is appropriate and should not be revised. The OEB should assess this metric within the larger context of the utility's robust corporate management system and balanced regulatory scorecard, not within a vacuum as SEC and Energy Probe argued. Within the broader performance context, this measure works in tandem with a host of other internally and externally reported metrics and key performance indicators to drive the execution and performance of the capital plan.

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[280] OH Volume 7 (July 9, 2019) at page 41, lines 7-14.
[281] OH Volume 2 (June 28, 2019) at page 9 at lines 18-28 and page 10 at lines 1-2.
[282] OH Volume 7 (July 9, 2019) at page 42, lines 4-20.

This approach has worked well in the past (as evidenced by the success of the 2015-19 plan)[283] and the OEB should have confidence that it will work well in the future.

Numerical targets are neither necessary nor practical to hold Toronto Hydro accountable to the performance of its plan

244. BOMA, CCC, Energy Probe, and SEC argued that Toronto Hydro's custom scorecard should include numerical targets.[284] Toronto Hydro submits that it isn't necessary or practical to set numerical targets to hold Toronto Hydro accountable to the scorecard. The OEB should not make any changes to the custom scorecard.

245. The comprehensive performance objectives of the plan are abundantly detailed throughout the vast evidentiary record. In fact, each OM&A and Capital program narrative includes an upfront section that outlines how the specific investments will contribute to the utility's performance in respect of the six customer-focused outcomes. This uncontroverted evidence, along with the utility's strong track record of historical performance and expressed commitment to future performance (as thoroughly discussed in the AIC)[285] demonstrate that it isn't necessary to set targets to hold Toronto Hydro accountable to robust performance on the scorecard.

246. As summarized in the undertaking JTC2.9, Toronto Hydro's performance objectives for the proposed measures include historical baselines for the Maintain measures, and forecasted performance for most of the Improve measures. Measures with a target of Monitor are new and therefore do not have a baseline[286] on the basis of which the utility could set a target. Toronto Hydro's objective (consistent with the OEB's guidance in the Utility Rate Handbook)[287] is to monitor and report on these measures annually, and to consider this data in developing potential targets to measure future performance.[288]

247. Toronto Hydro submits that the evidence is comprehensive and sufficient to hold the utility accountable to the proposed scorecard without having to set targets. And furthermore, Toronto Hydro's ability to deliver on the proposed outcomes and measures is dependent on the OEB approving the funding requests put forward in this application. If the OEB renders a decision reducing the requested revenue

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[283] 1B-CCC-15; J3.2; OH Volume 3 (July 3, 2019) at page 60, lines 1–18.
[284] CCC Submission at page 13; SEC Submission at pages 28-29; BOMA Submission at pages 45-48; Energy Probe Submission at page 16.
[285] Argument-in-Chief at paras 50-54.
[286] OH Volume 2 (June 28, 2019) from page 14, line 15 to page 16, line 6.
[287] Handbook for Utility Rate Applications (October 13, 2016) at page 17.
[288] Exhibit 2B, Section C2 at pages 4-5.

requirement, Toronto Hydro will have to revisit to its outcomes and performance objectives as part of full business planning cycle having regard to the Board's decision.[289] That is another reason why Toronto Hydro submits that it isn't practical for the OEB to set targets on the scorecard.

Additional untested measures proposed by AMPCO should be rejected

248. AMPCO proposed the inclusion of various additional measures on the custom scorecard.[290] For the general and specific reasons articulated below, Toronto Hydro submits that these proposals are not appropriate and should be rejected.

General reasons why AMPCO's proposals should be rejected

249. As discussed in the AIC, Toronto Hydro underwent a rigorous outcomes focused business planning process to prepare the specific proposals in this application.[291] During this process, the custom scorecard measures and the performance objectives in respect of those measures were developed as part of the integrated plan proposed in this application.[292] Because they form part of an integrated plan, the measures on the custom scorecard are aligned with customer needs and preferences and reflect a balanced expression of the objectives of the plan.

250. Toronto Hydro submits that the proposed measures are appropriate to evaluate the performance of the plan, and notes that OEB Staff and CCC agreed that they are reasonable.[293] It would not be appropriate to introduce new and untested measures on the scorecard without thoroughly analyzing if and how they contribute to delivery of customer-focused outcomes of the plan, and whether they represent an appropriate expression of the plan's objectives.

251. Furthermore, AMPCO's proposals to include additional measures on the scorecard were not put to the Company during this proceeding, and witnesses did not have the opportunity to respond to this proposal. Therefore, Toronto Hydro submits that it would be prejudicial to the Applicant and contrary to procedural fairness to impose these measures on the utility without having thoroughly tested the proposals during the proceeding.

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[289] OH Volume 3 (July 3, 2019) at page 17, lines 22-24. 2B-Staff-65(b).
[290] AMPCO Submission at page 6.
[291] Argument-in-Chief at paras. 1-3.
[292] Exhibit 2B, Section C2 at page 5, lines 3-6.
[293] OEB Staff Submission at page 54; CCC Submission at page 13.

Specific reasons why AMPCO's proposals should be rejected

252. In addition to the general concerns articulated above about the appropriateness and fairness of including new and untested measures on the scorecard. Toronto Hydro has a number of concerns with the specific measures proposed by AMPCO.

253. AMPCO proposed that project level cost control metrics should be included on the scorecard because they provide better outcomes for customers and support continuous improvement. With respect, AMPCO's proposal disregards the evidence, and Toronto Hydro submits that it is not appropriate and should be rejected.

254. AMPCO's supposition – that project level metrics provide better outcomes – disregard the evidence that Toronto Hydro's management of the capital and OM&A programs is conducted at all levels of its business plan. As part of the pyramid of corporate governance and performance, Toronto Hydro manages its plan at the project level, program level, asset category and cost centre level. All of these roll up to the total capital and OM&A levels which are tracked and managed through the corporate scorecard.[294] As noted by Toronto Hydro's EVP of Public, Legal and Regulatory Affairs, under this pyramid structure, the total plan measures encompass the various (and many) detailed key performance indicators underneath them.[295]

255. On the basis of this evidence, Toronto Hydro submits that the additional project and schedule level measures proposed by AMPCO do not reflect better outcomes for customers. On the contrary, they reflect the exact same outcomes but expressed at a level of detail that is part of the day-to-day management of the utility, which is not appropriate for a regulatory scorecard. It is a long-standing view of the Board that in its oversight of utilities the Board "*is mindful of the necessity to strikes an appropriate balance between ensuring that a utility complies with the Board's regulatory requirements and not interfering with the utility's day-to-day management of its business in the ordinary course*." [296] Toronto Hydro submits that accepting AMPCO's proposed measures would not strike the appropriate balance between compliance with regulatory requirements and not interfering with the day to day activities and operations of the utility.

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[294] OH Volume 7 (July 9, 2019) at page 40, lines 26-28 and page 41, lines 1-14.
[295] OH Volume 7 (July 9, 2018) at page 42, lines 1-20.
[296] EB-2009-0191, Decision (October 1, 2009) at page 2; see also EB-2005-0001 Decision with Reasons (February 9, 2006) at page 9, para 2.2.1; EB-2007-0905 Decision with Reasons (November 3, 2008) at page 28; EB-2010-0008 Decision with Reasons (March 10, 2011) at page 28; EB-2010-0354 Decision and Order on Motion (March 25, 2011) at page 11.

256. For similar reasons, Toronto Hydro objects to AMPCO's proposed metrics to measure the % P1 corrective work orders being completed in 15 days. This is a level of detail into utility management that goes far beyond the scope and usefulness of a regulatory scorecard.

257. AMPCO also proposed to keep MAIFI as a custom measure. This proposal is not appropriate and runs contrary to the evidence on the record. As Toronto Hydro's General Manager of Engineering, explained, Toronto Hydro removed the MAIFI measure from the scorecard because of technological limitations that affect the quality of the measurement. Simply put, because of legacy systems that continue to operate, there isn't sufficient monitoring equipment in Toronto Hydro's network to enable a meaningful measurement of momentary interruptions: [297]

> The challenge that Toronto Hydro has is that the 4-kilovolt system is a legacy system of ours, and not all of the municipal stations that feed the 4-kilovolt system have SCADA or SCADA enabled, and as a result we do have parts of the system that are not adequately covered when it comes to measuring or monitoring momentary interruptions.

258. AMPCO further proposed to keep the Outages Caused by Defective Equipment and Outages Hours Caused by Defective Equipment rather than the proposed SAIDI and SAIFI Defective Equipment measures. The Board should reject this proposal given the evidence that the proposed SAIDI and SAIFI Defective Equipment metrics are a primary measure of the direct impact of Toronto Hydro's system renewal and maintenance programs on defective equipment outages over time.[298] Toronto Hydro's proposed measures will provide better insight into the linkage of system renewal expenditures and defective equipment over time.

259. For these reasons, Toronto Hydro submits that AMPCO's proposals are not appropriate and should be rejected by the Board. However, if the OEB sees any merit in reviewing one or more of the proposed additional measures, the Applicant submits that the OEB should direct Toronto Hydro to provide this information in its next rebasing, rather than to include any additional measures on the custom scorecard. The custom scorecard is comprehensive and the proposed measures are reasonable.

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[297] OH Volume 3 (July 3, 2019) at page 147, lines 17-25.
[298] 2B-VECC-10(b).

Definitional changes proposed by Mr. Hann are inappropriate

260. Mr. Hann proposed two definitional changes. First, Mr. Hann stated that Toronto Hydro's proposed definition of kilometre that is used in its scorecard measures for Vegetation Management needs to be clearly defined. Mr. Hann went on to suggest:[299]

> The measure could be based on route or road km, primary circuit km or primary and secondary circuit km which are all different distances and would give a different result, yet the only vegetation management that should be used is with route or road km.

261. For clarity, as noted in pre-filed evidence, Toronto Hydro's proposed definition of kilometre for the purpose of the Vegetation Management measure is "total kilometres trimmed."[300] This definition of kilometre captures the actual amount of vegetation trimmed consistent with execution of the Vegetation Management program. Toronto Hydro submits that the definition is appropriate and doesn't need to be changed.

262. Second, Mr. Hann proposed that the causes of "defective equipment" need to be clearly defined.[301] In making this proposal, Mr. Hann did not have regard for the directly responsive evidence that Toronto Hydro provided at the oral hearing. The Director of Engineering Standards explained that Toronto Hydro has an equipment failure analysis program through which it conducts defective equipment root cause evaluations:[302]

> No, Mr. Hann, like I described, and I will describe it again, with respect to equipment failure analysis program [these definitions] come from process documents, so we have process documents, we have tools, we have procedures, we have experienced staff who work very closely with manufacturers…

263. Toronto Hydro submits that there is no additional clarity required in respect of the "defective equipment" measures. The evidence is more than sufficient for the Board to approve the proposed scorecard measure.

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[299] Mr. Hann Submission at page 7.
[300] Exhibit 2B, Section C2 at page 23, lines 8-10.
[301] Mr. Hann Submission at page 7.
[302] OH Volume 4 (July 4, 2019) from page 68, line 24 to page 69, line 3.

DRC's reporting requests are inappropriate and should be rejected

264. In their submission, DRC proposed a lengthy list of detailed reporting requirements with respect to EVs and DERs.[303] Toronto Hydro rejects these proposals and submits that they are not appropriate and should be rejected for the reasons that follow.

265. DRC's reporting proposals are administratively burdensome and extend far beyond the OEB's Filing Requirements,[304] Rate Handbook,[305] and Reporting and Record Keeping Requirements (RRR).[306] Furthermore, DRC advanced the proposed reporting requirements without having put them to the Applicant during the proceeding. A question for the Board to consider in its review of DRC's requests is: why didn't DRC's expert evidence or their examination of Toronto Hydro introduce these proposals? There was ample opportunity during this proceeding to lead evidence and engage in discovery.

266. What's more is that DRC appears to be using this rate application as a platform to collect information to advance their members' interests. With respect, that is not the purpose of a rate application. Toronto Hydro submits that DRC's proposal provides no value to OEB in the exercise of its statutory jurisdiction to set just and reasonable rates. Given the potential implications of the DRC's requests on other utilities, Toronto Hydro submits that DRC's proposal should be considered as part of a generic review rather than in the context of this rate application.

267. For all these reasons, Toronto Hydro submits that DRC's proposed reporting requirements in respect of EVs and DERs should be rejected.

[303] DRC Submission at pages 4-5 and pages 15-16.
[304] Filing Requirements for Electricity Distribution Rate Applications (July 12, 2018).
[305] Handbook for Utility Rate Applications (October 13, 2016).
[306] Electricity Reporting & Record Keeping Requirements (November 29, 2018).

3.0 RATE BASE AND CAPITAL PLAN

3.1 Are the proposed 2020-2024 rate base amounts (including the working capital allowance amounts) reasonable?

268. OEB Staff and intervenors challenged various aspects of Toronto Hydro's proposed 2020-2024 rate base amounts. Specifically, parties challenged: (i) the prudence of certain amounts related to the Copeland TS - Phase 1 and ERP projects; (ii) the rate base calculation methodology using the half year rule; (iii) Toronto Hydro's approach to forecasting in-service additions; and (iv) the utility's proposal regarding behind the meter energy storage assets.

269. For the reasons below, Toronto Hydro submits that the OEB should reject the rate base arguments and proposals advanced by Staff and intervenors. The 2020-2024 rate base amounts proposed by Toronto Hydro are appropriate and should be approved by the OEB as requested.

270. With respect to Copeland and ERP specifically, Toronto Hydro submits that all of the expenditures in relations to these projects were prudent. The costs are historical and were incurred by the utility to successfully complete the projects, both of which provide significant value to customers. No party adduced evidence to establish that any of the additional costs were imprudent. Rather, their arguments are premised on bald assertions that are contrary to the evidence on the record. Toronto Hydro submits that the parties have failed to displace the presumption of prudence in respect of Copeland and ERP; their proposed disallowances are without merit.

Copeland TS - Phase 1 expenditures are prudent.

271. Copeland TS - Phase 1 is a generational project for Toronto Hydro, the City of Toronto, and the utility's customers. The evidentiary record detailing the necessity, prudence, and benefits of this investment is vast, and spans three Toronto Hydro rate applications.[307] For additional background and context regarding the Copeland project, Toronto Hydro includes an Appendix A to this section.

272. Despite the above, OEB Staff and some intervenors challenged the cost of the project and asserted that there should be a permanent disallowance to rate base with respect to the Copeland TS - Phase 1 project costs. These parties identified a

[307] EB-2012-0064, Tab 4, Schedule B17; EB-2014-0116, Exhibit 2B, Section E7.9; EB-2018-0165, Exhibit 2B, Section E7.2. Please also refer to Appendix A.

range of amounts – from $5 million (OEB Staff) to $29.5M (Energy Probe) – that they claim should be denied inclusion in rate base.

273. With respect, Toronto Hydro submits that there is no evidentiary basis for justifying a disallowance of any amount – on the contrary the evidence demonstrates that the costs related to Copeland TS - Phase 1 were prudently incurred for the benefit of customers, and are entirely reasonable. All amounts that parties said should be permanently disallowed are arbitrary and punitive, and ignore both the reasonableness and prudence of the investment, as well as the needs and benefits of this investment to customers and Toronto Hydro's service territory.

274. Copeland TS - Phase 1 was a large and intricate project of unprecedented scale for Toronto Hydro. Copeland TS is not only the second underground transformer station of its kind in Canada, but it is also the first transformer station to be built in the downtown core since the 1950s.[308] The magnitude, complexity, and novelty of this project are important overarching considerations in evaluating the prudence of the project's cost for inclusion in rate base.

275. Toronto Hydro forecasts the completion of Copeland TS - Phase 1 at a total cost of $204M with a 2019 in-service date. Relative to the original OEB approved cost of $195M this is an increase of $9M or approximately 4.7%.[309] A less than 5% variance is well within the range of reasonable for a project the size and complexity of Copeland Phase I.[310] Given the challenges that Toronto Hydro contended with in constructing this project, the utility respectfully submits that its completion of the project within less than a 5% variance is not only within the range of reasonable, but is in fact a remarkable achievement given the unforeseen and complex circumstances it faced during construction.[311]

276. Indeed, OEB Staff acknowledged that a number of the challenges that Toronto Hydro contended with in constructing the project should properly be considered outside of management's control. These challenges include adverse weather events, and contractor performance issues.[312] VECC recognized the uniqueness and

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[308] Exhibit 1C, Tab 3, Schedule 5 at page 20 and Schedule 6 at page 20; Toronto Hydro, *Improving Reliability: Copeland Station*. Available: <https://www.torontohydro.com/improving-reliability/copeland-station>
[309] 2B-Staff-95.
[310] In EB-2015-0173 at Exhibit 2, Tab 14, Schedule 3 at page 19, the Toronto Hydro ICM Variance Evaluation Report prepared by PSE states that during the construction phase of a project it is "*widely accepted in the industry that certain types of projects tend to produce larger variances than other types*" and that variances ranging from -10% to +15% are acceptable as there can be unforeseeable problems and challenges that arise.
[311] Please refer to Appendix A of Toronto Hydro's Reply Submission.
[312] OEB Submission at page 60.

complexity of the project and concluded that the costs variances in excess of what the OEB approved costs were related to the unique aspects of the project.[313]

277. The submissions to disallow Copeland TS - Phase 1 costs are premised on two claims.

278. First that the differential between the OEB-approved and actual expenditure is not $9 million, but $29.5 million. Second, is the bald assertion that some of the circumstances encountered were within management's control, and that Toronto Hydro's actions in managing the cost consequences of those circumstances were imprudent.[314] Both claims are discussed below. Neither withstands scrutiny.

Copeland should be evaluated as a single integrated project

279. The parties' first claim rests on the erroneous assertion that the capital contribution paid by Toronto Hydro to Hydro One should be excluded in the evaluation of project costs. There is simply no reason for this exclusion – capital contributions are but one of many ordinary line items in project costs. Copeland TS - Phase 1 was approved by the OEB on the basis it of being a single integrated project: no aspects of the project costs were ring-fenced or considered to be something other than "project costs".

280. Further, reviewing the project as an integrated project is entirely consistent with how the OEB has approached other large utility projects. Finally, the only reason the capital contribution was reduced is because of Toronto Hydro's direct action to reduce it as part of prudently managing project costs and focusing on project outcomes that benefit customers.

281. In the 2012-2014 ICM Proceeding, the OEB approved Copeland as an integrated project and that is how Toronto Hydro managed its execution. As Mr. Trgachef articulated at the hearing: [315]

> Mr. Rubenstein, the point I am making here is, again, you are departmentalizing individual categories and isolating the capital contribution. The Copeland project team managed the project within a funding envelope of $195 million. We came in at $204.1 million, to be exact. And the project was managed within that funding envelope in all

[313] VECC submission at page 11.
[314] OEB Submission at pages 60-61; SEC Submission at pages 63-64.
[315] OH Volume 1 (June 27, 2019) at page 119, lines 16-23.

> these categories and we did not isolate one category and revise that budget for that one aspect.

282. The proposed bifurcation of Hydro One's costs from the rest of the project ignores a key fact; namely, that the reduction for the Hydro One contribution only arose as a result of Toronto Hydro's efforts to again, manage costs and focus on outcomes. As Mr. Trgachef explained:[316]

> So the main change in the capital contribution resulted from design change that was developed with Hydro One that Toronto Hydro initiated, where we reduced the amount of high-voltage breakers from initial design of ten to six. [emphasis added]

283. Toronto Hydro initiated the design change that led to the $20.5 million reduction in the capital contribution paid to Hydro One to offset other cost increases.[317] This critical change was part of Toronto Hydro's comprehensive effort to manage the project in its entirety. In effect, parties seek to punish the utility for taking action to prudently manage costs while continuing to focus on project outcomes for the benefit of customers.

284. During any integrated major project – especially one of the magnitude, complexity, and novelty of Copeland TS - Phase 1 – there will be some components that progress as expected and others that experience challenges despite prudent planning. The key consideration is how well did the utility manage the project overall. The OEB has employed this approach in its review of other major projects, such as the Darlington Refurbishment Project (DRP) where the OEB said:[318]

> If OPG were to face CRVA scrutiny for each component part of the Unit 2 project, it may lead to unintended consequences and lessen the ability of OPG to deal with issues as they arise. As OPG argues convincingly in its reply submission, the refurbishment of Unit 2 is a single integrated project, not a web of independent projects. It must be managed on a holistic, dynamic basis, where "higher cost may be incurred in one area to address a risk or resolve an issue in another area, which, when taken as a whole, is to the benefit of ratepayers." [emphasis added]

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[316] TC Volume 1 (February 29, 2019) at page 36, lines 13-17.
[317] 2B-Staff-95; TC Volume 1 (February 29, 2019) at page 36, lines 13-17.
[318] EB-2016-0152, Decision and Order (December 28, 2017) at page 41.

285. Intervenors and Staff asked the OEB to do exactly what it declined to do in the OPG case in relation to the DRP; to review Copeland in a fashion piecemeal or as a web of independent projects. This approach is inappropriate for a regulatory review and wrongly punishes the utility for taking initiative and finding innovative solutions to manage project risks. Instead, the OEB should continue to encourage utilities to manage major projects on a holistic and dynamic basis, and give utilities the flexibility to make appropriate decisions to deal with issues that arise in the execution of the work.

Toronto Hydro planned and executed Copeland TS - Phase 1 prudently

286. OEB Staff and various intervenors claimed that that specific circumstances encountered during the execution of the project were not properly planned for or managed. Specifically, OEB Staff and SEC asserted without substantiation, that challenging site conditions and logistical challenges were within management's control, and that the cost consequences of these circumstances are imprudent.[319] SEC also stated that even if the issues of site conditions and access challenges were reasonable, the expenditures were incurred because of poor execution. [320] Similarly, BOMA and VECC claimed that Toronto Hydro failed to properly and completely plan the project, and failed to properly assess areas of potential risk.[321] There is no merits to any of these submissions.

287. There is no merit to any of the parties' submissions. Specifically:

(i) there is no explanation by parties how the claimed indicators of imprudence materially contributed to the cost variance, if at all;

(ii) while parties baldly assert that certain factors (e.g. site conditions, logistical challenges) were under the control of Toronto Hydro, they do not explain why or how that is the case; and

(iii) while parties assert Toronto Hydro's conduct was imprudent, they do not say which conduct or how Toronto Hydro's conduct was imprudent having regard to the circumstances it faced.

[319] OEB Submission at pages 60-61; SEC Submission at pages 63-64.
[320] SEC submission at page 63.
[321] BOMA submission at page 20; VECC Submission at page 10.

288. On the contrary, the evidence adduced by Toronto Hydro establishes that:

(i) Toronto Hydro carried out comprehensive planning for this project, which, among other things, included thorough consideration of the site conditions;

(ii) Despite extensive planning, the challenges that Toronto Hydro faced were unforeseen and outside of management's control; and

(iii) Toronto Hydro used appropriate governance and risk management tools to prudently manage the Copeland TS - Phase 1 project.

Toronto Hydro conducted comprehensive planning for Copeland TS - Phase 1, and the specific challenges it encountered were outside of its control

289. The detailed planning work undertaken by Toronto Hydro can be traced as far back as the 2012-2014 ICM proceeding. There, the OEB and parties conducted an extensive regulatory review of the Copeland project and all supporting expert reports, including a third-party Heritage Impact Assessment report, which outlined the mitigation measures to be taken, as well as an option evaluation against heritage requirements and best practices.[322]

290. Staff and SEC asserted imprudence on the part of Toronto Hydro regarding the logistical aspects of the project. However, the evidence is that the logistical challenges encountered in the execution of Copeland TS - Phase 1 were additional challenges that were not known (and could not have been known) at the time of planning. When SEC asked – "*Why didn't you prepare for that when you were planning the project, budgeting the project*?" – Toronto Hydro's General Manger of Major Construction Projects answered: [323]

> Mr. Rubenstein, when we were planning the project, there was factors taken into consideration around site conditions. But these are conditions that were unknown to us at the time of planning that we encountered during our construction...

291. Despite this evidence, OEB Staff and SEC nonetheless claim that the logistical challenges associated with road restrictions and the delivery of the 155 tonne

[322] 2B-SEC-68; EB-2012-0064, Tab 4, Schedule B17.
[323] OH Volume 1 (June 27, 2019) at page 123, lines 14-19.

transformer tanks should have been apparent to Toronto Hydro during planning.[324] In addition to being unsupported, the assertion is demonstrably incorrect.

292. The detailed evidence throughout the record of several applications explains the complexities of operating in a dense urban environment: "externalities" outside of Toronto Hydro's control that effect the costs and timing of capital work. These include factors relevant to this circumstance, such as: (i) road space permits and associated restrictions that are issued by the City of Toronto in its capacity as the municipal regulator of these spaces that controls the fact and timing of utility access; (ii) the circumstances under which large equipment can be delivered, which are also controlled by the municipal authority; and (iii) coordination with numerous third parties in order to ensure minimal disruption in a dense part of the city, and ongoing safety of the parties involved and the people in the affected communities.[325]

293. Despite diligent efforts, a slight change in any of the above factors can affect Toronto Hydro. That is what happened here. Toronto Hydro was delayed in taking delivery of its 155 tonne transformer tanks for reasons entirely out of its control. The delivery of these transformer tanks from the port of Toronto to Copeland site required 6 months of planning and engineering studies of the integrity of the structures along the routes. Further, Copeland TS is located on the Roundhouse site, bounded at the north by Bremner Boulevard and to the south by Lakeshore Boulevard. It is located opposite the CN tower and the Rogers Centre. These conditions exacerbate the complexity of coordination of delivery of large equipment, and underscore the reasons why the timing for delivery of these transformer tanks was outside of Toronto Hydro's control.[326]

294. OEB Staff took the position that Toronto Hydro should have included challenges related to conditions at the site in its forecasted budget.[327] This assertion ignores the well-known realities of capital work when serving a mature and dense urban centre, namely that the process of moving from high level planning to detailed design necessarily involves refining cost estimates to deal with specific conditions on the ground. In fact, it is widely accepted in the industry that certain types of projects tend to produce larger variances than other types as a result of unforeseeable problems and challenges. Toronto Hydro's ICM True-Up Application

[324] OEB Staff Submission at page 60.
[325] EB-2015-0173, Exhibit 1, Tab 2, Schedule 2; EB-2015-0173, Exhibit 2, Tab 14, Schedule 2; EB-2014-0116, Exhibit 1B, Tab 2, Schedule 4, Appendix A; 2B-Staff-95; OH Volume 6 (July 8, 2019) at pages 129-131 and t page 133, lines 20-24.
[326] EB-2012-0064, Tab 4, Schedule B17, Appendix 3 at page 27.
[327] OEB Staff Submission at page 60.

validated this premise by concluding that costs of projects moving from the design phase to completions can vary from -15% to +20% and those in the construction phase can vary from -10% to +15%. PSE stated that "*percent variances within that window would be considered appropriate for the originally intended accuracy level of the forecasted estimate.*"[328] Additionally, PSE identified that certain factors such as "*site specific conditions, operational conditions, interface conditions, and unforeseeable conditions*" [emphasis added] can increase execution challenges.[329]

295. In the case of Copeland TS, these challenges involved conditions unknown to Toronto Hydro at the time of planning, which included poor bedrock conditions not evident until the site was fully set up.[330] As a result, actions undertaken to address the challenges required special care due to the proximity to the heritage Roundhouse and protection of the adjacent historic building.[331]

296. Finally, BOMA asserted that cost increases in the substation and building design and construction for the substations were the result of improper and incomplete planning.[332] However, the cost increases were primarily due to two factors which arose during the execution of the project, which were outside of Toronto Hydro's control, and were not known or knowable at the time of planning: (i) design changes associated with changes to Hydro One's switchgear configuration; [333] and (ii) contractor performance issues, that pressure on both project cost and schedule.[334]

297. Toronto Hydro submits that it is unreasonable to expect that it could have planned with the necessary precision that would have been required to anticipate all the logistical and site challenges and detailed design requirements that it faced in the construction of this project. Given the novelty of this project, the site complexities unknowable until construction began, the specific on-the-ground challenges of coordinating delivery of massive and unique equipment, and other factors (such as harsh weather conditions including the 2013 ice storm), Toronto Hydro's ability to complete this project within 5% of forecasts is a success.

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[328] EB-2015-0173, Exhibit 2, Tab 14, Schedule 2 at page 19.
[329] EB-2015-0173, Exhibit 2, Tab 14, Schedule 2 at page 20.
[330] EB-2012-0064, Tab 4, Schedule B17. JTC2.22, Appendix C: "*Other causes of delay include unforeseen obstructions found on site (not known at the time of the RFP or identified in engineering reviews of site records.*)"
[331] 2B-Staff-95(b) at page 2.
[332] BOMA Submission at page 20.
[333] TC Volume 1 (February 19, 2019) at page 36, lines 18-21.
[334] TC Volume 1 (February 19, 2019) at page 37, lines 27-28 and page 38, lines 1-3. Toronto Hydro is unable to elaborate further at this time due to litigation proceedings (TC Volume 1 (February 19, 2019) at page 38, lines 12-14).

Toronto Hydro appropriately managed the project

298. OEB Staff, SEC, VECC, and BOMA argued that the challenges encountered during the construction of this project should have been better managed in order to avoid cost overruns and schedule delays.[335] This is plainly wrong as well. Potential cost overruns were effectively managed.

299. To achieve this result, Toronto Hydro used its enterprise risk management (ERM) framework.[336] The evidence describes the ERM framework as follows:[337]

> ERM is an integral part of the strategic management of the Corporation's business and is routinely considered in forecasting, planning and executing all aspects of Toronto Hydro's operations. The ERM program follows industry best practices and international guidelines, adopting a rigorous top-down / bottom-up approach towards the management of risks.

300. Through the application of the ERM framework Toronto Hydro's senior management reviewed and assessed the project costs and schedule, along with other key risks such as contractor performance, on a monthly basis.[338] Indeed, only as a result of the ERM framework were the risks associated with Carillion insolvency managed. Other challenges Toronto Hydro experienced with Carillion are detailed on the confidential record.[339] That Toronto Hydro was able to complete the project with a 4.7% variance despite facing contractor performance issues is further evidence of prudent management.

301. PWU argued that the additional costs caused by replacing Carillion should be disallowed and permanently removed from rate base to protect ratepayers "*to not bear the costs incurred by management's decision to contract this work twice*."[340] However, the removal of a contractor from a project in-progress can lead to material cost and schedule consequences. By managing the contractor performance risk through the ERM framework, those costs were prudently contained.[341] When Carillion filed for creditor protection, Toronto Hydro determined (through the application of the ERM framework) that the only viable solution for Toronto Hydro

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[335] OEB Staff Submission at page 61; SEC Submission at page 63; VECC Submission at page 10; BOMA Submission at page 20.
[336] TC Volume 1 at page 37, lines 11-16; 2B-SEC-68(c).
[337] Exhibit U, Tab 1C, Schedule 5 at page 55.
[338] TC Volume 1 at page 37, lines 20-22.
[339] JTC1.5; JTC2.7; JTC2.22.
[340] PWU Submission at page 22.
[341] JTC1.5.

was to contract the remainder of the work. Without sourcing another contractor, it would not have been possible to complete the Carillion portion of the project in 2018.[342]

Toronto Hydro actions were evidently prudent – there is no basis for disallowing any amounts related to Copeland TS - Phase 1

302. As indicated above and discussed in the evidence, there were a variety of factors that contributed to the difference between the actual and approved cost of Copeland TS - Phase 1. The parties that sought disallowances did not cite any evidence to support that the alleged circumstances (i.e. site conditions, logistical challenge) were within management's control. Nor did they cite any evidence to show the degree to which the circumstances contributed to the quantum of the disallowance proposed. Indeed, most of their assertions are contradicted by the evidence that is on record. In short, these disallowance arguments are unsubstantiated and their proposals are arbitrarily punitive. Toronto Hydro submits that the OEB should reject them.

303. Toronto Hydro submits that Copeland TS - Phase 1 was a single integrated project and should be reviewed holistically in evaluating the reasonableness of the costs. Applying a holistic approach, the cost variance of $9 million or 4.7% is a reasonable variance given the magnitude, complexity and novelty of this project. It is also a reasonable variance because the evidence demonstrates that Toronto Hydro effectively planned and managed the project. Despite encountering challenges, the cost incurred were prudent and there was no evidence to the contrary provided to justify a disallowance. Toronto Hydro submits that the OEB should approve the full cost of the project.

Any payment from Carillion would be tracked through PPE and form part of rate base.

304. OEB Staff[343] and intervenors (BOMA, Energy Probe, VECC, and CCC)[344] sought the establishment of a deferral and variance account referred to as the Carillion Insolvency Payments Receivable Account to account for any payments from Carillion arising from the performance bond heed by Toronto Hydro and Carillion's insolvency proceeding. Toronto Hydro observes that a DVA as proposed is

[342] JTC2.22, Appendix G at page 2.
[343] OEB Staff Submission at page 61 and page 146.
[344] BOMA Submission at page 20; Energy Probe Submission at page 19; VECC Submission at page 11 and page 27; CCC Submission at page 16.

duplicative since any payment will effectively flow through PP&E and will be credited or debited from rate base accordingly. [345]

305. However, Toronto Hydro supports the creation of a DVA, with one modification. In particular, the utility submits that in the event the OEB establishes the Carillion Insolvency Payments Receivable Account, its scope must also include the ability of Toronto Hydro to record and seek recovery of any prudently incurred expenses with respect to the litigation and the recovery of any amount awarded pursuant to that litigation since their expenses will be to the benefit of ratepayers.[346] A comparable provision was approved by the OEB in EB-2010-0291, where the OEB permitted Great Lakes Power Transmission LP to record and seek recovery of litigation costs arising from a claim made in respect to a transmission refurbishment project.

The ERP costs were prudent and should be approved.

306. SEC claimed that the $8.8 million variance between the OEB approved amount and the actual in-service amount for the ERP Phase I project should be disallowed from rate base because ratepayers are being asked to pay more for the project and receive less by way of benefits. AMPCO supported SEC's position. With respect, these claims rely on various mischaracterizations of the evidence and should be rejected.

307. Furthermore, SEC's argument does not actually get to heart of the issue on prudence, which is whether the costs that drove the variances were reasonably incurred in the circumstances that were known at the time. As further discussed below, the uncontroverted evidence shows that the additional costs were prudently incurred, and therefore should be approved.

308. SEC's claim with respect to the prudence of the ERP cost variances leans heavily on the monetary benefits of the project, and fails to consider both the specific cost considerations that drove the variances and the broader context of this investment within which the benefits should be considered.

309. The broader context is that Toronto Hydro needed to invest in a new ERP to replace the obsolete legacy system (Ellipse) that had been in use for more than 10 years. This project was necessary to mitigate significant technical risks (e.g. cyber security), financial risks and operational limitations.[347] Although Toronto Hydro was at a stage

[345] OH Volume 8 (July 11, 2019) at page 28, lines 20-28 and page 29, lines 1-24.
[346] EB-2010-0291, Decision and Order (February 2, 2011), subsequently approved for disposition in EB-2018-0218, Decision and Order (June 20, 2019).
[347] EB-2014-0116, Exhibit 2B, Section E8.6 at pages 5-6, 11-21 and Appendix C at page 9.

in the project where it could and did quantify the monetary benefits, this is not an OEB requirement for approval of a project, and the need for the ERP was independent of quantifying those benefits.

310. A singular focus on the monetary benefits as proposed by SEC misses the most significant aspect of the value-proposition for this investment, which is that as a result of this project customers are getting the value of a utility that operates using a modernized system that is secure, reliable, and efficient. Without this critical investment in the 2015-19 period, the utility and its customers would have been exposed to a wide range of technical, operational and financial risks.[348]

311. Although SEC failed to consider this fundamental point, Toronto Hydro submits that the OEB should consider the broader context of the ERP project in assessing its value to ratepayers. But, in any event, the evidence shows that the ERP produces notable monetary benefits for customers – significantly more than SEC claims in its argument.

312. With respect to the benefits in Undertaking J5.8, SEC only considered the amounts from 2020-2025 of $36.5 million. However, if the entirety of the benefits in J5.8 are considered (i.e. 2019 to 2026), the value is $57.9 million.[349] The difference between these benefits ($57.9 million) and the actual cost of the project ($62 million) is $3.9 million – almost half of the cost variance that SEC argues should be disallowed.

313. Furthermore, the $57.9 million of benefits set out in Undertaking J5.8 is a conservative data point because it only captures the cost savings that could be directly attributed to the ERP. As indicated by Toronto Hydro's Director of Information Technology, Ms. Humie Woo:

> Because the business case was done in 2014, I think at this point in time there are some savings that we cannot say that is directly only attributable to ERP, and that's why we have not included them in the table. We have included the ones that are directly cost savings from the ERP project.[350] [emphasis added]

[348] Exhibit 2B, Section E8.4 at page 18, lines 10-16; OH Volume 5 (July 5, 2019) from page 109, line 21 to page 110, line 5; see also EB-2014-0116, Exhibit 2B, Section E8.6 at pages 4-7, 11-22, and Appendix C, page 9.
[349] J5.8, Appendix A.
[350] OH Volume 5 (July 5, 2019) at page 117, lines 20-25.

314. Undertaking JTC3.4 (the original benefit table that preceded J5.8) highlights some of the indirect savings that have not been included in the $57.9 million figure: [351]

> Other cost savings forecasted in the original business case, such as capital overtime costs reductions in the order of $1.5 million, cannot be directly and fully attributed to the ERP, and therefore have not been included in the table.

315. SEC's argument fixates on the comparison of the benefits in J5.8 to those forecasted in the same table in 2014 when the business case was created.[352] This is not the appropriate comparison. As Toronto Hydro's Director of IT Portfolio Management explained in evidence, the passage of time distorts the ability to compare the benefits:[353]

> However, the cost savings, we can't definitively say that is only attributable to ERP, because we have many initiatives happening in our corporation. We cannot definitively say some of the cost saving is directly attributable to ERP only.

316. The appropriate comparison is one that looks at the actual costs and benefits. This shows a delta of $3.9 million, which is much smaller than what SEC argued.[354] And after layering on the unquantified benefits – those stemming from the inherent value of an updated ERP system that mitigates technical, financial, and operational risks, as well as the indirect benefits that could not be captured in J5.8 – it becomes clear that the cost variance is more than commensurate with the benefits provided by the new ERP.

317. Putting the benefits aside, the evidence on the record also demonstrates that the cost variance was prudently incurred, contrary to SEC's submissions. The variance in the ERP program is attributable to the following factors:

a) an additional $4.9 million resulting from additional resources that were required for the project, changes in infrastructure costs following a more detailed technical assessment, and exchange rate fluctuations;

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[351] JTC 3.4 at page 3.
[352] SEC Submission at pages 58-59.
[353] OH Volume 5 (July 5, 2019) at page 116, lines 23-28.
[354] J5.8; Appendix A; OH Volume 5 (July 5, 2019) at page 117, lines 4 to 14.

b) an additional $1.8 million resulting from a three-month schedule extension to allow the alignment of various activities and streamline project related tasks; and

c) an additional $1.3 million in subscription fees for SuccessFactors modules. These modules bring additional functionalities such as Compensation, Recruiting, Onboarding, Performance & Goals, Workforce Analytics & Planning and Employee Central.[355]

318. Toronto Hydro's evidence is that the costs noted above were prudently incurred for the successful completion of the project. None of the parties challenged these cost variances by way of cross-examination at the Oral Hearing. Furthermore, in its submission, SEC failed to provide any specific reasons to question the prudence of the noted variances. For example, SEC did not allege that the additional resources un necessary, or that the increase in scope was inappropriate.

319. SEC and AMPCO also criticized the perceived delay in completing the project relative to the schedule contemplated in 2014. However, the implementation timeline for the ERP was contingent on the timing of the CIR 2015 decision. Toronto Hydro filed the business case in June 2014 with a plan to begin the project in early 2015 and a go-live date at the end of 2016. Because the decision for the CIR 2015 application was issued on December 29, 2015, Toronto Hydro didn't start the implementation until January 2016, and the new system went live in October 2018. The project took approximately 22 months to complete, which is consistent with the original estimate.[356]

320. For all of the above reasons, Toronto Hydro submits that the ERP Phase I costs are prudent and should be approved for inclusion in rate base.

The established half-year rule should apply to calculate rate base

321. The half-year rule is part of general ratemaking principles endorsed by the OEB and it has been consistently applied in electricity distribution rate-setting decisions for many years. The OEB's Filing Requirements acknowledge the general policy:[357]

> The OEB's general policy for electricity distribution rate setting has been that capital additions would normally attract six months of

[355] U-Staff-166.4.
[356] OH Volume 5 (July 5, 2019) from page 111, line 15 to page 112, line 6; see also EB-2014-0116, Exhibit 2B, Section E8.6 at pages 2-3 and 31, Figure 3.
[357] Filing Requirements for Electricity Distribution Rate Applications, Chapter 2 (July 12, 2018) at page 34.

> depreciation expense when they enter service in the test year. This is commonly referred to as the "half-year" rule.

322. The half year approach is codified as a mandatory rule for rate applications in Chapter 2 of the OEB's Filing Requirements: [358]

> For rate base, the applicant must include the opening and closing balances for each year, and the average of the opening and closing balances for gross fixed assets and accumulated depreciation. [emphasis added]

323. OEB Staff and SEC proposed that instead of continuing to apply the half-year rule prescribed by the Filing Requirements, the OEB should impose a new methodology of the average of monthly amounts for the inclusion of in-service additions in 2020-2024 rate base amounts. With respect, their proposed departure from standard rate-making practice is ad-hoc, arbitrary and contrary to procedural fairness. This proposal should be rejected for the reasons set out below.

324. OEB Staff mischaracterized the Filing Requirements when they argued that this standard and mandatory provision is in fact optional. Their position rests on language in the Filing Requirements that if an applicant uses a different methodology, then the applicant must document the methodology used:[359]

> If an applicant uses an alternative method, such as calculating the average in-service fixed assets based on the average of monthly or quarterly values, it must document the methodology used. [emphasis added]

325. With respect, this excerpt does not support OEB Staff's conclusion that the OEB should adopt an entirely new monthly methodology for Toronto Hydro. Instead, all this excerpt indicates is the requirement (often applied in other aspects of the Filing Requirements) that if an applicant proposes a deviation from the standard practice of rate-making, the applicant must document and explain that deviation so that the Board can properly examine the proposal. Toronto Hydro submits that this is a logical and practical interpretation of the noted provision. As Toronto Hydro did not propose a methodology different than the half-year rule, the quoted filing requirement upon which Staff's argument hinges simply does not apply.[360]

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[358] Filing Requirements for Electricity Distribution Rate Applications, Chapter 2 (July 12, 2018) at page 14.
[359] Filing Requirements for Electricity Distribution Rate Applications, Chapter 2 (July 12, 2019) at page 14.
[360] OH Volume 1 (June 27, 2019) from page 179, line 28 to page 181, line 8; 2A-Staff-52(c).

326. Given that the Filing Requirements mandate the application of the half-year rule, it is not surprising that OEB Staff did not provide any examples of electricity distributors that use a methodology other than the half-year rule. Instead, OEB Staff could only point to Enbridge and Union Gas – gas utilities whose rate regulation predates the electricity distribution filing requirements.

327. In support of their position, OEB Staff and SEC argued that Toronto Hydro is unique because it forecasts monthly amounts of in-service additions for the purpose of calculating depreciation.[361] There is nothing unique about Toronto Hydro forecasting these amounts. Contrary to SEC's unsubstantiated belief that most utilities cannot accurately forecast when an asset will go in service,[362] the fact that Toronto Hydro can provide these amounts means that any other Ontario distributor can do the same – especially distributors with less complex capital programs.

328. OEB Staff and SEC also believe that the half-year rule should be abandoned because there is a "disconnect" in that the amount of accumulated depreciation included on the calculation of rate base is determined on a different basis than the average of the opening and closing balance.[363] However, the Filing Requirements do not specify the basis or methodology for the calculation of accumulated depreciation included in the half year calculation of rate base.[364] All that the Filing Requirements state is that the fixed asset "*[c]ontinuity statements must be reconcilable to the calculated depreciation expenses, reported under Exhibit 4: Operating Costs*"[365] which Toronto Hydro submits they are, as evidenced by the fact that the application passed the completeness check conducted by OEB Staff at the outset of this process.[366]

329. The OEB notes in Chapter 1 that the Filing Requirements are "*designed to provide direction to applicants, and it is expected that applicants will file applications consistent with the filing requirements*."[367] Having followed the Filing Requirements in good faith, Toronto Hydro respectfully submits it would be unfair, and therefore unreasonable, to impose an entirely new methodology on Toronto Hydro in this proceeding, as OEB Staff and SEC proposed.

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[361] OEB Staff Submission at pages 56-57; SEC Submission at pages 69-70.
[362] SEC Submission at page 70.
[363] OEB Staff Submission at page 56; SEC Submission at pages 69-70.
[364] JTC1.1.
[365] Filing Requirements for Electricity Distribution Rate Applications, Chapter 2 (July 12, 2019) at page 16.
[366] OEB Staff Letter to Toronto Hydro (September 18, 2018).
[367] Filing Requirements for Electricity Distribution Rate Applications, Chapter 2 (July 12, 2019) at page 1.

330. To the extent that the OEB wishes to consider deviations from the half-year rule as standard approaches to ratemaking, Toronto Hydro believes that the appropriate forum would be a generic proceeding. In this scenario, the OEB could invite parties to provide evidence and reasons in support of a range of approaches, including the circumstances under which a departure from the established standard would be appropriate. A generic review is the most appropriate mechanism to facilitate proper consideration of new approaches, provide distributors reasonable notice of the proposed change, and ensure consistent applicability across the sector.

331. In summary, Toronto Hydro submits that a departure from the standard half-year rule codified in the Filing Requirements is not justified in these circumstances. The OEB should approve the 2020-2024 rate base calculation methodology as proposed by Toronto Hydro.

Toronto Hydro's methodology for forecasting in-service additions is appropriate

332. Toronto Hydro's forecasting methodology for in-service additions is a multi-step approach based on historical data:

a) For the assets in large discrete distribution systems projects (e.g. Copeland, HONI Stations Expansions) and for General Plant investments, Toronto Hydro uses the latest projections of expected completion dates to forecast the in-service amounts.

b) For the assets in the DSP categories of System Access, System Renewal, and System Service (e.g. excluding Copeland and HONI station work), in- service additions are calculated based on the historical conversion of capital expenditures and CWIP. The in-service additions total is then proportioned across relevant asset classes based on historical rates of in-service additions by asset class.[368]

333. Toronto Hydro tracks in-service additions at the asset level. This is consistent with the treatment of historical in-service additions which are based on the actual attainment of the project (i.e. date of project completion). This includes capital expenditures in the year of attainment and prior years (i.e. construction work-in-

[368] 2A-SEC-31.

process).[369] Furthermore, it reflects the fact that programs are executed at the asset level and recorded in the fixed asset ledger accordingly.[370]

334. This methodology is consistent with the fact that capital expenditures under the DSP will provide Toronto Hydro with a capital envelope which it must manage over the 5 years of the DSP to execute system access, system renewal and system service programs together with specific projects and general plant. Derived from this funding envelope are in-service amounts. As demonstrated by the fact that Toronto Hydro will come within 1% of its forecast in-service amounts for 2015-2019,[371] it is expected to perform likewise for the 2020-2024 period reinforcing the accuracy of the forecasting methodology. Ratepayers also have the added assurance of being kept whole if there is a deviation from this forecast through the CRRRVA.[372]

335. While OEB Staff accepted Toronto Hydro's methodology for forecasting in-service additions as part of the current proceeding, OEB Staff proposed that the OEB should require Toronto Hydro to revise its approach to forecasting in-service additions for the next application.[373] Specifically, OEB Staff submitted that Toronto Hydro should track the conversions at the program level during the 2020-2024 period for distribution capital programs and use that data to forecast its in-service additions at the program level in the next rate cycle.[374] SEC advanced a similar position.[375]

336. The views of OEB Staff and SEC are premised on assertions that (i) Toronto Hydro's forecasting methodology is inaccurate; and (ii) a forecasting methodology based on conversion tracked at a program level is more accurate. These assertions lack any evidentiary foundation, and rest on a mischaracterization and an oversimplification of Toronto Hydro's methodology, as further discussed below.

337. Moreover, OEB Staff and SEC's proposed emphasis on in-service addition by program is misaligned with a key feature of the current paradigm, which is that within the approved capital envelope, Toronto Hydro has the flexibility to

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[369] *Ibid*.
[370] Toronto Hydro's forecast additions by asset are set out at Exhibit 2A, Tab 1, Schedule 2, OEB Appendix 2-BA for the 2019 and 2020 and at 1B-Staff-22(b) and Appendix A for the 2021 to 2024 forecasted additions by asset.
[371] Exhibit U, Tab 1A, Schedule 2 at page 3, lines 4-6; Exhibit U, Tab 2, Schedule 1 at page 2, lines 1-3 and Appendix A; OH Volume 1 (June 27, 2019) from page 95, line 25 to page 96, line 16.
[372] Exhibit 9, Tab 1, Schedule 1 at page 10, lines 17-19 and page 13, lines 20-24; OH Volume 2 (June 28, 2019) at page 4, lines 2-4, page 5, lines 22-28, page 6, lines 1-4, page 138, lines 3-27; OH Volume 7 (July 9, 2019) from page 38, line 27 to page 39, line 9, page 156, lines 6-15, page 191, lines 3-9; J7.7 at page 1, lines 16-19.
[373] OEB Staff Submission at pages 98-100.
[374] *Ibid*, at pages 99-100.
[375] SEC Submission at page 71.

implement its plan and to respond to changes as needed. This aspect was recognized by the OEB in the last decision as part of the approval of the CRRRVA:[376]

> However, it is critical to Toronto Hydro that the CRRRVA operate on a cumulative basis rather than annually as it is only if it operates on a cumulative basis that Toronto Hydro can maintain the required flexibility to plan and execute its capital investment strategy in response to the various factors that may require the shifting of projects and project spending earlier or later in the Custom IR term. [emphasis added]

338. Flexibility was essential to Toronto Hydro's ability to deliver the reliability objectives of the 2015-19 within 1% of the approved in-service additions amounts for the period. As Toronto Hydro's General Manager of Engineering, explained in the 2015-19 rate period Toronto Hydro "*exercised the necessary flexibility within the programs to respond to needs that arose during the 5-year period, and in doing so, [it] achieved the reliability improvements*"[377] set out in the plan.

Assertion of inaccuracy is without evidentiary foundation.

339. OEB Staff's and SEC's main concern with Toronto Hydro's methodology lies with the use of a conversion ratio that is based on the historic aggregate relationship of distribution capital expenditures to in-service additions. Their view is that this approach only produces accurate results if the levels of spending between programs do not change over time.[378]

340. There is no evidentiary basis to support OEB Staff's and SEC's assertion that Toronto Hydro's methodology is inaccurate because relative program expenditures can change. While submitting evidence on other matters, OEB Staff and SEC provided no evidentiary analysis regarding the accuracy of Toronto Hydro's methodology or evidence to support the proposition above. Nor did Staff or SEC probe Toronto Hydro about the accuracy of its forecast methodology in the event relative program spending was to change. The proposition posited by Staff and SEC is an unsubstantiated hypothesis and should be rejected.

341. In any event, OEB Staff and SEC's proposition that an accurate forecast can only occur if the levels of spending between programs do not change over time is

[376] EB-2014-0116, Decision and Order (December 29, 2015) at page 53.
[377] OH Volume 1 (June 27, 2019) at page 39, lines 15-19.
[378] SEC Submission at page 71; OEB Staff Submission at page 98.

incorrect. It is entirely possible for component parts of an aggregate percentage to change with the aggregate percentage remaining approximately the same.

342. In addition, SEC also stated that the use of a capital expenditure to in-service addition ratio will lead to inaccurate calculation of the "actual" amount of assets that are in-service.[379] This statement is also incorrect. As noted below, Toronto Hydro tracks actual in-service additions at the asset level based on and does not use a ratio to determine actual in-service additions.

343. To substantiate its incorrect premise that Toronto Hydro's forecasting methodology results in a forecast of significantly more assets coming into service in 2020-2024 than have come into service historically, OEB Staff noted that the average ratio for capital expenditures and opening CWIP conversion to in-service additions over the 2015-2018 period was 51.3% while the forecasted average for the 2020-2024 period is 56.6%.[380] However, Toronto Hydro specifically rejected this oversimplified analysis during the Oral Hearing, and pointed out that it is flawed because it disregards that Toronto Hydro's forecast methodology uses specific assumptions for large discrete capital projects and general plant. In the proceeding, Toronto Hydro and Staff had the following exchange:[381]

> MR. MILLAR: … What we found, based on our calculations, was for 2015-2018, the combined conversion ratio of both opening CWIP and cap ex was about 51 percent for the 2015-2018 period. And we observed that that is lower than both the 57 and the 64 that you are using for cap ex and CWIP.
>
> Why would we have -- I understand we have different numbers because you used the formula, but why is the formula producing numbers higher than what we saw as the historic actuals average?
>
> MR. MUNDENCHIRA: Mr. Millar, the table on page 114 is taking into account all the capital projects. So this is more than just a subset of the projects that the 57 percent and 64 percent was applied.

[379] SEC Submission at page 71. SEC also stated that other large utilities before the OEB convert capital expenditures using a program specific capital expenditure to in-service addition conversion rate. However, SEC was unable to identify what other large utilities it was referring to.
[380] OEB Staff Submission at page 99.
[381] OH Volume 1 (June 27, 2019) from page 186, line 22 to page 188, line 11.

> So if a large capital project is -- they are actually part of these numbers. They're going to skew that percentage. So it wouldn't be exactly comparable, I would say.
>
> MR. MILLAR: That's a fair comment. Okay.

The proposed alternative methodology is not valid

344. Both OEB staff and SEC believe that for the next CIR application,[382] Toronto Hydro should revise its approach to forecasting in-service additions by tracking the conversions at the program level during the 2020-2024 period for distribution capital programs and forecasting its in-service additions at the program level using the data it collected over the 2020-2024 period. OEB staff and SEC believe that this will provide a more accurate forecast. There is no evidence provided by OEB Staff or SEC to support that the tracking in-service additions at the program level or forecasting on that basis will provide any greater clarity than tracking in-service additions at the asset level and forecasting based on Toronto Hydro's methodology. Under OEB Staff and SEC's approach, assumptions will still have to be made and allocations derived.

345. Toronto Hydro does not forecast its in-service additions at a capital program level because it involves a complex mapping exercise that required numerous assumptions which are not helpful for operational or financial purposes. These complexities include mapping asset-level in-service addition data to programs.[383] Because programs contain a mix of assets, assumptions will have to be made as to which assets go with which programs.[384] For example, poles may be replaced under the Overhead System Renewal program and the Area Conversions program, but the in-service is tracked as a pole and not by program, so assumptions will be required as to how to allocate the actual poles to part-in-service. This would involve tens of thousands of individual projects[385] involving a number of different types of assets. Together with various assumptions and judgement, this will also require the expense of data tracking to complete the mapping exercise. Assumptions will also be required regarding the rate at which construction work in-progress comes into service. Toronto Hydro responded to Undertaking JTC3.1, where it provided in

[382] OEB Staff Submission at pages 99-100; SEC Submission at page 71.
[383] 2A-SEC-31.
[384] 2A-SEC-31.
[385] OH Volume 1 (June 27, 2019) at page 191, lines 12-13.

Appendix A a forecast of in-service additions, but as noted therein, the forecast is highly qualified with significant limitations.[386]

346. Given the foregoing, the OEB should reject OEB staff and SEC's submission that tracking in-service at the program level is in any way more accurate then Toronto Hydro's methodology. Toronto Hydro's current methodology provides a more straightforward and transparent approach of tracking actual in-service additions at the asset level with an aggregate conversion ratio that is consistent with the nature of a five-year DSP envelope and with the asset level tracking that underpins the determination of depreciation and the fixed asset ledger. What's more is that this approach effectively supports the utility's operations.

347. Moreover, Toronto Hydro objects to Staff and SEC's arguments which emphasize in-service additions forecast by program because this creates a potential danger to deviate from the purpose of the DSP, the above-noted purpose of the CRRRVA, and the more general purpose of CIR. The DSP is an integrated capital plan across four broad categories of work made up of multiple programs. The purpose of the DSP, among other things, is to facilitate the alignment of the capital program with customers' needs and preferences which are expressed through the customer-focused outcomes of the plan. Within the five-year capital envelope, the utility has the flexibility to adapt its plan to respond to emerging consideration and to optimize the execution of its plan to achieve the desired customer outcomes. [387] This is not 5 one-year plans, five one-year four-part plans (tracked to the level of DSP categories), or five one-year four-part 20-part plans (tracked to the level of capital programs). This is a comprehensive five-year plan. As Toronto Hydro has detailed in this application record and other recent ones,[388] flexibility is critical to its ability to deliver its plan efficiently, effectively and aligned with outcomes that customers' value.

348. OEB Staff's and SEC's proposals to place an emphasis on program based in-service additions forecasting and results in the next application, drive a result that is inconsistent with the integrated nature of Toronto Hydro's DSP. Once the approval and execution of the plan becomes segmented and categorized by the programs, the potential for optimization is lost within the plan. As Toronto Hydro's EVP of Public, Regulatory, and Legal Affairs noted in respect of ICM paradigm, which has

[386] JTC3.1 at pages 2-3.
[387] OH Volume 1 (June 27, 2019) from page 189, line 9 to page 190, line 24.
[388] EB-2014-0116, Exhibit 1A, Tab 2, Schedule 1 from page 6, line 18 to page 8, line 8; EB-2014-0116, Exhibit 1B, Tab 2, Schedule 4 from page 13, line 2 to page 15, line 8; EB-2014-0116, Exhibit 1B, Tab 2, Schedule 4, Appendix A; EB-2014-0116, Exhibit 2B, Section E2 from page 16, line 1 to page 17, line 15.

similar limitations as forecasting in-service additions by program: "*There is also a rigidity within that that limits the operational flexibility that we need to remain nimble and flexible around the timing and the mix of the work, and some of the external conditions that we deal with on the ground."*[389]

Toronto Hydro's Customer-Specific Energy Storage System ("ESS") investments are appropriate and should be allowed into rate base.

349. OEB Staff and numerous intervenors (SEC, BOMA, Energy Probe, CCC) challenged Toronto Hydro's Customer-Specific ESS investments.[390] Their arguments advanced the following positions: (1) customer-specific ESS is a competitive activity; (2) customer-specific ESS poses risks to customers; (3) customer-specific ESS is not a distribution activity; (4) Toronto Hydro has not appropriately demonstrated a cost-benefit analysis for its proposed investments. VECC, PWU, GTAA, and Mr. Hann did not make any submissions on Energy Storage.

350. Toronto Hydro submits that the Board should allow Toronto Hydro to continue to pursue the Customer-Specific ESS investments proposed as part of the 2024 Distribution System Plan ("DSP") and leverage Toronto Hydro's experience with this program to inform the OEB's regulatory framework for DER.

351. With respect to the claims noted above, Toronto Hydro addresses each of them in turn in the following sections.

The Board should allow Toronto Hydro to pursue energy storage activities as part of the 2020-24 Distribution System Plan

<u>The proposed customer-specific ESS promotes competition in the industry</u>

352. SEC argued that: "*there is no valid reason why Toronto Hydro should undertake an activity that already has an active and competitive market*"; that customer-specific ESS should not be a part of Toronto Hydro's regulated activities; and that this "*is consistent with previous Board decisions on utilities engaging in activities in a competitive market*."[391] Toronto Hydro respectfully disagrees and points out that instances already exist in the electricity industry where utilities are allowed to provide rate-regulated services despite their being a competitive market for the service. Specifically, the OEB determined in the context of sub-metering that there should be competition in the market, whereby smart sub-metering providers are

[389] OH Volume 6 (July 8, 2019) at page 131, lines 1-5.
[390] AMPCO supports the conclusions of SEC's analysis (AMPCO Submission at page 27).
[391] SEC Submission at pages 66-67.

able to smart sub-meter condominiums, while electricity distributors can also continue to provide suite metering services to multi-unit buildings.[392]

353. Toronto Hydro submits that providing customers with the option of a regulated service provider within the energy storage market does not at all harm competition. In fact, it promotes competition by adding another provider. It gives customers more choices, and ensures that in the absence of commercial actors offering the service for whatever reason, there is a service provider available to meet customers' energy storage needs. Furthermore, it allows the OEB to gain insight into this emerging market, to better understand the actual benefits of the customer-interfacing energy storage on the grid, and to facilitate the ability to unlock the full value stack of benefits offered by energy storage systems.

354. Toronto Hydro also notes that the Distribution Resource Coalition ("DRC"), intervening on behalf of the affected stakeholders (Energy Storage Canada)[393] supports the inclusion of customer-specific ESS in the 2020-24 DSP,[394] and noted the following in their submission:[395]

> In contrast to Board Staff, DRC submits that Toronto Hydro's customer-specific ESS may in fact constitute "distribution activities" given that the storage systems - particularly those for electrified public transit - do meet criteria established by the Board for distribution system assets and the proposed services are services that distributors are required to, and should, deliver, in the public interest.

<u>The behind-the-meter distinction is not relevant for energy storage assets</u>

355. OEB Staff[396] and intervenors[397] took the position that behind-the-meter energy storage should not be accounted for into rate base and that these activities should be carried out in a non-rate regulated environment. These arguments are premised on an antiquated (and no longer helpful) distinction of the meter being the demarcation point between the distribution system and the customers' equipment. Toronto Hydro submits that the distinction between in-front and behind-the-meter is not relevant with respect to energy storage technology because the evidence

[392] EB-2009-0308, Decision and Order (January 27, 2010).
[393] DRC Notice of Intervention Request at pages 5-6 and page 2.
[394] DRC Submission at pages 18-19.
[395] DRC Submission at page 19.
[396] OEB Staff Submission at page 34.
[397] Energy Probe Submission at page 17.

shows that this technology can provide the same distribution benefits and services regardless of where it is placed relative to the meter.

356. Treating customer-specific ESS as another type of distribution asset recognizes the fact these assets can be used to provide a range of distribution services (e.g. power quality, reliability), in addition to offering a customer specific benefits (e.g. hourly peak-shaving, Industrial Conservation Initiative).[398] In this way ESS is similar to other types of distribution equipment like switchgear that can operated for both the benefit of the grid and the specific customer served by the asset.[399] As stated by the Director of Standards and Technical Studies:[400]

> MR. TAKI: If you have an outage in an area where that energy storage system exists, then Toronto Hydro can perform switching to segment that specific part of the feeder and leverage the energy storage to feed that customer, as well as other customers.

357. The evidence supports that customer reliability can be met regardless of whether the ESS is located "in front of the meter" or "behind the meter". However, when there are financial benefits for the customer that can be derived from the project, Toronto Hydro must site the ESS behind the meter in order to unlock those benefits for customers.[401]

358. Toronto Hydro submits that in order to incentivize utilities to participate in the market, the behind-the-meter distinction is a barrier that needs to be removed. As noted earlier, this would unlock the full value stack of benefits offered by energy storage systems. In EB-2018-0288, the OEB is currently investigating how the industry, and utilities in particular, ought to respond to DER's. Toronto Hydro submits that its proposal for energy storage is sufficiently modest in size and scope, and appropriately oriented to customer outcomes, to develop "in-the-field" experience that will inform broader industry policy.

<u>Customer-specific ESS does not pose a harm to ratepayers in the next rate period</u>

359. OEB Staff[402] and SEC[403] raised concerns with respect to potential capital or OM&A cost overruns on customer-specific ESS projects which are not subject to true-up

[398] Exhibit 2B, Section E7.2.4.2 at pages 30-31; OH Volume 1 (June 27, 2019) at page 169, lines 12-16.
[399] OH Volume 1 (June 27, 2019) at page 132, lines 23-28.
[400] OH Volume 1 (June 27, 2019) at page 170, lines 17-22.
[401] Exhibit 2B, Section E7.2.4.2 at page 32.
[402] OEB Staff Submission at pages 89-90.
[403] SEC Submission at page 67.

mechanism under the current standard offer to connect process.[404] The Distribution System Code ("DSC") contemplates that connection can be done through either firm or estimate offers, whereby the option is left to the utility's discretion.[405] Toronto Hydro elected to use firm offers in its standard connection process, and as such has applied the same treatment to ESS connections.[406] If the OEB finds, however, that this approach is not appropriate, that is not a reason to deny customer specific ESS projects. Rather, the OEB can direct Toronto Hydro to apply the estimate offer approach to offers to connect for energy storage.

360. Furthermore, Toronto Hydro submits that asset renewal and maintenance costs would not affect ratepayers until future rate periods, as operating costs are recovered from the customer for a 10-year period. Therefore, there would be no impact to customers in the 2020-2024 period.[407] The OEB would have at least another five-year rate cycle to examine the development of policy and treatment of costs with respect to customer-specific energy storage projects.

Customer-Specific ESS meets the test for a distribution asset

361. OEB Staff,[408] SEC,[409] BOMA,[410] and Energy Probe[411] argued that Customer-Specific ESS is not a distribution activity. Toronto Hydro submits that customer-specific ESS is no different than other distribution equipment, and can provide a range of services which are properly considered distribution activities.

362. SEC submitted that in the context of Toronto Hydro's streetlighting proceeding the OEB determined that the "*concept of distribution implies 'multiple recipients'.*"[412] Toronto Hydro agrees with SEC and notes that in the streetlighting proceeding, the Board applied the "Intended Use Test" to determine whether the proposed street lighting assets were capable of being used to provide services to multiple recipients. In setting this test, the Board specifically noted that the analysis is not dependent

[404] SEC Submission at page 67.
[405] Distribution System Code (last revised March 14, 2019) s. 3.2.2 and 3.2.3 at page 56 and s. 3.2.8(a) at page 59.
[406] OH Volume 3 (July 3, 2019) at page 67, lines 2-8: "*MR. TAKI: As we talked about last week, Toronto Hydro's offer to connect policy, as described in our conditions of service, is that our offers to connect are firm offers*.".
[407] In its submission, Energy probe states that "*the agreement between Toronto Hydro and Metrolinx does not support [that Toronto Hydro will operate the facility and that for that reason it should be in rate base*]" (Energy Probe Submission at page 17). Toronto Hydro submits that Energy Probe's conclusions is incorrect. The OTC with Metrolinx includes provisions with respect to the utility's proposal to include customer-specific ESS in rate base to ensure the continuation of the project should it be approved or denied (1C-EP-19, Appendix A).
[408] OEB Staff Submission at pages 86-90.
[409] SEC Submission at pages 65-68.
[410] BOMA Submission at page 34.
[411] Energy Probe Submission at page 17.
[412] SEC Submission at pages 65-66.

upon the use of the assets at any particular point in time, but rather on the asset's functional ability to provide services to more than one customer.[413]

363. Toronto Hydro submits that customer-specific ESS meets the OEB's intended use test. Energy Storage is a multifunctional asset that can provide services to more than one customer even if it is located behind a customer's meter. Toronto Hydro's evidence contemplates operational instances where the ESS is deployed for multiple benefits, benefits more than one customer, and allows customers to pool resources.[414] This was reaffirmed by Mr. Taki during his testimony:[415]

> The benefits to the system when the energy storage is installed behind the meter, for example in these cases customer specific energy storage, is that that battery can still provide functionality such as minimizing outage duration.
>
> ….
>
> We are also able to execute operational functions such as load management. So instead of traditionally what we would do if we wanted to shift load or transfer load between feeders, is we would perform switching using the switching equipment along the feeders. With energy storage we can potentially minimize that switching and leverage the energy storage to supply load for a period of time.

Toronto Hydro's proposal is consistent with the beneficiary pays principle

364. Toronto Hydro's proposal with respect to customer-specific ESS honours the established regulatory principle that costs should follow benefits. Presumptively, it applies this principle by requiring customers to pay a 100% contribution for the cost of a customer-specific ESS project. However, Toronto Hydro also proposes to undertake a more detailed analysis in respect of the proposed projects in the 2020-24 period to assess the benefits and develop a cost allocation framework for these investments.

365. OEB Staff submitted that customer-specific ESS should be a non-rate regulated activity under section 71(3) of the *OEB Act*[416] and that the activity should be financially separated from the utility's rate regulated activities pursuant to the OEB

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[413] EB-2009-0180/0181/0182/1083, Decision and Order (August 3, 2011) at page 10.
[414] Exhibit 2B, Section E7.2.4.4 at pages 37, lines 25-28 and page 38, lines 1-7.
[415] OH Volume 1 (June 27, 2019) at page 170, lines 12-28 and page 171, lines 1-2.
[416] *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, Sched. B.

guidelines. However, the challenge with this proposal is that it forces Toronto Hydro to pick a lane – rate-regulated or non-rate regulated – despite the fact that energy storage is capable of providing distribution services that are "rate-regulated" and other customer-specific services and benefits that are typically non-rate regulated.

366. Toronto Hydro submits that a more helpful way to operationalize and enable section 71(3) to be used by distributors in the emerging energy storage market is to develop a proportional benefit cost allocation framework for customer-specific energy storage systems. Toronto Hydro's proposes to take the initiative to develop this framework over the next rate period, on the basis of real projects and actual experience, and to bring the framework back to the Board in the next application for a thorough review.

367. Toronto Hydro submits that this proposal would not prejudice or harm ratepayers in any way, since there is no revenue requirement funding for customer-specific ESS in the upcoming rate period. Conversely, disallowing Toronto Hydro from pursuing customer-specific ESS as part of the 2020-24 DSP could harm customers by denying them the ability to realize the full benefits offered by the ESS.

The Board should not preemptively deny Toronto Hydro's proposal without the benefit of the outcomes of the Responding to DER consultation.

368. Toronto Hydro agrees with intervenors[417] that issues raised with respect to its proposed customer-specific ESS investments should be contemplated further in the ongoing Distributed Energy Resources consultations. However, for all the reasons noted above, Toronto Hydro does not agree with OEB Staff that the ability of a distributor engaging in behind-the-meter activities be preemptively denied.[418] The investments in customer-specific ESS could provide useful experience, insight, and information on the application of these storage systems and the potential role for utilities in this regard.

369. Toronto Hydro submits that the proposed investments should be preemptively approved since there is no harm to ratepayers from doing so, but there is a clear benefit to approving them (including the opportunity to further study the proposed paradigm that Toronto Hydro has put forward). This is supported by BOMA who "*does not think the question of whether customer specific energy storage systems is an issue in the current proceeding. […] BOMA is of the view that the issue should be*

[417] OEB Staff Submission at page 69 and page 81; CCC Submission at page 14; SEC Submission at page 69; BOMA Submission at page 34.
[418] OEB Staff Submission at page 69.

considered more carefully, in the ongoing DER consultation, or some other generic proceeding."[419]

Toronto Hydro plans to undertake a detailed benefit analysis for project specific circumstances.

370. OEB Staff claimed that Toronto Hydro did not perform an adequate analysis to determine whether energy storage is likely to be more cost-effective than alternatives.[420] Toronto Hydro respectfully submits that in both its evidence and during the technical conference, the utility stated that it intends to undertake a more detailed benefit analysis based on project-specific circumstances. The energy storage sites proposed for the 2020-2024 period are potential locations, with varying sizes being considered, and different characteristics.[421]

371. OEB Staff[422] and DRC[423] also submitted that proposals for storage projects should be supported by a more detailed cost-benefit assessment, including some estimation or quantification of the value of deferring other distribution system investment where applicable. Toronto Hydro plans to undertake detailed analyses for the proposed sites under the Energy Storage.[424] As Mr. Taki articulated: [425]

> MR. TAKI: What it says here is that Toronto Hydro intends to undertake a more detailed analysis based on project-specific circumstances. […] So we're not stating we are going to do it after the project is done. What we're saying is the projects that have been described in the evidence are potential locations and potential sort of sizes of projects and characteristics of projects. Once we are closer to finalizing the specific projects, we will be in a better position to undertake this type of analysis.

372. Additionally, Toronto Hydro notes that the cost benefit analysis for its Local Demand Response activities serves as an example of a targeted inclusion of ESS as an alternative to wires solutions.[426] The cost-benefit analysis underpinning the

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[419] BOMA Submission at page 34.
[420] OEB Staff Submission at page 85.
[421] OH Volume 1 (June 27, 2019) at page 171, lines 17-20; TC Volume 1 (February 19, 2019) at page 78, lines 21-28 and page 79, lines 1-3.
[422] OEB Staff Submission at page 86.
[423] DRC Submission at pages 18-19.
[424] TC Volume 1 (February 19, 2019) at page 78, lines 21-28 and page 79, lines 1-3.
[425] TC Volume 1 (February 19, 2019) at page 81, lines 21-23 and lines 25-28 and page 82, lines 1-3; 2B-Staff-89(d).
[426] Exhibit 2B, Section E7.4 at pages 39-41; 2B-SEC-65(b) at page 2, lines 26-27 and page 3, lines 1-8; J4.1.

investment emerged from Toronto Hydro's established asset management and optimization processes.[427]

373. DRC submitted that Toronto Hydro's deferred cost analysis (i.e. Local Demand Response) should be extended to other areas of the capital plan to support DER integration, asset optimization, customer connections, and grid solutions.[428] Toronto Hydro rejects the premise that its deferred cost analysis does not extend to other areas of its capital planning on two counts.

a) Toronto Hydro's Stations Expansion program is informed by the results of regional infrastructure planning.[429] When evaluating alternatives to address end-of-life equipment or system capacity constraints, the regional planning process considers the feasibility of a non-wires approach.[430]

b) As part of its planning process, Toronto Hydro evaluates and considers alternatives while developing its investment options[431] and has incorporated them into its capital expenditures plans where appropriate and applicable. For example, Toronto Hydro's grid performance energy storage system can increase capacity of a feeder at peak periods[432] and defer system upgrades.[433]

3.2 Is the level of proposed 2020-2024 capital expenditures and capital in-service additions arising from the distribution system plan appropriate, and is the rationale for planning and pacing choices, including trade-offs between capital and operating costs, appropriate and adequately explained?

Overview of the reply argument on capital expenditures and in-service additions issues.

374. OEB Staff and intervenors claimed that Toronto Hydro's proposed 2020-2024 capital expenditures are unreasonable and should be reduced. These arguments are based on purported concerns about: (a) the maturity of the utility's asset management processes, (b) the alignment (or perceived lack thereof) of capital expenditure proposals with underlying data such as asset condition, historical reliability, and unit costs, and (c) a small number of programs.

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[427] 2B-SEC-65(b) at page 2, lines 26-27 and page 3, lines 1-8.
[428] DRC Submission at page 20.
[429] Exhibit 2B, Section E7.4.
[430] Exhibit 2B, Section B.
[431] Exhibit 2B, Section D1.2.2 at page 17.
[432] Exhibit 2B, Section E7.2.1 at page 2.
[433] Exhibit 2B, Section E7.2.1 at page 1 at page 6.

375. Respectfully, Toronto Hydro submits the arguments advanced by OEB Staff and intervenors are unfounded. Their arguments rely on assertions that are not rooted in, or are directly contradicted by, the evidence. In many instances, parties rely on unduly narrow interpretations of the evidence. There is a notable tendency in the submissions for parties to selectively isolate facts (e.g. AMPCO's argument regarding 2018 reliability improvements, addressed below) and misconstrue those facts as supporting a much broader, yet entirely speculative and unsupported, theory that Toronto Hydro's capital plan is "overstated". As explained below, none of the assertions and hypotheses of the parties ultimately withstand a full, accurate, and informed evaluation of Toronto Hydro's DSP and the record. In every case, parties' assertions are unsupported, and most often contradicted, by the facts.

376. The 2020-2024 DSP is Toronto Hydro's most advanced system plan to date. The record in this proceeding overwhelmingly demonstrates that the proposed capital investments are necessary to meet immediate pressing needs of the grid and to sustain long-term performance in alignment with customer needs and preferences.[434] The evidence fully supports the conclusion that this is a restrained capital plan which consists of the minimum expenditures necessary to meet the needs of customers and the system and fulfil the utility's legal obligations. For these reasons and as explained further below, Toronto Hydro submits that the OEB should reject the arguments made by OEB Staff and the intervenors.

377. Toronto Hydro respectfully submits that, contrary to the unsupported and contradicted views of the parties, the OEB can and should have full confidence that the utility's 2020-2024 DSP is rigorously optimized to achieve the balanced outcomes that customers want, including keeping prices as low as possible. This confidence can be drawn in large part from the robust and proven capabilities (and in certain aspects, industry-leading features) of the utility's asset management tools and practices,[435] which it used to develop a DSP that links investment needs to the outcomes that the plan is designed to achieve.[436] This includes an enhanced Asset Condition Assessment ("ACA") methodology that significantly strengthens the

[434] Exhibit 2B, Section E2.3; Evidence Overview Presentation Transcript (May 3, 2019) at page 37, lines 6-11; OH Volume 4 (July 4, 2019) at page 132, lines 12-27.
[435] Exhibit 2B, Section A5 pages 28-32; Exhibit 2B, Section D1-D5 and Section D, Appendix A; Exhibit 2B, Section E2; OH Volume 8 (July 11, 2019) at page 194, line 13-15.
[436] Exhibit 2B, Sections E5-E8, Table 2 of each program summarizes the outcomes and measures addressed by those investments. Exhibit 2B, Section C; Exhibit 2B, Section D1.1 at pages 3-5; Exhibit 2B, Section E2.2.1 at pages 10-11.

relationship between asset condition, predicted failure risk, and the five-year system investment plan in this DSP.[437]

378. The OEB can also draw confidence from Toronto Hydro's past performance in delivering on the objectives and commitments of its 2015-2019 DSP. The utility is on track to deliver its 2015-2019 plan within 1% of approved in-service additions while improving its performance in a number of key outcomes, performing better than average on unit costs, and achieving millions of dollars in capital-related productivity savings for customers.[438]

379. Toronto Hydro notes that OEB Staff and intervenor submissions are largely focused on whether the pacing and costs of the System Renewal part of the capital plan are justified. In the System Renewal section of this reply (below), Toronto Hydro demonstrates how, on every topic raised, the parties' System Renewal submissions are unsupported by facts, and are often reliant on misperceptions and flawed analysis.

380. There are no submissions regarding the System Service part of the utility's plan and only a few minor and ultimately unsubstantiated submissions on the System Access part. In the result, parties offer no basis for modifying or rejecting any of the programs in these categories. While parties take issue with specific elements of the General Plant part of the plan, their positions are, as explained in the General Plant section of this reply, equally unsupported and/or contradicted by the evidence.

381. The almost exclusive focus on System Renewal (and parts of General Plant) in parties' submissions is notable in part because it reflects what Toronto Hydro submits is an underlying acceptance in parties' submissions of the broader need for a continuing, large, multi-year capital program. In fact, even in the most extreme proposals, such as SEC's, the parties have tended to place a floor under – or otherwise anchor their proposed envelope reductions to – the average of Toronto Hydro's 2015-2019 capital expenditures.[439] OEB Staff's submission on the DSP – which, compared to the other parties, appears to be based on a relatively more detailed (albeit inappropriately reasoned) review of the actual evidence – proposes a $246 million reduction to capital expenditures, which would in effect amount to

[437] Exhibit 2B, Section D, Appendix C; OH Volume 1 (June 27, 2019) at page 62, lines 15-24; OH Volume 4 (July 4, 2019) at page 136, lines 19-24.
[438] Argument-in-Chief at page 6.
[439] SEC Submission at pages 7, 35. See also for example AMPCO Submission at page 10.

an approximately 9% increase over total capital expenditures in the 2015-2019 period.

382. Toronto Hydro submits that the OEB should reject the capital expenditure reductions (and associated in-service additions reductions) proposed by various parties (including OEB Staff) for the reason that they would demonstrably negatively impact service levels and result in sub-optimal outcomes contrary to customers' expressed needs and expectations. The uncontroverted evidence in this proceeding is that Toronto Hydro already reduced its proposed Capital Expenditure Plan by over $400 million during the Company's rigorous business planning process, and has made significant efforts and difficult trade-offs to constrain its forecast spending in these areas.[440] Consistent with customer feedback to keep prices as low as possible without compromising current service levels, Toronto Hydro re-examined each specific program and its expenditure level to minimize costs and maximize the value proposition for customers. Any further reductions to capital funding would inevitably compromise the utility's ability to continue to deliver the current level of service that customers are satisfied with, and expect going forward.[441]

383. Toronto Hydro's reply argument on Issue 3.2 continues below and is organized in accordance with the four system investment categories of the DSP.

Toronto Hydro's System Renewal plan represents the minimum investment necessary to address needs arising from aging, deteriorating, legacy, and obsolete infrastructure.

Toronto Hydro's asset management tools and processes that it used to develop and optimize its System Renewal plans are rigorous and mature.

384. OEB Staff and intervenors made various arguments designed to undermine the OEB's confidence in Toronto Hydro's asset management expertise and capabilities, including the general maturity of Toronto Hydro's asset management paradigm. However, their submissions on this topic amount to unsubstantiated assertions either not grounded in the evidence at all, or which rely on mischaracterizations or misunderstanding of the record.

385. Toronto Hydro's System Renewal plan (and the System Service and Access plans) resulted from the utility's robust and systematic Investment Planning and Portfolio

[440] 2B-Staff-73; OH Volume 4 (July 4, 2019) at page 132, lines 23-27.
[441] Exhibit 4A, Tab 1, Schedule 1 from page 3, line 2 to page 4, line 21; 1B-SEC-5 at page 1, lines 25-26 and page 2, lines 1-5 and 13-21; Argument-in-Chief at para.168.

Reporting ("IPPR") process. This rigorous process produces an optimized mix of capital programs for the planning horizon, including the forecast program expenditure levels and associated volumes of work and performance objectives. Proposed investment strategies are grounded in analysis of historical experience and robust internal processes to produce balanced results.[442] Toronto Hydro uses both engineering analytics and customer feedback to make hard choices during the process.[443]

Toronto Hydro is among the leaders in North America in asset management sophistication.

386. The arguments of OEB Staff, SEC, and AMPCO ignore Toronto Hydro's considerable progress in asset management, and misconstrue the findings of the asset management review performed by UMS. Rather than rooting their submissions in the record, these parties instead offer the OEB a vague and unsubstantiated assertion that Toronto Hydro's asset management capabilities are not sufficiently mature.

387. To the contrary and as demonstrated by the evidence, Toronto Hydro successfully implemented a number of important enhancements to its asset management processes that strengthened its capital planning effort and produced its 2020-2024 DSP: these include enhancements as a result of the utility's continuous improvement, as well as enhancements in response to guidance from the OEB.[444] What's more is that the utility engaged UMS Group ("UMS") to perform an independent review of the asset management practices. UMS's uncontroverted evidence is that, across the domains assessed, Toronto Hydro "*exceeds the North American average level of maturity in all areas, reaching into "Best Practice" for some.*"[445]

388. For example, in respect of the UMS study, OEB Staff asserted that "*Toronto Hydro's capabilities in this regard are still considered 'developing' based on the relevant standards*", and that "*exceeding the North American average level of maturity is not sufficient to support a continuously increasing capital budget*."[446] SEC and AMPCO echoed these concerns.[447] With respect, this conclusion is not based on fact or reason, but rather is an inaccurate characterization of UMS's evidence, and appears

[442] Exhibit 2B, Section D3.4 at pages 41-46; 2B-Staff-67 at page 4, lines 11-27; 2B-SEC-59 at pages 2-3.
[443] Exhibit 2B, Section D3 and Exhibit 2B, Section E2.2.
[444] Exhibit 2B, Section D1.3.1 and Section D1.3.2.
[445] Exhibit 2B, Section D, Appendix A.
[446] OEB Staff Submission at page 74.
[447] SEC Submission at pages 49-50; AMPCO Submission at page 22.

to be a conclusion drawn by OEB Staff based on its own interpretation of ISO 55000. This interpretation was not put to any witness in this proceeding, or explored in discovery or at all. It is a merely untested assertion by OEB Staff, who is not qualified as an expert in this proceeding, and who tendered no evidence on this topic.

389. What's more, is that this interpretation is simply incorrect. UMS' evidence did not indicate that Toronto Hydro is "*still considered 'developing' based on the relevant standards*". To the contrary, UMS scored Toronto Hydro's level of maturity in each domain relative to the comparator group, finding that the utility exceeded the North American comparator group in each of the ISO 55000 domains that were assessed.[448]

390. On this standard, the UMS expert witness put Toronto Hydro's strong performance in context, explaining that only one utility in North America (a gas utility in California) has been certified as fully compliant with the ISO 55000 standard.[449] He further explained that it is not appropriate to assess Toronto Hydro's maturity relative to utilities outside of North America because, among other things, there are significant differences in the regional timelines for adoption of the standard. Whereas non-North American regions such as Northern Europe, Australia and New Zealand adopted the standard "*20-25 year ago*", in North America "*there are very few utilities that have been doing this for more than a decade or so*".[450] Accordingly, UMS concluded that it is most appropriate to assess Toronto Hydro's maturity relative to other North American utilities.[451]

391. SEC also asserted that the comparator group in the UMS asset management review is inappropriate. However, this conclusion again runs contrary to the uncontroverted evidence, and with respect, is a conclusion without support in the record or logic.

392. Indeed, when SEC put its assertion to the witness at the Oral Hearing, UMS clearly rejected it. Specifically, SEC raised the question of whether some of the comparator utility scores were attributed long enough in the past that the same utilities could be assumed to be improved in asset management today. Mr. Morris disagreed, testifying that, based on his 25 years of electricity sector experience, it would not be

[448] Exhibit 2B, Section D, Appendix A, at pages 18-21; OH Volume 8 (July 11, 2019) at page 195.
[449] OH Volume 9 (July 12, 2019) at page 4, lines 23-28.
[450] OH Volume 9 (July 12, 2019) at pages 17-18.
[451] Exhibit 2B, Section D, Appendix A, at page 11.

an unrealistic outcome for a comparator utility to have had gotten *worse* at asset management over time due to changes in leadership.[452]

393. SEC also asked Mr. Morris about similar work he had done in a Manitoba Hydro proceeding – in which a broader set of North American comparators was used – and whether the OEB could conclude from that work that Toronto Hydro's relative performance is worse than it appears in the study UMS did for Toronto Hydro. Once again, Mr. Morris disagreed with this premise of SEC's assertion, noting that UMS had not itself done an ISO 55000 review of all the utilities referenced in the Manitoba Hydro study, and so the results of that study are not directly comparable to the Toronto Hydro study.[453]

394. For all the reasons noted above, Toronto Hydro submits that the OEB should dismiss OEB Staff's and SEC's unsupported critiques of the ISO 55000-related dimension of the UMS review.

395. More broadly however, Toronto Hydro observes that OEB Staff and SEC's arguments are two instances among several where parties are seized by unduly narrow interpretations of the evidence that take the points out of the broader context. In the matter of the UMS asset management review for example, a singular focus on the application of the ISO 55000 scale detracts from understanding the fundamentally qualitative nature of the study. UMS's use of ISO 55000 must be read within the full context of the UMS analysis and conclusions. In particular, UMS intended the ISO 55000 component to augment the core evaluation that UMS performed using its own Strategic Asset Management Model and relying on its decades of utility industry experience. The below excerpt highlights this point, and UMS's key conclusions of this assessment can be found in the "Review of THESL's Use of Asset Management in the DSP" section of the report, where there is no reference to ISO 55000.[454]

> In order to provide context to its qualitative evaluation of the extent to which THESL's asset management system aligns with the standard for good asset management, UMS also scored THESL's asset management maturity on the ISO 55001 scale and compared it to a database of 14 transmission and/or

[452] OH Volume 9 (July 12, 2019) at page 13, lines 10-16.
[453] OH Volume 9 (July 12, 2019) at page 16, lines 8-17.
[454] Exhibit 2B, Section D, Appendix A at pages 12-16.

distribution utility business units for which it had previously conducted asset management maturity assessments.[455] [Emphasis added].

396. With respect to asset management as a general issue, and as noted above and throughout the record in this proceeding, Toronto Hydro has consistently made significant strides since it began to be rate regulated, including recently since its last rate application. The utility embraces continuing opportunities to develop and improve the maturity of its capabilities, and has demonstrated its commitment to doing so. In this regard, the DSP provides evidence of the utility's considerable asset management improvements in the period since it filed the previous CIR application.[456] Taken together with the detailed factual evidence of the utility's capital needs, as well as clear positive trends in measured performance and customer satisfaction (i.e. outcomes), Toronto Hydro respectfully submits that the OEB can and should feel confidence that the utility's 2020-2024 capital plan is grounded in mature and proven asset management practices.

Toronto Hydro developed its system investment plans using a systematic, risk-based, and outcomes-focused optimization approach.

397. A number of parties suggest that Toronto Hydro lacks a centralized or uniform approach in system investment decision making, which undermines the utility's ability to optimize its investments. OEB Staff asserted that Toronto Hydro does not perform risk-analysis in a "*centralized, formal manner*."[457] Similarly, SEC asserted that "*Toronto Hydro does not actually use a tool that is able to consistently determine asset risk amongst a range of different assets that it manages across the system."*[458] AMPCO criticized Toronto Hydro's current investment optimization approach for being "*manual*."[459]

398. With respect, these criticisms are misplaced and rely on mischaracterization or misunderstanding of Toronto Hydro's evidence. Contrary to these assertions, the record demonstrates that Toronto Hydro has achieved considerable maturity and sophistication in its investment planning process and the tools that support it. Specifically, OEB Staff and intervenors' arguments are flawed in two key aspects:

[455] Exhibit 2B, Section D, Appendix A at page 7.
[456] Exhibit 2B, Section D1.3.2.
[457] OEB Staff Submission at pages 71-72.
[458] SEC Submission at page 38.
[459] AMPCO Submission at page 22.

(i) They are based on an inaccurate and unduly narrow view of Toronto Hydro's approach to asset management and investment optimization; and

(ii) They rely on the unsupported presumption that a "single algorithm" is necessarily a more effective prioritization approach.

399. Toronto Hydro is challenged in responding to these more conceptual conclusions about capital plan "optimization" because the evidence directly contradicts these assertions. The proof that Toronto Hydro's system investment programs have been optimized in accordance with a rigorous analytical process begins on the first page of the Asset Management Process section of the DSP (Section D), continues for over 1,000 pages through the Capital Expenditure Plan (Section E), and extends well beyond the boundaries of the DSP into hundreds of pages of interrogatory and undertaking responses and testimony from Toronto Hydro and third-party experts.

400. Specifically, the DSP (and subsequent evidence) demonstrates to the reader all of the essential components that went into Toronto Hydro's capital plan. This includes customer needs and preferences, multi-faceted data on the current state of the assets, enhanced condition information, demand forecasts and trends, unit costs, regional plans, reliability forecasts, and so forth.

401. In addition to Toronto Hydro's plan having all the necessary components, its DSP clearly and comprehensively describes the process Toronto Hydro used to prepare, combine, balance, and validate and finalize each and every element of the plan to achieve an optimized result that is supported by customers. This is the purpose of Section E of the DSP, which walks the reader through the entire decision-making process that the utility undertook in developing the capital plan and how the ingredients were carefully (and iteratively) combined, with much consideration and expertise.

402. Faced with this robust evidence – which, Toronto Hydro submits, is entirely testable – OEB Staff, AMPCO and SEC effectively assert that, because they cannot fully reenact the planning process through the application of a single "algorithmic" and "uniform" planning tool or ranking system, the plan fails to be fully optimized.

403. With respect, this is simply incorrect for the reason that it ignores the vast evidence on the record which contradicts these parties' assertions. Toronto Hydro submits that its substantial capital evidence, reinforced by the reply arguments found in the sections that follow, serve to demonstrate that the DSP is appropriate and should be accepted as filed. The rest of this section deals more narrowly with the question

of how Toronto Hydro evaluates risk and whether an "algorithmic" approach is necessarily an improvement over the iterative one used by Toronto Hydro.

404. As mentioned above, OEB Staff and SEC asserted that Toronto Hydro lacks a centralized and consistent risk assessment approach.

405. Contrary to OEB Staff and SEC's submissions, Toronto Hydro ensures it thoroughly evaluates asset risk by the use of sound data and analysis as part of its Investment Planning and Portfolio Reporting ("IPPR") process. In this regard, the utility's risk assessment accounts for both the probability of failure and consequence of failure:

a) Probability of failure is determined based on asset condition assessment (leading to health index scores), predictive failure modeling (involving the derivation of hazard rate functions for each asset class), and historical reliability analysis (identifying assets with a high failure frequency).

b) Consequence of failure refers to the impact of specific failure modes, and is generally evaluated in alignment with the utility's outcomes framework (i.e. customer service, reliability, environment, safety, and financial impacts).

406. Through various qualitative and quantitative risk analysis methods, Toronto Hydro determines the risk of failure to inform risk mitigation choices. These methods include tools such as reliability projections, worst performing feeder analysis, and economic risk-based analysis, which mathematically combines the probability of failure for an asset with the consequence of failure to support a determination of the economically optimal intervention timing for an asset. [460]

407. OEB Staff and SEC's views on the supposed inadequacy of Toronto Hydro's risk assessment approach rests not in the evidence, but on the assumption that a single algorithmic approach to risk assessment (or overall investment plan optimization, in AMPCO's submission) is needed to optimize a capital plan. Unfortunately, capital planning and asset management optimization does not lend itself to delegation to a single software program. While some optimization software may theoretically compliment an asset management process, they are neither a necessary component of one, nor are they substitutes for a robust process which draws on many considerations. Put simply, the mere existence of such a tool is not necessary nor sufficient to have confidence that a plan is optimized.

[460] Exhibit 2B, Section D3.2.1.

408. What's more is that these parties' assumption about the necessity and sufficiency of a single algorithmic approach to risk assessment is directly contradicted by the uncontroverted expert evidence in this proceeding. Regarding risk assessment in particular, UMS found that:

- the utility's "*process around risk management provides assurance that risk is being addressed in constructing the DSP*" and "*while many utilities have a corporate risk matrix and established tolerance levels like THESL, not as many use risk as extensively to drive asset management decisions, nor have many 'monetized' risk to be able to calculate a dollar-based risk reduction value as THESL has*".[461] [emphasis added]

- the need to address a variety of stakeholder-driven outcomes precludes the use of a single economic measure. In this regard, according to UMS's assessment, Toronto Hydro's asset management processes (including both quantitative and qualitative methods) "*demonstrate a level of maturity in translating customer needs into decision-making that exceeds most North American utilities*".[462] [emphasis added]

409. By design, Toronto Hydro's IPPR is not intended to be algorithmic or automated. This is not a weakness, but a strength. Toronto Hydro's is an iterative process in which Toronto Hydro's planners develop detailed program proposals and alternatives, leveraging a host of asset data sources and analytics. These proposals and alternatives are expressed in terms of the outcomes they are expected to achieve and the associated costs. Through this interactive and non-algorithmic process, the link between historical performance, risk, predicted performance, and costs is fully scrutinized, challenged, and repeatedly revised until an overall Capital Expenditure Plan emerges that is optimized to achieve the desired balance of outcomes, including outcomes customers value, for the desired cost levels. This is the process that led to the 2020-2024 DSP. This process is, in fact, appropriately characterized as "centralized", even if it is not "algorithmic."

410. A key flaw in OEB Staff, AMPCO, and SEC's critiques of Toronto Hydro's asset management approach is that none of the intervenors substantiates the rationale for their concerns, other than continuing to rely on the assumption that a single algorithm is required. In doing so, the parties provide no basis to show that an algorithmic process is inherently superior or necessarily drives down costs. Indeed,

[461] Exhibit 2B, Section D, Appendix A, at page 13.
[462] Exhibit 2B, Section D, Appendix A, at page 6.

in other proceedings, parties have taken the opposite view. For instance, in Hydro One Network Inc.'s 2018-2022 distribution rate proceeding, intervenors called the value of its CopperLeaf software system called into question, particularly in respect of the weightings that need to be assigned to the various measures within the system.[463]

411. As highlighted above, the utility has a rigorous and defined planning process for systematically developing an optimized program portfolio that balances price impact and outcome objectives.[464] Given the diverse investment needs associated with its distribution system, the utility does not rely on an algorithmic paradigm that automates the scoring and ranking of all investment candidates.[465] In fact, Toronto Hydro has previously considered such prioritization tools, and determined that its current approach is appropriate and effective (and aligns with or exceeds industry average, as affirmed by independent expert review) given its particular planning context and requirements.[466] Toronto Hydro's General Manager of Engineering spoke to this reality at the hearing:

> We don't combine [the measures], no, because what our experience has been, having a very diverse system such as ours, half the system is overhead, half the system is underground. We've got a network system. We are probably the only utility in Canada that that has a network system that is the size of ours. We have stations assets. They're all very, very different assets. So what we've found is when we have attempted to try to combine them together, it is really, you know, in form appears to be something that looks good, but in substance really fails us. So what we have identified is the particular approach that we have is far more effective than a system that runs things through an algorithm.[467]

412. In fact, even in an algorithmic system, professional judgment still has an important role in prioritization decision-making. OEB Staff take issue with the role of professional judgment in weighing the risk management approaches available to planners. However, adopting an algorithmic prioritization tool does not in itself eliminate the need to rely on the qualitative assessment of experienced

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[463] EB-2017-0049 (Hydro One Distribution Rates 2018-2022), BOMA Argument, at page 27: "*BOMA does not have confidence in the value the "copperleaf' software optimization adds to the prioritization of projects. The weightings are not fully justified, and they apparently have recently changed. The system remains a "black box" which the company cannot explain and does not seem to fully understand*."
[464] OH Volume 1 (June 27, 2019) at pages 71 and 74.
[465] OH Volume 1 (June 27, 2019) at page 74.
[466] OH Volume 1 (June 27, 2019) at page 76.
[467] OH Volume 1 (June 27, 2019) at pages 77-78.

professionals. On the contrary, for a distribution system as complex (and in many ways, unique in Canada) as Toronto Hydro's, an approach that effectively leverages both the quantitative and qualitative evaluation of asset needs and customer-focused outcomes is essential to ensuring prudent asset stewardship. As such, it is important to look to the substance and merit of the underlying planning processes (as UMS has done through its independent expert review), rather than focusing solely on the outward form that such processes may take.

413. Toronto Hydro recognizes and embraces ongoing opportunities for meaningful enhancements to its planning tools and processes, in keeping with its firm commitment to performance management and continuous improvement. Even as it currently stands, the utility's approach to asset management and optimization is demonstrably robust and mature relative to industry practices. As discussed above and detailed in evidence, Toronto Hydro has in place a robust asset management framework for its distribution plant (as well as frameworks for general plant) to ensure prudent asset stewardship. Based on an independent review of Toronto Hydro's asset management practices, the UMS Group ("UMS") determined that the utility "*exceeds the North American average level of maturity in all areas, reaching into 'Best Practice' for some*".[468] In making this determination, UMS considered the fact that the utility's optimization methods are manual. Nonetheless, having examined the processes that underpin Toronto Hydro's asset management and DSP, UMS concluded, among other things, that "*the processes used to formulate the DSP provide confidence that it was created using sound asset management techniques*" and Toronto Hydro's "*optimization, rather than prioritization approach … exceeds what is typical in the industry*".[469]

414. For the above reasons, Staff's criticisms of Toronto Hydro's asset management and optimization approach are not supported by evidence and should not be accepted by the OEB.

415. BOMA made a series of claims suggesting that the utility has been unwilling to "prioritize" programs and/or projects in its evidence.[470] Toronto Hydro respectfully submits that the issue of "prioritization" is almost entirely irrelevant to an evaluation of Toronto Hydro's five-year DSP. As Toronto Hydro has explained in evidence, the 2020-2024 DSP is an optimized suite of programs.[471] These programs have been optimized through the iterative planning process discussed above to

[468] Exhibit 2B, Section D, Appendix A, at page 5.
[469] Exhibit 2B, Section D, Appendix A, at page 14.
[470] BOMA Submission at pages 23-24.
[471] 2A-AMPCO-16(b).

achieve a balanced set of outcomes through specified volumes of investment. The outcomes of the plan bear a complex, "many-to-many" relationship with the programs (i.e. each program effects multiple outcomes, and each outcome is effected by multiple programs), which precludes the notion that the programs could be prioritized against one another in a discretely ranked list. The programs work together as an integrated whole across investment categories to achieve the desired outcomes at the lowest cost. As for discrete projects, as Toronto Hydro explained, it is not feasible – nor would it be desirable (due to the likelihood of changing circumstances over time) – to produce five years' worth of discrete project details in advance of a rate application.[472]

The parties' submissions with respect to Toronto Hydro's Customer Interruption Costs ("CICs") are misplaced.

416. OEB Staff and AMPCO submitted that Toronto Hydro should be directed to complete its Customer Interruption Cost ("CIC") study – which is currently in progress and nearing completion – prior to the next cost-based application. OEB Staff also suggests that "*one of the tools [i.e. the FIM] that Toronto Hydro currently uses to evaluate risk relies on outdated [CIC] information*".[473] SEC shares these concerns.[474]

417. In the course of this proceeding, Toronto Hydro has explained why it has not completed the CIC study as previously planned.[475] The OEB's feedback in the last CIR decision pointed to, among other things, a perceived lack of direct link from the economic risk-based analysis to customer-focused outcomes, as well as the need to focus on certain other enhancements, including to the utility's asset condition assessment and unit cost approach. Given the available time and resources, Toronto Hydro decided to defer the CIC study and prioritize other enhancements in order to maximize planning benefits for the 2020-2024 DSP and be responsive to the OEB's feedback.

418. Further, Toronto Hydro disagrees with parties' characterization of the existing CIC values as "out of date." The values that Toronto Hydro has historically used are generic values that result from broadly accepted academic research. Toronto Hydro has demonstrated the reasonableness of these values in past proceedings and has explained why they are sufficient and appropriate for making prioritization

[472] 2B-SEC-36(b).
[473] OEB Staff Submission at page 72.
[474] SEC Submission at pages 43-44.
[475] OH Volume 1 (June 27, 2019) at page 86.

decisions regarding assets and projects within a program.[476] The CIC study that is currently in progress will generate *Toronto-specific* values. While these values will provide enhanced granularity and insight into customer preferences in the utility's service territory, the fact that these values will be available later than planned does not render the previous values "out of date."

419. Toronto Hydro is on track to close-out the current CIC study in the near future and expects to integrate the results of the study into its planning processes during the 2020-2024 period.

420. Toronto Hydro wishes to further clarify that while CIC values are an input to the economic risk-based analysis within the FIM, the capital programs set out in the DSP are not directly predicated on the results of this analysis. Rather, the purpose of this analysis is to derive the monetized risk cost associated with an asset, which helps ensure that projects (within programs) are designed and scheduled to optimize the cost-benefit ratio of asset interventions over time.[477]

421. As demonstrated throughout Toronto Hydro's detailed evidence in Section E of the DSP, the program proposals that constitute the 2020-2024 System Renewal plan (and the broader DSP) are predicated on a rigorous analysis of the relationship between various investment strategies and the projected impact of those strategies on a host of measurable performance outcomes.

Toronto Hydro has proposed the minimum level of System Renewal expenditures required to achieve the reliability outcomes that customers said they need and want.

422. Intervenors have submitted that historical reliability trends do not support Toronto Hydro's proposed capital spending levels and that such levels are in excess of what is needed to maintain reliability. For example, BOMA implied that, since Toronto Hydro exceeded SAIFI and SAIDI targets for 2015-2019 despite the OEB's $300 million reduction to its capital budget, it should be able to continue to achieve reliability improvements in 2020-2024 at reduced spending levels.[478] This logic is faulty, and the conclusion runs directly contrary to the record in this proceeding.

423. System Renewal expenditures are the main contributor to reliability outcomes.[479] Toronto Hydro expects its actual 2015-2019 expenditures in this category to be

[476] EB-2014-0116, Reply Argument at para. 103.
[477] Exhibit 2B, Section D3.2.1.3 at pages 30-31.
[478] BOMA Submission at pages 27-28.
[479] U-EP-64.

essentially unchanged from the original 2015-2019 forecast.[480] Therefore, it is simply and demonstrably incorrect to conclude – as BOMA has – that Toronto Hydro's reliability improvements in the previous period are correlated with lower than planned investments in reliability.

424. What's more is that with respect to SAIFI (the measure most strongly correlated with defective equipment failures), the utility did not, in fact, exceed its reliability projections as BOMA mistakenly asserted. Rather, in 2018, Toronto Hydro's SAIFI performance (excluding loss of supply and major event days) was 1.14 compared to an original forecast of 1.11.[481] In short, the opposite of what BOMA asserted is true: Toronto Hydro actually fell slightly short of its reliability projections.

425. Further, historical reliability trends are not, by themselves, a valid indicator of future performance. As a lagging indicator, reliability metrics are backwards-looking and do not provide information as to how much Toronto Hydro will need to invest in a future period (in System Renewal or otherwise) to meet system objectives and customer outcomes. This is why Toronto Hydro appropriately relies on leading indicators of reliability performance, such as asset age demographics and Health Scores, system design constraints, and the Reliability Projection Methodology to develop credible forecasts of risk and reliability performance.[482]

426. Similarly, AMPCO attempted to apply the same "historical reliability argument" as BOMA to specific programs (i.e. Underground System Renewal – Horseshoe and Overhead System Renewal).[483] For the reasons noted above, these arguments are invalid and should be rejected.

427. Even within the System Renewal category, capital expenditures are driven by a number of outcomes beyond just reliability, and not all capital investments contribute equally to reliability. In response to questions posed at the Oral Hearing regarding the relationship between increased System Renewal expenditures and reliability outcomes, Toronto Hydro's General Manager of Engineering stated the following:

> In this particular interrogatory response [U-EP-64], we speak specifically to why a -- I think you referred to it as a 24 percent increase in system renewal -- will not lead to improvements in reliability. In this particular

[480] Exhibit U, Tab 2, Schedule 2 at page 9.
[481] Exhibit K1.2 at pages 14, 16.
[482] U-EP-64 at page 5, lines 6-20; Exhibit 2B, Section D3.4.3, at pages 44-45.
[483] AMPCO Submission at pages 26-27.

> response, what we do is we highlight a number of programs in which we are increasing spend to address specific needs of the system that do not necessarily contribute as much to reliability as investments that we have had during 2015-2019. With respect to your 24 percent increase on system renewal, the other -- what I would also like to add is approximately 10 percent of that is simply escalation, simply inflation. The other 14 percent -- and we have some examples within this interrogatory if you go to page 6, for example, we are investing 122 million in the new underground system renewal downtown program. Those investments are being made to replace obsolete lead and asbestos cables that pose environmental risks, for example. We talk about an increase in stations. The specific items that we have identified here exceed 14 percent, so exceed that difference. So when you peel that out, investment that goes specifically to reliability improvement is actually less than what it is in 2015-2019.[484] [emphasis added]

428. VECC's claim that Toronto Hydro is "*forecasting a decrease in reliability over the term of the plan*" is also demonstrably false. [485] Toronto Hydro has repeatedly and consistently stated in its evidence that with its proposed plan and in response to customer feedback, it is seeking to largely maintain system reliability, with some improvements in areas with below average service.[486] VECC appears to be basing their observation on a chart of historical and projected SAIFI for 2006-2024. However, their interpretation – i.e. that a slight increase of the projected levels (which are relatively flat) over the most recent 2017 value somehow represents a decline in reliability over the term – ignores the inherent volatility of SAIFI and SAIDI performance from year to year. Based on 2015-2018 values, performance may vary by up to or more than 10 percent from year to year.[487] Toronto Hydro's SAIFI (and SAIDI) projections for 2020-2024 are consistent with average levels over recent years and therefore do not support the claim that Toronto Hydro is forecasting deteriorating reliability. [488]

429. VECC also claimed that *"[s]ince controllable related outages are declining the only way for reliability to deteriorate is for those uncontrollable events (adverse weather, human element, lightning, etc.) to increase*." VECC claimed that this is not a credible

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[484] OH Volume 1 (June 27, 2019), at pages 41-42.
[485] VECC Submission at page 15.
[486] E.g. Argument-in-Chief at paras 35 and page 23.
[487] U-SEC-105 at page 2, lines 15-17.
[488] An updated version of the SAIFI chart used by VECC along with a similar one for SAIDI are provided in U-SEC-105.

scenario.[489] With respect to the decline in controllable related outages, as already noted above,[490] past reliability performance is not a useful indicator of future performance and therefore it cannot be assumed that that trend will continue. As indicated by current and future health demographics, the overall health of Toronto Hydro's assets is expected to worsen over the 2020-2024 period without the proposed level of investment, which would result in an increased failure risk and declining reliability (even without any increase in uncontrollable events).[491]

430. Most importantly, the assertions by intervenors that Toronto Hydro's capital plan is of a level that should improve overall system reliability are just that: assertions. With respect, these statements are not rooted in the record, and indeed, are contradicted by the uncontroverted evidence.

431. Toronto Hydro's assessment that its capital plan will sustain overall system reliability has an empirical basis in the form of rigorously modeled reliability projections. The Reliability Projection Methodology creates a statistical relationship between historical reliability, the current state of the assets, and future program investments to forecast future levels of reliability. Toronto Hydro's Reliability Projection Methodology was not challenged by any of the parties and was specifically called out as a best practice technique by Mr. Morris of UMS.[492] The utility used the methodology to guide the development of the plan and ensure that expenditure levels were in alignment with customer preferences.[493] These projections confirm that Toronto Hydro's plan is designed to maintain reliability.

Toronto Hydro's uncontroverted evidence is that the utility prioritizes asset condition over age.

432. Toronto Hydro believes that the condition of assets should be the primary consideration in decisions regarding asset replacement and maintenance timing. This has been a foundational premise of Toronto Hydro's approach to asset management for over a decade. Toronto Hydro's achievements in reducing the reliability impacts of equipment failures in the face of a significantly aged system serves as outcomes-oriented proof of this condition-targeted prioritization approach in action.

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[489] VECC Submission at pages 15-16.
[490] Please refer to para. 425 of this Reply Argument.
[491] 2B-AMPCO-21, Figure 1; 2B-AMPCO-44 at page 2, lines 8-13; U-EP-64 at page 5, lines 8-12.
[492] OH Volume 8 (July 11, 2019) at page 194, lines 17-19.
[493] U-EP-64 at page 5, lines 15-20; Exhibit 2B, Section D3.2.1.3 at pages 31-32; Exhibit 2B, Section E2.2.2.3 at pages 15-16.

433. With respect, the skepticism expressed in various parties' submissions regarding Toronto Hydro's ACA approach is entirely unjustified and runs contrary to Toronto Hydro's uncontroverted evidence that the utility prioritizes condition over age. Specifically, wherever reliable condition information is available for a Toronto Hydro asset, that information supersedes the use of asset age in the utility's decision-making processes.[494]

434. What's more, Toronto Hydro also uses condition data when it prioritizes and optimizes asset intervention decisions as part of designing projects and establishing annual expenditure plans.[495] As detailed in its rate applications since 2011, Toronto Hydro uses the asset Health Scores produced by its ACA methodology both on their own and as an input to its risk-based Feeder Investment Model ("FIM"). The OEB reviewed the FIM in detail in recent applications and commended Toronto Hydro for developing such a tool and applying it to optimize its investment portfolios.[496]

Toronto Hydro's adoption of a more advanced ACA methodology was necessary and appropriate.

435. Toronto Hydro submits that, for the reasons noted below, its adoption of a more advanced ACA approach as presented in this application was both the appropriate and the only logical course of action, and the OEB should reject the arguments of the intervenors to the contrary.

436. Toronto Hydro adopted an enhanced "multiplicative" ACA methodology in advance of this application.[497] This methodology was developed in the U.K. by EA Technology, a globally recognized electricity industry consultant and technical services provider established in 1966.[498] The ACA methodology that Toronto Hydro has adopted produces the asset Health Scores that inform the pacing of the utility's proposed renewal plans. The Health Score calculations are part of a more expansive risk evaluation framework known as the Common Network Asset Indices Methodology, or "CNAIM", which is used by all U.K. utilities and the regulator, Ofgem.[499] Toronto Hydro uses the CNAIM acronym throughout its evidence as a shorthand reference for its new ACA methodology.

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[494] As detailed in Toronto Hydro's Asset Condition Assessment Report (Exhibit 2B, Section D, Appendix C).
[495] Exhibit 2B, Section D3.2.1.1 at page 21, lines 4-16; 2B-Staff-67 (e).
[496] EB-2012-0064, Partial Decision and Order (April 2, 2013), at page 21.
[497] 2B-AMPCO-40(c).
[498] 2B-SEC-44, Appendix A at page 1.
[499] 2B-SEC-44, Appendix A at page 2.

437. The transition to the CNAIM represents a vast improvement upon the utility's ACA and overcomes known limitations in the rigor, accuracy, and predictive functionalities of the previous "Kinectrics" methodology (the "Old Kinectrics Methodology"). This improvement was also necessary to ensure Toronto Hydro appropriately responded to the OEB's decision in EB-2014-0116, which found that the utility's investment planning approach should include more emphasis on asset condition.[500]

438. More specifically, Toronto Hydro recognized that the Old Kinectrics Methodology had critical deficiencies that limited its value in assessing longer-term investment needs. The Old Kinectrics Methodology calculated asset health scores using a weighted arithmetic summation approach, which was simplistic in nature and resulted in an inaccurate and incomplete picture of asset population health. Key deficiencies are further highlighted below:

a) The most significant issue is the "masking" of critical asset deficiencies (including those that can lead to total asset failure) by the combination of all other benign condition attributes. As such, there was a structural bias toward the understatement of asset deterioration (i.e. assets appeared to be in better condition than raw inspection results would indicate).[501]

b) The Old Kinectrics Methodology rejected assets with less than 60 percent of condition data, resulting in a large number of assets being excluded, including assets with critical deficiencies.[502]

c) The Old Kinectrics Methodology could not model the future condition of assets, which is an important means of assessing the pacing and effectiveness of a utility's investment plans over a longer-term period like the one covered by the DSP.[503]

439. Notably, none of the parties' submissions dispute that there were significant deficiencies with the ACA approach Toronto Hydro used previously, nor is there any disagreement regarding the fact that these flaws resulted in the understatement of asset deterioration. Nevertheless, SEC, VECC, AMPCO, OEB Staff, and others continue to take the position that Toronto Hydro's adoption of an industry-leading

[500] EB-2014-0116 Decision and Order, pages 23-25.
[501] This issue is discussed in detail in various places, including in the ACA Methodology report (Exhibit 2B, Section D, Appendix C at page 4), undertaking JTC1.16, and the Oral Hearing testimony of Ms. Narisetty and Mr. Lyberogiannis (OH Volume 1 (June 27, 2019) at pages 64-65 and OH Volume 4 (July 4, 2019) at pages 136 and 138).
[502] Exhibit 2B, Section D, Appendix C at page 4; JTC1.16.
[503] Exhibit 2B, Section D, Appendix C at page 4; JTC1.16.

ACA approach was not an appropriate response to the OEB's direction in the previous decision.[504] Given the persistent shortcomings of the Old Kinectrics Methodology, this position effectively amounts to a submission that rather than pursuing a solution based on leading practice, the utility should have doubled down on a fundamentally flawed approach. With respect, this position is without merit and is contrary to both the guidance from the OEB's decision on Toronto Hydro's 2015-2019 rate application, as well as the principle of continuous improvement embedded in the RRF.

440. For the reasons noted above, overcoming the deficiencies of the Old Kinectrics Methodology was the only logical course of action, and the OEB should dismiss the parties' self-contradictory arguments on this issue.

Toronto Hydro's ACA methodology – the "CNAIM" approach – is appropriate for the utility's planning context.

441. The parties' submissions on the new ACA approach rely in part on mischaracterizations or a fundamental misunderstanding of what the CNAIM is, its functional purpose, and how long its components have been in use. Regardless, as explained in the following paragraphs, the parties' positions on the suitability of the CNAIM are incorrect and should be dismissed by the OEB.

442. VECC asserted that the CNAIM approach is less mature than Toronto Hydro's previous summation approach.[505] With respect, this is simply incorrect. The basis for this assertion appears to be VECC's observation, noted in Mr. Garner's cross-examination of Toronto Hydro's Manager of Engineering Services, that Ofgem approved the CNAIM for use in 2017.[506] While the methodology called "CNAIM" received final approval in 2016 (not 2017),[507] it is also true that "CNAIM" is simply the name given to an iteration of EA Technology's own Condition Based Risk Management ("CBRM") methodology, which has been around since the early 2000s. This fact is contained in an EA Technology report that VECC itself referenced in its argument.[508] In this report, EA Technology uses the terms CNAIM and CBRM interchangeably. A timeline shows that EA Technology developed the "Health Index" (i.e. ACA) component of CBRM in 2000 and that CBRM was first used in the UK and Ireland for regulatory settlement in 2005.[509] Fundamentally, it is the ACA

[504] VECC Submission at page 16; SEC Submission at pages 41-43; AMPCO Submission at page 18.
[505] VECC Submission at page 16.
[506] OH Volume 4 (July 4, 2019) at page 122.
[507] Exhibit 2B, Section D, Appendix C at page 5.
[508] 2B-SEC-44, Appendix A.
[509] 2B-SEC-44, Appendix A, page 2.

(i.e. Health Index) component of CNAIM/CBRM that Toronto Hydro has adopted in advance of this application. Toronto Hydro's evidence that this component is more mature (as well as more broadly used around the world) than the previous summation methodology stands.

443. However, regardless of whether the CNAIM/CBRM methodology has existed longer than Toronto Hydro's previous ACA methodology (which it has), the fact is that the CNAIM/CBRM methodology is a more sophisticated approach that incorporates best practice techniques. This was confirmed by Mr. Morris of UMS in his report and again in his expert testimony, including that Toronto Hydro's ACA "*has moved from what would be a relatively simplistic methodology to a more sophisticated one that does make use of what's considered best practice technique for condition assessment*".[510]

444. VECC also asserted that "*it is not apparently obvious that the methodology is intended to be used to provide forecasts as to the optimum capital planning*".[511] With respect, this is also demonstrably incorrect. How VECC arrived at this conclusion is unclear. As explained above, CNAIM is the name given to the latest iteration of CBRM within the U.K. EA Technology has helped over 40 utilities world-wide implement CBRM for the purpose asset management decision-making.[512] CNAIM is simply a version of CBRM in which the U.K. utilities have come to an agreement as to which parameters to include in the asset health and criticality models.[513] VECC's belief that this should call into question the applicability of the CNAIM/CBRM to capital planning appears to be based on a misunderstanding and is ultimately unsubstantiated.

445. Based on its detailed review, EA Technology concluded that Toronto Hydro's ACA models "*are consistent with the underlying objectives and principles of CNAIM methodology*" and that it is a natural process for models to be incrementally improved over time.[514]

Contrary to parties' assertions, Toronto Hydro has fully and appropriately transitioned to its new ACA methodology.

446. Parties' inaccurate understanding or mischaracterization of the nature of CNAIM/CBRM extends to their positions regarding Toronto Hydro's progress in

[510] OH Volume 8 (July 11, 2019) at page 194; also see UMS report at Exhibit 2B, Section D, Appendix A at page 16.
[511] VECC Submission at page 16.
[512] 2B-SEC-44, Appendix A at page 1.
[513] 2B-SEC-44, Appendix A at page 2.
[514] 2B-SEC-44, Appendix A at pages 3 and 4.

implementing the methodology. Their submissions in this regard come down to three key issues, which Toronto Hydro presents here as questions, and answers in turn below:

(i) Can the Health Index component of CNAIM/CBRM be relied upon if the Criticality and Risk Index components have not been implemented?

(ii) Has Toronto Hydro sufficiently implemented the Health Index component of CNAIM/CBRM?

(iii) Has Toronto Hydro sufficiently tested its implementation of the Health Index?

447. As explained in the following paragraphs, the answer to all three of these questions is "yes".

Question 1: Can the Health Index component of CNAIM/CBRM be relied upon if the Criticality and Risk Index components have not been implemented?

448. As discussed further below, Toronto Hydro has fully implemented the Health Index component of CNAIM/CBRM for the purposes of: (1) accurately determining the Current and Future Health Scores of assets, and (2) placing those asset Health Scores within five Health Index bands from best to worst condition. This can be relied upon for condition-based asset planning, not unlike the intended purpose of the Kinectrics ACA. An additional component of the CNAIM/CBRM methodology, which can be developed but is not necessary from a planning perspective, involves combining a Health Index with a Criticality Index to produce a Risk Index.[515] The Health Index relates to asset health and the probability of failure. The Criticality Index relates to the consequences of failure and is expressed in dollar terms. These two components can then be combined to produce a Risk Index, which is a monetized risk measure that can be used to create and evaluate multi-year strategic investment plans.

449. AMPCO, SEC, VECC and others' submissions emphasized that Toronto Hydro has only implemented the Health Index component of the broader CNAIM/CBRM paradigm, arguing that the Health Index component cannot be relied upon until the other components are in place. With respect, this is again demonstrably false. Toronto Hydro's Health Index component is an independent reporting function that does not rely on the other two indices. As EA Technology explains in their report, all

[515] 2B-SEC-44, Appendix B.

three of the components (Health, Criticality, and Risk) are relied upon in regulatory reporting.[516] Furthermore, as demonstrated in 2B-SEC-44, Appendix Y, the Health Index bands are clearly intended to function on their own as actionable information for asset "intervention planning". It is important to remember that Toronto Hydro adopted the CNAIM approach to replace its Old Kinectrics Methodology, which was effectively just the Health Index component. As such, it is simply unreasonable to suggest that the new ACA methodology is somehow deficient in this regard while not impugning the Old Kinectrics Methodology on the same basis. Finally, it is important to note that in making these assertions, none of the intervenors has cited or adduced supporting evidence, nor to do they have any relevant expertise themselves.

450. In raising the Criticality and Risk components, certain parties seek to create an impression that Toronto Hydro has not achieved the *benefits* of moving to the CNAIM/CBRM approach.[517] This too is simply incorrect. The evidence demonstrates that Toronto Hydro has fully achieved its ACA enhancement objectives and the associated benefits for this application. Specifically, the ability to calculate Current Health Scores and place them in Health Index Bands fully replaces the capabilities of Toronto Hydro's previous ACA and, importantly, corrects for the aforementioned accuracy deficiencies.[518] The ability to calculate Future Health Scores introduces *incremental* capabilities that Toronto Hydro believes are leading edge in the Ontario context. Together, these enhancements result in a more robust capital plan, with a greater and more verifiable reliance on asset condition.

Question 2: Has Toronto Hydro sufficiently implemented the Health Index component of CNAIM/CBRM?

451. As with any ACA approach, the key input to CNAIM/CBRM Health Score calculations is the measured and observed condition data.[519] Toronto Hydro has fully implemented this essential aspect of the CNAIM/CBRM Health Scores.

452. In addition to measured and observable condition data, the CNAIM/CBRM Health Index approach includes other Health Score modifiers (i.e. location, duty, and reliability factors) that, where available and justified, can incrementally enhance the accuracy of Health Scores. Parties note that Toronto Hydro has set some of these incremental variables in the Health Score calculations to default values. For

[516] 2B-SEC-44, Appendix X at page 5.
[517] For example, AMPCO Submission at page 16.
[518] Exhibit 2B, Section D, Appendix C at page 6.
[519] 2B-SEC-44, Appendix X at page 5, Figure 2.

example, Toronto Hydro has not, at this stage, developed utility-specific location factors that would modify (where applicable) an initial health score based on an asset's surrounding environment. Instead, these variables are set at a neutral value.[520]

453. Where appropriate and justified, these additional modifiers have the potential to improve the accuracy of ACA results and are worth investigating as part of continuous improvement. However, with respect to the capital plan currently before the OEB, it is important to recognize that (1) these additional modifier variables are not necessary (and in a number of cases are not appropriate) to develop accurate Health Score calculations;[521] and (2) there is no evidence to suggest that the inclusion of these factors would drive significantly different (i.e. healthier or more deteriorated) Health Scores across an asset population.

454. Various parties have noted that the Health Index component of CNAIM/CBRM consists of both a Health Score element and a Probability of Failure element, and that Toronto Hydro has yet to develop the capability of converting the Health Score of an asset into a Probability of Failure.[522] Toronto Hydro agrees with parties that this incremental capability can be of significant value and the utility intends to pursue this function as part of continuous improvement. However, as with the additional modifier variables discussed above, the ability to generate an asset's Probability of Failure from its Health Score is irrelevant to the production of accurate ACA results. The Health Scores themselves are the ACA results.

455. Parties also noted that, in assessing Toronto Hydro's implementation of Health Score models for various asset classes, EA Technology offered certain recommendations regarding the utility's asset useful lives. The two main recommendations cited by parties are: (1) to consider breaking asset classes into more granular categories based on type, manufacturer, etc. for the purpose of assigning more granular useful lives (where appropriate); and (2) to consider undertaking a review of the useful lives to ensure accuracy.

456. Toronto Hydro notes that, while EA Technology offered certain observations and guidance regarding the need for ongoing calibration of asset useful lives, this guidance was offered in the context of EA Technology's asset condition assessment

[520] Note that the variables in question were not part of Toronto Hydro's Old Kinectrics Methodology.
[521] 2B-SEC-44, Appendix X at pages 12, 45-46.
[522] OEB Staff Submission at page 71; AMPCO Submission at page 16; SEC Submission at pages 41-42; VECC Submission at page 16.

work and was not based on a specific and detailed review of the utility's asset useful lives.

457. As Toronto Hydro's General Manager of Engineering noted at the hearing, while the utility recognizes the value of reviewing its asset useful lives, this is a major undertaking for which "*considerable data is required*," and it would not have been feasible to complete in the lead-up to this application.[523] And as the Manager of Engineering Services noted in her testimony, Toronto Hydro intends to update its useful lives in the future and will also explore opportunities to gather more granular information where appropriate as part of continuous improvement efforts.[524]

458. Toronto Hydro disagrees with SEC's speculation that "*age related information from ten years ago is outdated, and could be materially different*."[525] The utility also disagrees with AMPCO's speculation that "*until Toronto Hydro reality checks its failure projections against recent failure history and recalibrates, more assets than necessary may be identified for replacement*."[526] The fact is, neither of these assertions is supported by evidence and neither AMPCO nor SEC have any relevant expertise on which to make such an assessment.

459. The assets on Toronto Hydro's system typically last for decades. While it is true, as SEC noted, that Toronto Hydro has made significant investments in the years since the 2009 Kinectrics Useful Lives study on which the utility continues to rely, Toronto Hydro does not agree that its asset base will have changed so significantly in this period as to cause a drastic change in the typical useful lives of its various asset classes. Furthermore, this issue is of questionable relevance, given that Toronto Hydro continues to invest in what are demonstrably the oldest, most deteriorated, unreliable, and obsolete assets. The underlying characteristics of these assets are no different than they were when Toronto Hydro first embarked on this renewal cycle over a decade ago, and therefore would not, as a subset of the population, be influenced by changes in the broader population of assets cited by SEC. Finally, it should also be noted that, while Toronto Hydro has not undertaken a full review of its useful lives, the utility has already refined useful life values to better match its experience with certain assets.[527]

460. Toronto Hydro submits that its useful lives, based on the 2009 Kinectrics study, continue to be appropriate. In the absence of empirical evidence from intervenors

[523] OH Volume 3 (July 3, 2019) at page 140.
[524] 2B-SEC-44 at pages 6-7.
[525] SEC Submission at page 43.
[526] AMPCO Submission at page 25.
[527] Exhibit 2B, Section D, Appendix C at page 12, lines 30-31.

or experts in this proceeding contradicting the accuracy of Toronto Hydro's asset useful lives, Toronto Hydro respectfully submits that there is simply no basis for the OEB to reasonably conclude that an updated study would results in the identification of more or fewer assets for replacement.

461. EA Technology reviewed Toronto Hydro's various Health Score models and provided direction and feedback that the utility used to revise and improve the models.[528] Upon final review, EA Technology concluded that Toronto Hydro's ACA models "*are consistent with the underlying objectives and principles of CNAIM methodology*" and that – regarding some of the factors mentioned above (e.g. useful lives calibration; location factors) it is a natural process for models to be incrementally improved over time.[529]

Question 3: Has Toronto Hydro sufficiently tested its implementation of the Health Index?

462. SEC stated that *"a surprising feature of Toronto Hydro's implementation of the new ACA model is that there is no evidence that it did any back testing of its accuracy. By that, SEC means that Toronto Hydro did not utilize data it had collected and used for the previous methodology to see how the results fared against what it saw in the field by way of actual failures."*[530] The evidence is plainly to the contrary. Toronto Hydro's response to undertaking JTC1.16 exactly fits SEC's definition of "back testing" (which is in effect a form of accuracy validation) and proves that the results of the CNAIM approach are superior in accuracy to the previous methodology.

463. As SEC, AMPCO, OEB Staff and others have noted, the CNAIM/CBRM model has resulted in there being a greater number of assets in the worst two condition bands when compared to the Old Kinectrics Methodology.[531] As the back testing example mentioned above illustrates, this is simply the expected result of moving from a methodology that systemically understated the deterioration of the assets to one that does not. Put another way, the number of assets in the worst two condition bands have gotten higher because the methodology that Toronto Hydro is using is more accurate and therefore more representative of the probability of failure of the assets in question.

[528] Exhibit 2B, Section D, Appendix C at page 8, lines 26-30; 2B-SEC-44(d) and Appendices A-Y.
[529] 2B-SEC-44, Appendix A at pages 3 and 4.
[530] SEC Submission at page 43.
[531] OEB Staff Submission at page 73; AMPCO Submission at page 11; SEC Submission at page 48.

464. AMPCO argued that, as a consequence of transitioning to a new ACA between the previous application and this one, Toronto Hydro was only able to provide one year of ACA data (under the new methodology). AMPCO characterized this as a "*static view*," and goes on to speculate that the OEB would need several years of data under the CNAIM to be able to adequately rely on the results.[532] Toronto Hydro disagrees.

465. AMPCO's assertion that Toronto Hydro's ACA evidence provides a "static" one-year view of asset condition is wrong for two reasons. The first is that, as part of the interrogatories following the Application Update, the utility provided an additional year of Current Health Scores using the new methodology.[533] The second is that AMPCO inexplicably ignores the Future Health Scores component of CNAIM/CBRM, which Toronto Hydro has implemented with EA Technology's independent validation. The Future Health Scores, combined with the Current Health Scores, provide a dynamic, forward-looking view of system health over the 2018-2024 period that, as far as Toronto Hydro is aware, is unprecedented in the Ontario sector. As discussed later in this argument, Toronto Hydro has used these two views to calibrate (where applicable) the pacing of its System Renewal investments, and in many instances has chosen a demonstrably conservative pacing relative to the ACA results.

Parties' positions that Toronto Hydro's new ACA methodology "subordinates condition to age" are incorrect.

466. SEC and Mr. Hann claimed that the CNAIM/CBRM methodology is not appropriate as it relies too much on age rather than condition. These views are incorrect and are contradicted by evidence regarding best practices.

467. SEC's claims that the CNAIM methodology is age-centric and that it "*subordinates condition to asset age*"[534] are not accurate. As with the Old Kinectrics Methodology, age is an input to the calculation, [535] and condition is used appropriately to modify the effective age of the asset.[536] The use of asset age in the CNAIM/CBRM approach in no way results in condition being treated as less important. In fact, as Toronto Hydro made clear, while the initial health score is dependent on age as one input, that score is capped at a value of 5.5 (i.e. HI3), so

[532] AMPCO Submission at page 16.
[533] U-AMPCO-114(c), Table 1.
[534] SEC Submission at page 48.
[535] 2B-AMPCO-42, Appendix A at page 5 (Kinectrics 2014 ACA Audit).
[536] As noted by AMPCO in its interrogatory 2B-AMPCO-40(d), "On page 43 of the report, Vanry states "*All four utilities use health to modify effective age which is appropriate*."

no matter how old or highly used an asset is it cannot be assigned a higher Current Health Score (i.e. HI4 or HI5) without supporting condition information.[537]

468. Mr. Hann claimed that "*the age [sic] ACA model is based on age rather than condition*."[538] Toronto Hydro is unable to parse Mr. Hann's related assertions, and, regardless, the evidence cited in support of his position appears to be completely unrelated to asset condition assessment. Toronto Hydro submits that Mr. Hann's arguments on this issue appear to be irrelevant and should be rejected.

469. On the issue of age and its role in best practice ACA approaches, Mr. Morris' expert testimony was that using age as one of the inputs for assessing the probability of failure (as is done within the CNAIM) is consistent with best practices:

a) "… [assets] tend to approach end of life and have a higher probability of failure with age. So best practice technologies used age as a basis, saying that if we didn't know anything else about the assets but their age, we could make an assumption of what the actual probability of failure is."[539]

b) "What best practice methodologies do then is they don't just take age. They say as we know more about the asset we can look at that, we can adjust that failure curve […] we might move along the failure curve as we know information about the condition. We might move further along and say even though this asset is 20 years old, it looks like a 30-year old asset because of this condition aspect […] the CNAIM methodology is really a construct that allows you to do these pieces."[540]

Toronto Hydro's ACA supports the need for a large, sustained renewal program.

470. In the sections above, Toronto Hydro explained why the OEB should reject OEB Staff and intervenor arguments that the utility's ACA methodology cannot be relied upon. In the section that follows, Toronto Hydro explains why the various parties' submissions on the actual results of the ACA are equally flawed and should be rejected.

471. AMPCO and SEC argued that Toronto Hydro's proposed pace of asset replacement across the System Renewal program exceeds what is justified by the ACA. AMPCO

[537] Exhibit 2B, Section D, Appendix C at page 17; 2B-PWU-5 at page 2.
[538] ND Hann Submission at page 11.
[539] OH Volume 9 (July 12, 2019) at pages 41-42.
[540] OH Volume 9 (July 12, 2019) at pages 42-43.

posited that "the level of asset replacement proposed […] is not validated by any ACA."[541] SEC shares a similar view.[542] Both parties are incorrect.

472. In evaluating the relationship between the ACA and asset replacement levels, Toronto Hydro submits that it is of the utmost importance to consider all of the salient information provided in the DSP. AMPCO and SEC's positions suggest a failure to fully and properly assess the multifaceted DSP evidence, which leads to false conclusions about the renewal program. A clear example of this is found in AMPCO's assertion that the number of assets proposed for replacement in 2020-2024 ("25,349") greatly exceeds the number of assets (currently) in HI4 and HI5 (13,606). A correct reading of the evidence shows that, if anything, the opposite is true.

473. AMPCO's observation has three significant problems:

a) The first problem is that AMPCO cites an asset replacement count ("25,349") that includes data from two asset classes for which Toronto Hydro does not compute or rely upon Health Scores (i.e. 6,700 pole top transformers and 519 km of cable). If AMPCO wishes to make a comparison between replacement units and asset condition demographics, then including assets for which Toronto Hydro does not have or rely on condition data is an error. Subtracting these amounts produces a more appropriate figure of 18,340 assets (with Health Scores) to be replaced in 2020-2024.

b) The second problem is that AMPCO, once again, and without explanation, focuses exclusively on the Current Health Scores, ignoring the Future Health Score projections. These projections show that an *additional* 25,525 assets are expected to become HI4 or HI5 by 2024.[543] This figure far *exceeds* the 18,340 assets (with Health Scores) that Toronto Hydro expects to replace on a planned basis in the 2020-2024 period.

c) The third problem is the fact that AMPCO's simplistic comparison of replacement volumes versus ACA volumes completely ignores the other legitimate factors that drive the replacement of assets that are *not* in HI4/HI5 condition, e.g. PCB contamination in underground transformers,

[541] AMPCO Submission at page 15.
[542] SEC Submission at page 44.
[543] This is the difference between the total number of HI4 and HI5 assets based on Future and Current Health Scores as taken from Tables 2 and 3 in Exhibit 2B, Section D, Appendix C, at pages 10-11 (tables also provided as Excel files in 2B-AMPCO-48, Appendix A and 2B-AMPCO-49, Appendix A). To enable a fair comparison, assets for which planned replacement numbers for 2020-2024 have not been provided have been excluded here.

flooding risk in network units, and equipment replacements required to bring 4 kV feeders up to standard voltages (e.g. Box Construction Conversion projects). If AMPCO had considered these factors, it would have recognized its error in assuming that all of the planned replacements in 2020-2024 will address HI4/HI5 assets. This is simply unrealistic.

474. SEC's argument that "Toronto Hydro simply ignores the results [of the ACA] when it believes the information populating the model, or the results of the model lead to insufficiently high rates of asset replacement" is similarly disconnected from the evidence.[544] SEC cited two examples to support its case: underground transformers and padmount switches.[545] SEC compared the number of units that Toronto Hydro plans to replace in these classes (in 2020-2024) to the number of HI4/HI5 units the utility would need to replace, on a forecast basis, to maintain the volume of HI4/HI5 assets in service by 2024.[546]

475. Note that SEC, like AMPCO, unreasonably assumes that every unit replaced will be in HI4 or HI5 condition. Through this skewed lens, it does appear that Toronto Hydro plans to replace more units than necessary to strictly maintain condition in the two asset categories cited. However, even if one is to rely on this flawed analysis (and Toronto Hydro submits the OEB should not), one finds that the two asset classes referenced by SEC are the *only* categories in which the 2020-2024 replacement volumes are greater than the volume of assets moving into HI4 and HI5 by 2024. This is demonstrated in the table below, which is a compilation of evidence already provided, presented in the comparative manner used in SEC's argument.

[544] SEC Submission at page 46.
[545] SEC Submission at page 46.
[546] SEC Submission at pages 44-45.

Table 4: Asset Replacements (2020-2024) vs. Projected Increase in HI4/HI5 Assets[547]

	Column A	*Column B*	*Column C = A - B*
Asset Classes with Health Scores	**2020-2024 Replacements**	**Projected Increase in HI4/HI5 Assets by 2024 Without Investment**	**Difference Between Columns A and B**
Wood Pole	15,590	22,322	**(6,732)**
4kV Oil Circuit Breaker (MS)	52	121	**(69)**
KSO Circuit Breakers (TS)	9	11	**(2)**
SF6 Circuit Breakers (TS)	-	20	**(20)**
Vacuum Circuit Breaker (MS & TS)	-	54	**(54)**
Air Magnetic Circuit Breaker (MS & TS)	15	280	**(265)**
Airblast Circuit Breaker (MS & TS)	49	194	**(145)**
Station Power Transformers	10	63	**(53)**
Network Transformers	200	200	**0**
Cable Chambers	210	318	**(108)**
Network Vaults	33	74	**(41)**
UG Transformers (Sub., Vault, Padmount)	1,941	1,331	**610**
Padmount Switches (Air, SF6)	231	78	**153**
Total	**18,340**	**25,525**	**(7,185)**

476. As the table above plainly illustrates, the number of planned replacements in 2020-2024 is *lower* than the projected increase in HI4/HI5 assets in every asset class except underground transformers and switches. In other words, it appears that SEC has cherry-picked two data points (from a flawed analysis) to support false conclusions that (i) Toronto Hydro never replaces fewer assets than the model would dictate and (ii) is often replacing more assets than the model dictates.[548]

477. OEB Staff made similar observations regarding underground transformers and padmount switches. However, to Staff's credit, their argument regarding "overstatement" of capital need (which Toronto Hydro rejects) is at least appropriately limited to the relevant capital program, i.e. the Underground System Renewal – Horseshoe program. (Toronto Hydro addresses arguments related to this

[547] Projected increase in HI4/HI5 Assets values were calculated by taking the difference between the total HI4+HI5 assets based on Future and Current Health Scores as taken from Tables 2 and 3 in Exhibit 2B, Section D, Appendix C, at pages 10-11 (tables also provided as Excel files in 2B-AMPCO-48, Appendix A and 2B-AMPCO-49, Appendix A). 2020-2024 replacements were based on summing the 2020 to 2024 values provided in U-AMPCO-132, Appendix A and Exhibit 2B, Section E6.3 at page 29, Table 10 (for Cable Chambers only, excludes lid replacements). Only asset classes for which both replacement numbers and condition data is available are included and some categories (e.g. underground transformers) have been grouped together, where necessary.

[548] SEC Submission at page 46.

program in later sections of this reply.) Unlike SEC and AMPCO, OEB Staff did not attempt to build similar arguments against other programs, perhaps because they are aware that the results summarized in the table above would not support such arguments.

478. Toronto Hydro notes that, in Table 4 provided above, it actually appears as if the 2020-2024 DSP involves significant *underinvestment* in a majority of asset classes (this is PWU's concern and is the opposite of AMPCO and SEC's concerns), which, if true, would cut against the utility's objective of approximately maintaining the number of HI4/HI5 assets. The primary reason for the apparent deficits is that the table above (which simply follows the structure of analysis that OEB Staff and SEC included in their arguments) inappropriately excludes 2018 and 2019 asset replacements. When the 2018 and 2019 replacements are included, the replacement deficits shrink.[549]

479. Overall, when 2018 and 2019 asset replacements are appropriately included in the comparison, the result is four asset classes for which Toronto Hydro is planning to replace somewhat more than the projected increase in HI4/HI5 assets, and nine asset classes where the utility is planning to replace somewhat less. This is illustrated in the table below:

[549] The reason 2018 and 2019 replacements should be included is because the baseline Current Health Score data referenced by OEB Staff and intervenors is current as of early 2018.

Table 5: Asset Replacements (2018-2024) vs. Projected Increase in HI4/HI5 Assets[550]

	Column A	*Column B*	*Column C = A - B*
Asset Classes with Health Scores	**2018-2024 Replacements**	**Projected Increase in HI4/HI5 Assets by 2024 Without Investment**	**Difference Between Columns A and B**
Wood Pole	20,076	22,322	**(2,246)**
4kV Oil Circuit Breaker (MS)	70	121	**(51)**
KSO Circuit Breakers (TS)	24	11	**13**
SF6 Circuit Breakers (TS)	-	20	**(20)**
Vacuum Circuit Breaker (MS & TS)	-	54	**(54)**
Air Magnetic Circuit Breaker (MS & TS)	15	280	**(265)**
Airblast Circuit Breaker (MS & TS)	82	194	**(112)**
Station Power Transformers	18	63	**(45)**
Network Transformers	229	200	**29**
Cable Chambers	210	318	**(108)**
Network Vaults	62	74	**(12)**
UG Transformers (Sub., Vault, Padmount)	2,456	1,331	**1,125**
Padmount Switches (Air, SF6)	298	77	**221**
Total	**23,540**	**25,525**	**(1,985)**

480. As the above table shows, in total, Toronto Hydro expects to replace, on a planned basis, approximately 2,000 fewer assets than are projected to become HI4/HI5 by 2024. In reality, this gap is wider because, as explained above, not every asset replaced will be in HI4 or HI5 condition. At the same time, the gap will be offset somewhat by unplanned replacements within the Reactive Capital program.[551]

481. On balance, it is clear from the evidence above (and the program-specific discussions that follow below) that Toronto Hydro's System Renewal plan is firmly rooted in the ACA where applicable, and, contrary to the unsupported assertions of AMPCO and SEC, is clearly calibrated to generally maintain the number of assets in HI4 and HI5 condition on a forecast basis.

[550] Projected increase in HI4/HI5 Assets values calculated as noted for Table 5. 2018-2024 replacements were based on summing the 2018 to 2024 values provided in U-AMPCO-132, Appendix A and Exhibit 2B, Section E6.3 at page 29, Table 10 (for Cable Chambers only, excludes lid replacements). Only asset classes for which both replacement numbers and condition data is available are included and some categories (e.g. underground transformers) have been grouped together, where necessary.
[551] Note that a portion of these replacements will address equipment that fails while having a Health Score in the HI1, HI2, or HI3 bands).

Toronto Hydro's detailed evidence fully supports the planned level of expenditures in the Underground System Renewal – Horseshoe program.

482. OEB Staff, AMPCO, and SEC submitted that Toronto Hydro's capital need in the Underground System Renewal – Horseshoe ("Underground Horseshoe") program is overstated.[552] However, all three parties' positions depend on incomplete analysis of the program drivers and their relationship to the utility's environmental and reliability objectives for 2020-2024.

483. All three parties focused on the fact that Toronto Hydro plans to replace more underground transformers and padmount switches than is strictly necessary to maintain HI4/HI5 condition during the period. Despite the flawed analysis (discussed above) that led to this conclusion, Toronto Hydro does not dispute the general observation that the replacement volumes for these assets exceed the number of assets projected to move into HI4/HI5 by 2024. However, this is beside the point. Toronto Hydro's investment strategies for these two asset classes are tied not only to condition, but to other risks and objectives that are unique to the underground radial distribution system in the Horseshoe area. Once these drivers are accounted for, it becomes apparent that the pace of replacement for these assets is, in fact, restrained.

484. For instance, a key driver of the pace of underground transformer replacement is the presence of equipment containing or at risk of containing PCBs.[553] OEB Staff and intervenors do not dispute that PCB risk mitigation is a legitimate need. Rather, their argument is that replacing PCB at-risk transformers should not drive investment levels significantly beyond what is necessary to maintain HI4/HI5 condition. This is an incorrect conclusion based on a faulty analysis.

485. By 2020, Toronto Hydro expects there to be 1,458 underground transformers containing or at risk of containing PCBs in the Horseshoe area.[554] All of these transformers will be at or beyond their mean useful life of 33 to 35 years.[555] OEB Staff and SEC point out that Toronto Hydro would need to replace 1,179 HI4 and HI5 transformers to maintain the number of HI4/HI5 units as of 2024, and that the utility's proposed replacement volume of 1,941 exceeds this figure as well as the 1,458 PCB at-risk transformers. From here, both parties make a significant leap in logic, arguing that, because PCB at-risk transformers are older, they are "very likely"

[552] OEB Staff Submission at pages 75-77; AMPCO Submission at page 26; SEC Submission at pages 44-46.
[553] Exhibit 2B, Section E6.2 at page 3, lines 14-18; OH Volume 3 (July 3, 2019) at page 31, lines 5-9.
[554] Exhibit 2B, Section E6.2 at page 20, lines 2-3.
[555] Exhibit 2B, Section D2 at page 14, line 14-17; Exhibit 2B, Section E6.2 at page 5, Table 4.

to be HI4/HI5 condition assets, implying that any replacements beyond the 1,458 PCB at-risk transformers are suspect. This is an unreasonable conclusion.

486. Specifically, it is unreasonable to assume that every PCB at-risk transformer replaced will be an HI4/HI5 asset. As noted in Toronto Hydro's response to interrogatory 2B-AMPCO-27, the only asset types where a majority of units are both past their mean useful life *and* in HI4 or HI5 condition are KSO oil circuit breakers and underground vaults. This means that *at least* 50% of the PCB at-risk transformers are in HI1 to HI3 condition bands, which in turn means that a *minimum* of 729 PCB at-risk transformers (i.e. 50% of 1,458) must be replaced in addition to the 1,179 HI4/HI5 transformers that would need to be replaced to maintain HI4/HI5 volumes as of 2024. (This brings the total to a minimum of 1,908 transformers that need to be replaced.) Recognizing that the 729 figure could in reality be higher, and accounting for the fact that a number of non-HI4/HI5 transformers will be replaced to achieve the full lifecycle cost and performance benefits of area rebuild projects, it becomes apparent that, if anything, the planned volume of 1,941 transformer replacements is a demonstrably *restrained* pace of renewal. At the very least, it cannot in any sense be characterized as an overstatement of need.

487. SEC noted in passing the fact that PCB oil contamination is not a condition data variable in the ACA methodology. In SEC's view, this is a "red flag" regarding the methodology.[556] With respect, this is simply wrong. PCB oil contamination represents a *consequence* of failure; it is not related to the *probability* of failure. Therefore, it is a variable that would be appropriately captured in a Criticality Index – not a Health Index.

488. This concept of criticality (i.e. consequence of failure) is a significant gap in OEB Staff and SEC analyses regarding the volume of padmount switch replacements. Both parties argue that Toronto Hydro is inappropriately planning to replace more units than is necessary to maintain HI4/HI5 volumes over the period.[557] For switches, there is no incremental PCB driver; but as Toronto Hydro's pre-filed evidence clearly demonstrates, due to their critical importance on the main "trunk" sections of feeders, padmount switches cause some of the highest *impact* failures on the radial system from a reliability perspective.[558] (The "flash over" failure mode I also a potential public and employee safety risk.)

[556] SEC Submission at page 45.
[557] OEB Staff Submission at pages 76-77; SEC Submission at pages 45-46.
[558] Exhibit 2B, Section E6.2 at page 22, lines 8-15.

489. Despite these significant risks, Toronto Hydro's restrained approach to underground renewal avoids the replacement of padmount switches on an individual ("spot") basis during the 2020-2024 period (except on an unplanned basis when units fail). Toronto Hydro only intends to replace switches on a planned basis as part of higher-value, reliability-driven area rebuild projects, which themselves are triggered by direct-buried cable failure risks. These projects are a good example of the coordinated renewal work that is necessary for Toronto Hydro to not only maintain system average reliability, but ensure it can meet its objective of improving reliability for customers experiencing below average service (e.g. customers on "FESI-7" feeders). When Toronto Hydro encounters high criticality padmount switches in an area with significant direct-buried cable risks, the utility will, where appropriate, include switches that may be in better condition than HI4/HI5 in order to ensure the delivery of sustainable long-term reliability benefits for customers in the neighbourhood (and lower overall lifecycle costs for all rate-payers).[559] The OEB has evaluated this approach in past applications and has found it to be appropriate.[560]

490. Toronto Hydro also notes that of the 69 underground feeders it plans to do area rebuild work on in 2020-2024, 11 are legacy 4 kV feeders. For design purposes, every asset (including all padmount switches and underground transformers) on a 4 kV feeder must be rebuilt to the higher voltage standard, regardless of the Health Scores of the assets.[561]

491. Toronto Hydro submits that, for the reasons noted above, the pace of padmount switch replacement in the 2020-2024 plan is reasonable and appropriate in light of the utility's reliability objectives.

492. Finally, AMPCO also argued that, based on Toronto Hydro's reliability improvements on the underground system in 2015-2019, "an accelerated renewal pace is not justified."[562] However, Toronto Hydro is *not* proposing to accelerate its pace of underground renewal in the Horseshoe over 2020-2024. While Toronto Hydro is seeking a nine percent increase in expenditures in the program, this is the result of the incremental need to achieve short-term PCB-related objectives on top of the typical longer-term reliability objectives of the program. In fact, between its initial

[559] Toronto Hydro uses its Feeder Investment Model to evaluate whether there is sufficient net benefit of including assets that have a lower probability of failure in area rebuild projects. For an example of this type of business case evaluation, please refer to the Quantification/Evaluation of Options subsection for the Underground Circuit Renewal program in the 2015 application (EB-2014-0116, Exhibit 2B, Section E6.1.6 at pages 44-45).
[560] EB-2012-0064, Partial Decision and Order (April 2, 2013) at pages 24, 27.
[561] OH Volume 1 (June 27, 2019) at pages 142-143.
[562] AMPCO Submission at page 26.

and penultimate capital plans, and in response to customer engagement, Toronto Hydro reduced the Horseshoe program by $150 million.[563] The utility's final plan includes a volume of direct-buried cable replacement in 2020-2024 that is over 50 percent reduced from the volumes in 2015-2019.[564] Direct-buried cable is the single biggest contributor to defective equipment outages on the entire distribution system. Toronto Hydro submits that this too is evidence of deliberate restraint as opposed to an "overstatement" of need.

493. In light of the points above, Toronto Hydro submits that OEB Staff, SEC and AMPCO's assertions (supported by Energy Probe) that the needs in the Underground System Renewal – Horseshoe program are overstated are unreasonable and unsupported by the evidence. Toronto Hydro further submits that, as the evidence clearly demonstrates, any reductions to the planned expenditures in this program will materially jeopardize the utility's ability to (1) manage poor performing feeders, primarily in the Scarborough area; (2) minimize customer disruptions through coordinated area rebuilds; (3) prevent PCB contaminated oil spills in residential and commercial areas; and (4) enable efficient and cost-effective customer connections by converting end-of-life 4 kV circuits.[565] Therefore, the parties' criticisms should be rejected.

Toronto Hydro's detailed evidence fully supports the planned level of expenditures in the Overhead System Renewal program.

494. AMPCO submitted that Toronto Hydro's Overhead System Renewal program is also overstated. Mr. Hann raised concerns about Vegetation Management that suggest that he too believes the program needs could be overstated. However, both parties rely on flawed analysis and, in Mr. Hann's case, unsubstantiated claims about the program and its drivers.

495. AMPCO relies on assertions for Overhead System Renewal that are similar to its unsupported assertions Underground System Renewal. AMPCO pointed to current health demographics and historical reliability performance to claim that the pacing of the Overhead System Renewal program is also too high.[566] With respect, these conclusions are equally incorrect and invalid when applied to overhead assets as

[563] 2B-Staff-73(a)
[564] U-AMPCO-130, Appendix A.
[565] Exhibit 2B, Section E6.2.
[566] AMPCO Submission at pages 26-27.

they are when applied to underground assets (the reasons are discussed directly above, and below).

496. Regarding asset condition, AMPCO submitted that "the total quantity of assets proposed are beyond those that are in the HI4 and HI5 categories" noting that Toronto Hydro is proposing to replace 18,940 assets.[567] As described below, this analysis is flawed and AMPCO's assertion is directly contradicted by the evidence.

497. The first error in AMPCO's assertion is that more than a third of the 18,940 assets Toronto Hydro plans to replace are pole top transformers for which the utility does not compute or rely upon Health Scores.[568] Toronto Hydro instead uses visual and infrared inspection information from line patrols as well as age-based probability of failure to determine whether a pole-top transformer should be replaced reactively or as part of an area rebuild. While Toronto Hydro does not normally replace pole top transformers on an individual ("spot") basis, in the 2020-2024 period, the most important driver for the majority of the overhead transformer replacements is the need to remove assets containing or at risk of containing PCBs, which drives an overall increase in transformer replacements, including spot replacements.[569] Of the 6,700 overhead transformers proposed for replacement in this program, approximately 5,200 contain or are at risk of containing PCBs.[570] The remaining overhead transformers (i.e. those not at risk of containing PCBs), and all of the overhead switches proposed for replacement will be replaced only as part of area rebuilds (including voltage conversions) to improve efficiency and reduce outages to customers now and in the long-term.[571] Areas targeted will be those with poor reliability and high concentrations of assets in deteriorated condition and PCB at-risk transformers.[572]

498. AMPCO's second error is that, contrary to their assertion, the health demographics clearly support the proposed pace of wood pole replacement, and in fact show that the pace is constrained relative to the need indicated by those demographics. Specifically, by 2024, Toronto Hydro projects an additional 22,322 wood poles to

[567] AMPCO Submission at pages 26- 27.
[568] The current pole top transformer inspection program does not provide substantial enough data to form the basis of a complete ACA but Toronto Hydro is exploring the possibility of leveraging loading and location information to develop one (Exhibit 2B, Section D, Appendix C at page 12, lines 3-7; 2B-Staff-71(b)).
[569] Exhibit 2B, Section D3.1.2 at page 13, Table 2.
[570] As noted in Exhibit 2B, Section E6.5 at page 11, lines 6-11, there were approximately 6,400 PCB at-risk overhead transformers as of the end of 2017 and the other 1,200 are expected to be replaced as part of 2015-2019 replacements or through other capital programs in 2020-2024.
[571] Exhibit 2B, Section D3 at page 13, Table 2; Exhibit 2B, Section E6.5 at page 19.
[572] Exhibit 2B, Section E6.5 at pages 2, 19.

exhibit, at a minimum, material deterioration (i.e. be in HI4 or HI5).[573] Despite this, Toronto Hydro is only proposing to replace 11,530 poles in the Overhead System Renewal program during the 2020-2024 period.[574] Even when replacements in 2018-2019 and in all other planned programs are added to the total, Toronto Hydro is still only projecting about 20,000 pole replacements by 2024 – over 2,000 wood poles less than what the condition data supports.[575] Toronto Hydro expects to replace additional poles reactively, but even with those reactive replacements factored in, the utility expects the combined total of wood poles replaced by 2024 to be less than or equal to the total wood poles moving into HI4 and HI5.[576] As such, this is demonstrably not an "overstated" plan.

499. Finally, AMPCO submitted that the proposed Overhead System Renewal expenditures are not justified because reliability has improved. However, AMPCO's conclusion relies on an invalid comparison of data. Specifically, AMPCO draws this conclusion by comparing the single most recent year of reliability results (2018) to a five-year average (2013-2017). It is well established that annual reliability statistics are inherently volatile, and it is more valuable to look at multi-year averages. This is consistent with generally accepted utility practice, and is reflected in the Board's approach to measuring reliability performance based on five-year rolling averages of SAIDI and SAIFI rather than by individual years.[577] It is also consistent with reality: in certain years, one-off events or anomalous performance can occur that drives temporary aberrations from overall system trends. For example, Toronto Hydro notes that in 2018, SAIFI benefited from its best performance in the last 15 years for the cause code of lightning, which is outside the utility's control. Furthermore, within the Defective Equipment cause code, contributions from assets such as non-direct buried cables, overhead insulators, and poles were lower than expected and Toronto Hydro considers these to be anomalies.[578]

500. Regardless, system reliability trends are complex and do not lend themselves to inductive reasoning: past performance is not predictive of future performance.[579] Similarly, past cost drivers are not predictive of future cost drivers. Much like the underground program discussed above, while a number of historical investment drivers persist, others are emerging. For example, the need to replace PCB at-risk

[573] Exhibit 2B, Section D, Appendix C, at pages 10-11, Tables 2 and 3; Exhibit K3.2 at page 3.
[574] U-AMPCO-130, Appendix A.
[575] Refer to Table 2 of this Reply
[576] Based on 2B-AMPCO-62(d), the average annual number of poles replaced reactively over 2015-2018 was 219.5, which over 5 years would be approximately 1,100 poles.
[577] EB-2014-0189, Electricity Distribution System Reliability Measures and Expectations (August 25, 2015) at pages 1, 13.
[578] U-EP-64(a) at page 2, lines 19-25
[579] Refer to reliability discussion beginning on page 120 above.

transformers on the overhead system drives a significant share of the Overhead System Renewal budget, to the point where the share of investment driven by high-impact reliability investments is actually lower in 2020-2024 than it was in 2015-2019.[580]

501. Mr. Hann asserted, without evidence, that Toronto Hydro's primary strategy for addressing tree contact risk is to install taller poles. This is false. He also seems to assert that this strategy is motivated by a desire to "reap the revenue from the increased asset base".[581] This is a baseless claim and a gross mischaracterization of Toronto Hydro's motives and approach to this issue.

502. Toronto Hydro has not once stated that pole replacements are triggered by tree contacts, and there is no capital program for which vegetation management is a driver. Rather, what Toronto Hydro has noted is that, as it rebuilds overhead lines that are in poor condition and at risk of failure, the utility may install taller poles along with tree-proof conductor and breakaway links for secondary connections.[582] All of this is intended to improve system resiliency in light of the specific environmental conditions for assets that are expected to be in service for decades. These standards have been independently reviewed by PSE, who concluded that they are consistent with what is seen in the industry.[583]

503. Contrary to Mr. Hann's misperceptions, Toronto Hydro's primary program for addressing tree contacts is the Vegetation Management segment of its Preventative and Predictive Overhead Line Maintenance OM&A program, which is expected to trim more than 50,000 trees annually.[584] While it may be tempting to assume that Toronto Hydro could simply do more tree trimming and thus reduce its capital spending, the reality is not that simple. As noted in 4A-Staf-109, Toronto Hydro would not expected increased spending on Vegetation Management to have a material impact on capital spending as the trigger drivers for each capital program are ultimately unrelated to managing tree contacts. This is the case even for the capital program that relates most to vegetation management, Overhead System Renewal, which is driven by a need to manage the overall condition of assets and risks related to PCBs and oil leaks, none of which can be addressed through tree trimming.[585] In addition, Toronto Hydro's vegetation management practices must

[580] U-EP-64 at pages 5-7; OH Volume 1 (June 27, 2019), at pages 41-42.
[581] ND Hann Submission at page 7.
[582] Exhibit 2B, Section D2 at pages 7-8.
[583] Exhibit 2B, Section D, Appendix B; J4.7 at page 2, lines 7-11.
[584] Exhibit 4A, Tab 2, Schedule 1; 4A-SEC-77 at page 1.
[585] 1B-Staff-109(b); Exhibit 2B, Section E6.5.

consider community acceptance and City policy, which includes a mandate to grow the tree canopy.[586] This is Toronto Hydro's operational reality. The utility submits that it has appropriately optimized its capital and OM&A programs to deal cost-effectively with these drivers.

504. Finally, Mr. Hann also seems to be suggesting that, despite evidence to the contrary,[587] trees may be a worse problem than defective equipment for Toronto Hydro's system and that this is being masked by Toronto Hydro's root cause of failure analysis. Toronto Hydro is unclear as to what exactly is the basis of this belief. It appears to involve vague assumptions regarding the location of outages and a perceived (but unsubstantiated) lack of training and consistency around Toronto Hydro's root cause failure analysis.[588] These claims should be ignored as they are not supported by any evidence.

Toronto Hydro's detailed evidence fully supports the planned level of expenditures in the Area Conversions program.

505. OEB Staff argued that Toronto Hydro's Rear Lot Conversions segment of the Area Conversions program should be reduced by approximately $20 million on the basis that the cost per customer value used to generate the program forecast is overstated.[589] In support of this argument, OEB Staff offers an alternative analysis that is not supported by the evidence and Toronto Hydro submits should be rejected.

506. Toronto Hydro used a $0.036 million cost per customer value as the base unit for estimating the total cost of the Rear Lot Conversion projects it plans to execute in 2020-2024. The utility appropriately derived this value based on its professional expertise and detailed knowledge of the actual projects completed historically (including knowledge of whether each specific project would be more or less predictive of the costs of the projects forecasted in the 2020-2024 DSP).

507. OEB Staff's basic concern is that Toronto Hydro's approach involved selecting a subset of representative projects (based on expertise and analysis) to derive the cost per customer value rather than – in OEB Staff's alternative – simply dividing the

[586] Exhibit 2B, Section E6.1 at page 27, lines 27-29; Exhibit 2B, Section E7.2 at page 15, lines 21-23.
[587] For example, tree contacts contribute approximately 10 percent to both SAIFI and SAIDI while defective equipment contributes approximately 40 percent (4A-Staff-109 at page 2, lines 10-13).
[588] Toronto Hydro has in fact shown in its response to undertaking J6.8 that it has a well-documented Equipment Failure Analysis program procedure and that the engineers involved undergo specific training and job shadowing to learn the procedure, tools, and training required.
[589] OEB Staff Submission at page 82.

total costs in the 2015-2019 period by the total number of customers converted.[590] This 'simple division' approach produces a figure of $0.0255 million (which OEB Staff admits is likely understated).[591]

508. As Toronto Hydro has explained in evidence, the simple division approach is unacceptable because it fails to account for the complex, varied, multi-phase, and multi-year nature of historical and future rear lot conversion work. A key example of this complexity is that, in rear lot conversion projects, civil work is completed first and then followed by electrical work. Civil work costs approximately twice as much as electrical work, meaning that the balance of civil and electrical work that occurs over a specific period will impact the apparent per customer costs over that period.[592] As noted in 2B-BOMA-96, Toronto Hydro completed a high volume of electrical work in the Rear Lot Conversion segment in 2015-2019. Therefore, to derive a cost per customer by simply dividing 2015-2019 costs by the number of customers converted will significantly understate the actual costs to convert a customer.

509. Another issue with sequencing is that costs related to work performed in the 2015-2019 period are not necessarily contained within the 2015-2019 period. Some of the Rear Lot Conversion costs in the 2015-2019 period are related to projects that are not yet complete. The converse is also true: the nature of the work is such that some work for conversions completed in the 2015-2019 period occurred prior to 2015.[593]

510. Furthermore, as Toronto Hydro explained, the utility must appropriately account for the fact that not every rear lot project consists of 100 percent rear lot to front lot conversion work.[594]

511. For the reasons noted above, it was necessary for Toronto Hydro to develop a cost per customer figure based on careful and informed analysis of the available data for completed rear lot projects. OEB Staff's assertion that Toronto Hydro "was not able to provide the total cost associated with converting 2,347 customers (due to deficiencies in the data)," simply ignores the nuanced realities discussed above.[595] The subset of conversions (eight projects in three major rear lot areas)[596] that

[590] OEB Staff Submission at page 81.
[591] OEB Staff Submission at page 82.
[592] Exhibit 2B, Section E6.1 at page 21
[593] Exhibit 2B, Section E6.1 at page 20, lines 6-8.
[594] OH Volume 1 (June 27, 2019) at page 149, lines 15-20.
[595] OEB Staff Submission at page 81.
[596] Exhibit 2B, Section E6.1 at page 21, lines 6-7.

Toronto Hydro used to calculate historical unit costs were all started and completed within the period from 2013 to 2017, enabling Toronto Hydro to fully and accurately allocate the total costs to the customers converted. They also excluded any conversions where the costs of just the rear lot conversion portions could not be extracted from the total costs of the projects (which is necessary to generate an accurate conversion cost per customer figure).[597]

512. OEB Staff's claim that Toronto Hydro has "overstated" the rear lot unit costs by relying on this subset of projects is not supported by any factual evidence. With respect, OEB Staff simply speculates that the unit costs would be lower had Toronto Hydro (inappropriately) included all recorded costs in its calculation. In an effort to show this, OEB Staff asserts a high-level analysis in which they apply Toronto Hydro's unit cost ($0.036 million per customer) to the number of customers converted in the 2015-2019 period (2,347 customers) to arrive at a total cost of $84.5 million. OEB Staff compares this to the $59.9 million that Toronto Hydro actually spent in 2015-2019 and concludes that Toronto Hydro would have had to spend $24.6 million on the same conversions in the period prior to 2015 to make up for the difference. OEB Staff then asserts, incorrectly, that this level of spending would have been unlikely "as the average duration of a rear lot project is 13 months."[598] This analysis is flawed for the following reasons:

a) While the average duration of a 200 customer rear lot project phase is 13 months,[599] some project areas took considerably longer. For example, Markland Woods, with 806 customers, took from 2014 to 2017.[600] Spending (including for more expensive civil work) on those conversions occurred prior to 2015.

b) Toronto explained in its program evidence that spending was higher than originally forecast for 2015 and 2016 in part "due to a higher than expected number of projects carried over into the 2015-2019 period".[601] This further supports the conclusion that conversions completed in 2015-2016 would have incurred costs prior to 2015.

c) In the two years immediately prior to 2015, rear lot conversions spending was $23.8 million and $22.7 million. Toronto Hydro submits that – contrary to OEB Staff's unfounded speculation – it is entirely reasonable to assume

[597] OH Volume 1 (June 27, 2019) at pages 149-150.
[598] OEB Staff Submission at page 82.
[599] Exhibit 2B, Section E6.1 at page 21, lines 19-20.
[600] U-Staff-173.
[601] Exhibit 2B, Section E6.1 at page 20, lines 6-8.

that $24.6 million of that spending would have been directed to conversions completed in 2015 or 2016.

513. Ultimately, OEB Staff has not provided any actual empirical evidence supporting their conviction that the $0.036 million per customer cost is overstated. Nor does its position find support in the record: indeed, the record contradicts it.

514. On the basis of this flawed analysis, OEB Staff has proposed their own arbitrary value of $0.03 million per customer. Their $0.006 million reduction is arbitrary and not based on data or evidence beyond the fact that OEB Staff believes (incorrectly) that the unit cost should be somewhere between Toronto Hydro's value and the value of $0.0255 million.[602] Applying OEB Staff's arbitrary alternative would result in a reduced budget (a reduction of $20 million according to OEB Staff's rough math) that is not sufficient to address the reliability and safety concerns of aging, deteriorating, and poor performing rear lot plan in the 2020-2024 period.

515. Finally, OEB Staff submitted, without any supporting analysis or benchmarking evidence, that the cost-per-customer for Rear Lot Conversion is "extremely high" and that the OEB should apply a downward adjustment to pacing as a result.[603] Toronto Hydro submits that OEB Staff's opinion should be rejected, as it has no factual basis.

516. The proposed 2020-2024 pacing of Rear Lot Conversion is already constrained as a result of the utility's rigorous capital planning process. In fact, at the current pace, it will take until the early 2030s to complete all rear lot conversions.[604] This is despite the fact that most of this plant has been in operation for 40-60 years.[605] It is precisely because of the aforementioned complexity and sequencing involved in rear lot conversions that Toronto Hydro must maintain a steady, minimum pace of renewal during the 2020-2024 period and beyond. All of the areas targeted for replacement in 2020-2024 have already experienced outages that customers consider unacceptable.[606] The arbitrary reductions proposed by OEB Staff would only exacerbate these issues in the short and long-term, increasing the need for employee exposure to poorly accessible plant (a safety risk) and jeopardizing Toronto Hydro's ability to fulfil a key commitment of its DSP, i.e. to improve service

[602] OEB Staff Submission at page 82.
[603] OEB Staff Submission at page 83.
[604] Exhibit 2B, Section E2 at page 26.
[605] Exhibit 2B, Section E6.1 at page 10.
[606] Exhibit 2B, Section E6.1 at pages 10-11.

for customers in areas experiencing poor reliability.[607] For these reasons, Toronto Hydro respectfully submits that the OEB Staff's submission should be rejected.

517. Mr. Hann also made submissions on the Rear Lot Conversions segment of the Area Conversions program. His first suggestion is that Toronto Hydro should be tracking cost per kilometer rather than cost per customer as it "is not comparable to internal Hydro performance or other utilities".[608] Toronto Hydro respectfully disagrees as the cost per customer was introduced as a means of estimating its rear lot budget forecast for 2020-2024.[609] Toronto Hydro finds this approach to be the most appropriate due to the unique, varied, and customer specific nature of rear lot plant.[610] It was not intended as a benchmarking metric (Toronto Hydro fulfills this function through the UMS Unit Cost Benchmarking study and going forward through its unit cost custom measures)[611] and therefore its comparability to other utilities or Toronto Hydro cost performance is irrelevant.

518. Mr. Hann's second issue is regarding the conversion of rear lot plant to underground in the front lot. He seems to imply that Toronto Hydro should be replacing rear lot plant with overhead front lot plant but provides no supporting evidence for this. Toronto Hydro has detailed in its evidence, as well as in the prior two applications (including using a fully quantified, risk-based business case evaluation),[612] why this is not an appropriate option. These well-documented reasons include challenges related to customer acceptance, obtaining city approvals, the presence of large and mature trees along the street line in many rear lot areas, and the significant long-term reliability benefits of building the new supply underground.[613] Toronto Hydro submits that Mr. Hann's submissions are unsupported by evidence and should be rejected.

519. Energy Probe is the only party to raise any issues in respect of the Box Construction Conversion segment of the Area Conversions program. Energy Probe claims that "Toronto Hydro's witness could not explain why box construction was a problem apart from being a 'legacy type of installation' that posed 'significant risks'" and

[607] Exhibit 2B, Section E2 at pages 25-26; Exhibit 2B, Section E6.1.
[608] ND Hann Submission at page 7.
[609] Exhibit 2B, Section E6.1 at page 21, lines 2-7.
[610] OH Volume 4 (July 4, 2019) at pages 70, 72-74.
[611] Exhibit 1B, Tab 2, Schedule 2, Appendix B; Exhibit 2B, Section C2 at pages 22-23.
[612] EB-2014-0116, Exhibit 2B, Section E6.6 at pages 34-35.
[613] Exhibit 2B, Section E6.1 at pages 27-28; J3.1.

references a page of the Oral Hearing transcripts from Day 2.[614] With respect, this is an inaccurate characterization of the referenced transcript.

520. As the transcript shows, the representative from Energy Probe asked Toronto Hydro to explain why the utility included a certain picture of box construction in its Evidence Overview Presentation. The General Manager of Engineering responded that the intention was to illustrate box construction and how it is a very old, legacy design.[615] This is not a "failure" to explain why box construction is a problem. Rather, it was a direct response to the question asked. Toronto Hydro encourages Energy Probe to review the dozens of pages of business case evidence provided on box construction in the DSP. This evidence provides substantial details as to the multiple reasons why the utility is continuing with its strategy from the 2015-2019 DSP of aiming to remove all box construction by 2026, including the significant safety issues, the condition of the assets, the tendency toward longer restoration times, the presence of PCB at risk transformers, and the challenges that this plant presents for customer connections and expansions in congested and rapidly developing areas of the city.[616]

521. Energy Probe also suggested that Toronto Hydro's witnesses "could not identify box construction in the photographs," and that "they were also unable to explain the discrepancy between the number of poles replaced provided in responses to two interrogatories."[617] While the representative for Energy Probe may have been unsatisfied with the responses provided by the witnesses , Toronto Hydro submits that these assertions are simply unsupported by the section of the transcript referenced, which in fact concludes with the presiding member of the OEB panel succinctly summarizing the correct explanation for the "discrepancy" between the pole replacement figures. Energy Probe's assertions are without merit and should be rejected.

Toronto Hydro has appropriately addressed any potential overlap between planned and reactive capital in its 2020-2024 expenditure plan.

522. For the reasons that follow, Toronto Hydro submits that the parties concerns regarding double-counting between planned and reactive capital are unfounded and should be rejected.

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[614] Energy Probe Submission at page 18. Energy Probe refers to page 54 of OH Volume 2 (June 28, 2019).
[615] OH Volume 2 (June 28, 2019) at page 54, lines 5-12.
[616] Exhibit 2B, Section E6.5 at pages 2, 15-16, 18-19; Evidence Overview Presentation (May 3, 2019) at pages 14-15.
[617] Energy Probe Submission at pages 18-19.

523. OEB Staff asserted that Toronto Hydro has not appropriately accounted for potential double-counting between the planned renewal programs and the Reactive Capital program, and that Toronto Hydro's evidence is deficient in this regard.[618] The crux of OEB Staff's position is that, if Toronto Hydro is targeting the oldest and worst condition assets on a planned basis, and these are the same assets most likely to fail and be replaced reactively, then Toronto Hydro must be double counting assets between planned and reactive. Staff concludes that the OEB should either reduce the Reactive Capital budget to account for the volume of planned replacements, or subtract units from the planned programs to adjust for an assumed rate of reactive replacements.

524. With respect, OEB Staff's conclusion is flawed and ultimately incorrect, for the reasons that it rests on a number of oversights and erroneous assumptions:

a) OEB Staff's conclusion omits key data. For example, their assessment fails to consider that there are entire major asset classes (e.g. overhead conductors; secondary services, non-PCB at risk pole top transformers; overhead switches) as well as countless minor assets (e.g. transformer elbows; insulators) for which Toronto Hydro does not carry-out a proactive renewal approach on a spot basis.[619] This is generally because these assets have a lower consequence of failure (i.e. low criticality). Nevertheless, when they fail, they must be replaced, and these asset classes are in part what the reactive capital program is designed to address. Without reactive capital, these assets would simply not be replaced at all.

b) OEB Staff's conclusions include erroneous assumptions. For example, their assessment fails to consider that for stations, Toronto Hydro generally strives to avoid doing any reactive work due to the infeasibility of reactively addressing stations asset failures within a reasonable time frame. As a result, the increase in the Stations Renewal program in 2020-2024 will merely maintain this low level of reactive stations work – it does nothing to substantially offset the need for Reactive Capital expenditures.[620]

c) OEB Staff fails to consider the limited opportunities to reduce certain types of planned expenditures following reactive work. For example, as discussed in JTC1.11, reactively replacing an asset on a 4 kV feeder is only a temporary

[618] OEB Staff Submission at pages 77-80.
[619] Exhibit 2B, Section D3.1.2 at pages 13-16, Tables 2-3.
[620] JTC1.11 at page 3.

solution. When that 4 kV feeder is replaced in full, the asset will need to be brought up to standard.

d) Contrary to the assumption in OEB Staff's conclusion (and AMPCO's conclusion discussed below) is that assets in HI1, HI2 and HI3 bands have a greater than zero probability of failure. The same is true of assets that are younger than their mean useful life. It is even true of brand new assets, which can fail due to malfunction or external factors. Any asset can fail. It is a statistical and practical reality that a substantial portion of the many thousands of major assets that are operating in HI3 condition or nearing their mean useful lives will fail over the course of the 2020-2024 period. A significant portion of the asset population continues to approach mean useful life, and many thousands of assets are projected to move from HI1 to HI2, and HI2 to HI3 over the plan period.[621] Toronto Hydro cannot perfectly predict when an asset will fail, even with fresh and comprehensive condition information.[622] These unplanned replacements – and replacements that are not forecasted in the planned program work – will continue to put significant pressure on the Reactive Capital program.

e) OEB Staff's conclusions make assertions that are contradicted by the uncontroverted evidence. For example, contrary to OEB Staff's conclusion, Toronto Hydro has taken into account the typical rate of reactive replacement for its assets in arriving at a restrained pace of renewal investment. This is apparent in Table 3 provided earlier in this reply, which shows that, in nine of the 13 asset groups for which Toronto Hydro calculates Health Scores, the utility plans to replace a number of units that is actually lower than the number of units forecast to move into the HI4/HI5 bands by 2024. These deficits in planned work will necessarily contribute to activity in the Reactive Capital program. The same is true for assets that do not have Health Scores. For example, as explained earlier, Toronto Hydro is replacing over 50 percent less direct-buried cable in 2020-2024, despite significant continuing reliability pressures from these assets.

525. Toronto Hydro submits that, for the above noted reasons, OEB Staff's concerns about double-counting between planned and reactive capital programs are unfounded and should be rejected.

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[621] Exhibit 2B, Section D, Appendix C at pages 10-11, Tables 2-3; U-AMPCO-133, Figure 1.
[622] Exhibit 2B, Section D3.2 at page 20.

526. AMPCO asserts that "Toronto Hydro has not proposed a relative reduction in its Reactive Capital budget" to account for the implementation of the new Underground System Renewal – Downtown program, which includes the proactive replacement of assets previously replaced on an exclusively reactive basis (e.g. lead cables).[623] With respect, AMPCO appears to be confused about the nature of this new program. As Toronto Hydro's evidence explains, the introduction of a proactive renewal strategy does not simply mean that Toronto Hydro is shifting a fraction of a fixed number of replacement units from the Reactive Capital program to the Downtown program. Rather, the introduction of a proactive approach is intended to *augment* the existing reactive approach (i.e. *increase* the overall pace of replacement) in the face of an increasing number of units requiring replacement. These risks are due to an emerging wave of aging and deteriorating assets that exist primarily in Toronto Hydro's congested urban core and carry not only the typical reliability risks but significant operational risks related to functional obsolescence, public and employee safety, and the environment.[624]

527. Furthermore, regardless of whether the program is new, AMPCO's conclusion on the relationship between reactive and planned capital is subject to the same general misapprehensions, oversights, and demonstrably incorrect assumptions as OEB Staff's broader argument (as discussed above).

Toronto Hydro has appropriately considered potential trade-offs between capital and OM&A in the development of its DSP.

528. BOMA and Energy Probe are the only two parties raise any concerns about trade-offs between capital and operating costs. BOMA asserts that "Toronto Hydro is rather dismissive of the potential for OM&A reductions as a result of capital programs."[625] Toronto Hydro respectfully disagrees as the evidence has clearly noted where it is realizing such opportunities,[626] estimated the impact where appropriate,[627] and explained why the impacts may be limited. For example, there are a number of maintenance programs activities that are independent of system renewal programs such as vegetation management and savings from the removal of legacy assets can be offset by incremental maintenance requirements introduced by

[623] AMPCO Submission at page 27.
[624] Exhibit 2B, Section E6.3.3 at page 5.
[625] BOMA Submission at page 27.
[626] For example, the reduction in routing washing of porcelain insulators as they are replaced through capital investment as described in Exhibit 4A, Tab 2, Schedule 1 (Preventative and Predictive Overhead Line Maintenance).
[627] For example, over $4 million in estimated savings over 2015-2019 from repairing and refurbishing certain assets such as transformers and switchgear instead of replacing them (J3.2 at page 6; 2B-Staff-67, part (b)).

new equipment or standards.[628] Recognizing these limitations is not being dismissive; rather, it is demonstrating Toronto Hydro's full understanding of its system and the pressures it faces[629] and the nuances of such opportunities for trade-offs. Furthermore, despite these pressures, Toronto Hydro notes that System O&M costs are actually forecast to decrease slightly in 2020 (compared to 2019 budget)[630] and maintenance costs are essentially flat, despite the pressures from asset aging and deterioration.[631]

529. Energy Probe asserts that "Toronto Hydro did not file numerical repair vs. replace analyses that would provide the OEB with evidence of meaningful trade-offs between capital and operating costs."[632] It is not clear to Toronto Hydro what analysis Energy Probe has in mind. Toronto Hydro submits that, if there was a specific form of analysis that Energy Probe felt would have been useful to the OEB, it could have requested this analysis during interrogatories or any of the other multiple stages of discovery during the proceeding. However, it did not, and as a result, Toronto Hydro and its witnesses did not have an opportunity to respond to such a request.

530. Regardless, Toronto Hydro submits that it has provided ample evidence in Section D3 of the DSP as to how the utility's maintenance, refurbishment, and replacement practices work together to optimize the value derived from each asset type. Toronto Hydro's Reliability Centered Maintenance ("RCM") framework is foundational to this process, and produces failure management policies that expressly aim to maximize useful life and reliability based on an asset's function and the consequences of failure.[633] This analysis is an input to the IPPR process in which Toronto Hydro makes balanced trade-offs between programs (including both capital and OM&A programs) to optimize a desired set of outcomes including cost. Toronto Hydro submits that these processes facilitate meaningful trade-offs between capital and OM&A within a constrained budget on an ongoing basis.

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[628] Exhibit 2B, Section D3.1.1.3 at pages 9-10; Exhibit 2B, Section E4.1.5.1 at page 8.
[629] For example, the overall age and condition of the system, the remaining volume of obsolete legacy assets, and adverse weather events (Exhibit 2B, Section E4.1.5.2 at page 9).
[630] Exhibit 2B, Section E4.2.6 at page 14, Table 8.
[631] Exhibit 4A, Tab 1, Schedule 1 at page 2, Table 1.
[632] Energy Probe Submission at page 20.
[633] Exhibit 2B, Section D3.1.

Toronto Hydro's historical and forecast evidence demonstrates the optimal targeting of System Renewal investments.

531. OEB Staff expresses concern that, for Toronto Hydro's investments over the 2015-2024 period, "the OEB has no assurances that the investment is targeted efficiently at the worst condition assets on the system." Their basis for this view is (i) the perceived lack of a "centralized" approach to risk assessment, (ii) the transition to a new ACA methodology, (iii) no modelling of the impacts of proposed investments on Future Health Score indices, and (iv) the expectation that reliability will be maintained in 2020-2024.[634] Toronto Hydro submits that, as explained below, on all four of these points, OEB Staff's concerns are directly contradicted by the evidence.

532. Regarding the lack of a "centralized" approach to risk management, Toronto Hydro submits that it has comprehensively addressed OEB Staff's misconceptions about this issue in paragraphs 397 through 413 above. As already explained, Toronto Hydro's DSP is the rigorously optimized result of a robust, centralized, and iterative planning process that uses risk extensively in decision-making. The quality of this process is borne out by the detailed evidence within the DSP and the fact that the alignment between drivers, expenditures, and outcomes has withstood the parties' examination and arguments.

533. Regarding ACA and the transition between the Old Kinectrics Methodology and the CNAIM/CBRM methodology, OEB Staff asserts that the change in ACA "has made it difficult to determine whether the system renewal capital investments made over 2015-2019 have been effectively targeted."[635] This assertion suggests that Toronto Hydro has not provided recent data using the Old Kinectrics Methodology, which is false. Toronto Hydro provided the most recent Health Index results (as of the beginning of 2017) that were derived using the Old Kinectrics Methodology, as well as the equivalent results that underpinned the capital plan in EB-2014-0116.[636] A comparison of the two shows general improvements in poor and very poor condition assets. Nevertheless, given the known limitations of the Old Kinectrics Methodology, which caused the level of deterioration across the asset population to be understated, Toronto Hydro determined it was necessary to adopt the more advance CNAIM/CBRM methodology.

534. Toronto Hydro acknowledges that it is difficult to compare Health Index results before and after CNAIM/CBRM adoption. The Health Index bands within the two

[634] OEB Staff Submission at pages 73-74.
[635] OH Volume 1 (June 27, 2019) at page 73.
[636] 2B-AMPCO-42; JTC2.13.

methodologies are not similar enough to allow for a one-to-one comparison.[637] However, this is hardly unexpected for such a significant shift in methodology. In light of known issues that limited the effectiveness of the previous ACA model, and the OEB's feedback in the last CIR decision relating to asset condition, Toronto Hydro diligently pursued enhancements to its ACA capabilities by moving to the CNAIM/CBRM. It would be unreasonable to disregard the efforts and improvements made in this important aspect of investment planning. The unavoidable difficulty in comparing output before and after adopting an enhanced model should not be used to penalize the utility for having made such enhancements. To do so would not only be unfair but also disincentivize the regulated industry from proactively improving upon planning tools and processes.

535. At the root of the OEB's concern regarding the ACA transition is the question of whether there is adequate evidence that Toronto Hydro optimally targeted its System Renewal investments during the 2015-2019 period. Toronto Hydro submits that the directional improvements in the Old Kinectrics Methodology results support the conclusion that Toronto Hydro has been prioritizing the right assets.

536. Furthermore, as detailed throughout its evidence, Toronto Hydro has thoroughly demonstrated the success and effectiveness of its 2015-2019 investments, most importantly through the lens of outcomes.[638] System renewal investments in particular were a significant contributor to many improved outcome measures, such as box construction conversion and total recorded injury frequency under the safety outcome, oil spills containing PCBs under the environmental outcome, and SAIDI and SAIFI under the reliability outcome.[639] As highlighted in the Argument-in-Chief, Toronto Hydro has provided detailed evidence that clearly illustrates these measurable outcome improvements.[640] For instance, from 2014 to 2018, there has been a 49% reduction in box construction assets, 30% improvement in total recordable injury frequency, 8% improvement in SAIDI (13% improvement in SAIDI caused by Defective Equipment), 3% improvement in SAIFI (25% improvement in SAIFI caused by Defective Equipment), 53% improvement in FESI-7, 62% improvement in FESI-6 large customers, 26% reduction in direct buried cables, and 38% reduction in outages caused by defective equipment.[641] Toronto Hydro has also seen the Assets Past Useful Life measure reduce by three percentage points

[637] JTC1.16, at page 4.
[638] See e.g. Exhibit 1B, Tab 2; Exhibit 2B, Section C; Exhibit 2B, Sections E5 to E8; 1B-SEC-8; 1B-CCC-15; and J3.2.
[639] Exhibit 2B, Section C.
[640] Argument-in-Chief at pages 40-42.
[641] J3.2, Table 2.

(representing hundreds of millions of dollars in improvements).[642] In aggregate, these demonstrable achievements speak to the effectiveness of Toronto Hydro's investments in delivering outcomes that customers value. This effectiveness is itself evidence of the utility's application of a rigorous risk assessment approach in decision-making.

537. The utility also notes that further evidence of effective optimization in 2015-2019 is found in the back testing results for the CNAIM/CBRM methodology. The examples provided in JTC1.16 show that, despite the understated outputs of the Old Kinectrics Methodology, the utility's planners have, in fact, been successful in targeting the worst condition assets based on a direct and informed analysis of critical deficiency data gathered through maintenance and inspection activities.

538. These back testing examples illuminate an essential and often overlooked fact that goes to the heart of OEB Staff concerns regarding the ACA transition, as well as SEC and AMPCO's concerns that new condition results were not available at the very beginning of the planning process.[643] (As noted in the Manager of Engineering Service's testimony, the results of the CNAIM/CBRM methodology were available to planners in Q3 2017, around the time that the utility finalized the penultimate plan and at the very beginning of the refinement and adjustment stage that led to the filing of the DSP eight months later in Q3 2018.[644])

539. What OEB Staff, SEC and AMPCO fail to grasp is that Health Scores are <u>not</u> the only way to gain insights into asset condition. In fact, it is appropriate to view Health Scores first and foremost as a means of simplifying detailed condition information to allow for easier comparative analysis of condition demographics for large asset populations. These Health Scores are fueled by measurements and inspection results that are each predictive of specific failure modes of assets, as established through the utility's long-standing and recently updated (and recertified) Reliability Centered Maintenance analysis.[645] Toronto Hydro planners engage with this data in the normal course and are entirely capable of interpreting it using engineering expertise and knowledge to develop investment plans for populations of assets. For these reasons – plus the simple fact that the pacing of the plan is demonstrably aligned with the final ACA results – Toronto Hydro respectfully submits that SEC and AMPCO's concerns regarding the exact timing of the availability of the ACA are

[642] Exhibit 2B, Section E2 at page 12; U-Staff-175, Figure 1.
[643] SEC Submission at page 47.
[644] OH Volume 3 (July 3, 2019) at pages 123-124
[645] Exhibit 2B, Section D, Appendix C at page 9; Exhibit 2B, Section D3.1.1.1 at pages 2-3.

misplaced, misinformed, and should have no bearing on the OEB's evaluation of the optimization of the utility's 2020-2024 plans.

540. As part of their submission on the timing of ACA availability, SEC and AMPCO reference the Business Plan that Toronto Hydro presented to its Board of Directors for approval in November 2017.[646] Both intervenors note that Toronto Hydro delivered a Business Plan in the form of a presentation deck that included Assets Past Useful Life as one indicator of investment need, and did not include condition information. From here, both parties take a tremendous leap, asserting that the absence of condition information from the Board of Directors deck is evidence that Toronto Hydro did not rely on condition information in developing its penultimate plan. Toronto Hydro submits that AMPCO and SEC are cherry-picking a figure from a single governance document in an effort to dismiss the substantial evidence filed in this proceeding demonstrating rigorous alignment between Toronto Hydro's System Renewal plan and its ACA results. This is an unreasonable position and it is completely contradicted by the evidence in this proceeding.

541. When AMPCO asked the witnesses whether the information in the Board of Directors slide deck was evidence of an emphasis on age (over condition), the General Manager of Engineering disagreed with AMPCO's premise, and explained that the age information was a "high-level" indicator of drivers that influence management's decision-making, and that each particular capital program is supported by "very detailed measures" such as condition.[647] This statement accurately reflects the form and function of the evidence Toronto Hydro ultimately filed in its DSP. However, SEC misconstrues the meaning of the word "high-level" in this context to mean primary or overriding, when in fact what the witness clearly intended to communicate was that the age information – in the context of the presentation deck – served as a *simple* and *comprehensive* (i.e. unlike condition, it covers all major assets) indicator of the state of the system.

542. For the reasons noted above, Toronto Hydro submits that the attempt by AMPCO and SEC to draw an inference from the Board of Directors presentation that Toronto Hydro relied on age to develop its penultimate plan is without merit and should be rejected.

543. OEB Staff asserts that, because Toronto Hydro has not yet developed models to forecast precisely how the proposed System Renewal investments will influence the

[646] AMPCO Submission at page 20; SEC Submission at pages 46-47.
[647] OH Volume 3 (July 3, 2019) at pages 126-127.

Future Health Scores of the assets in 2024,[648] the utility cannot demonstrate that the proposed investments will actually target the worst condition assets.[649] To the contrary, Toronto Hydro submits that Future Health Scores *without* investment are a powerful planning innovation in their own right, and that the demonstrable (and restrained) alignment of the utility's planned investment pacing with Current and Future Health Scores serves as sufficient evidence of the utility's belief that it can continue to direct expenditures toward replacing the worst condition assets.[650] (If it turns out to be otherwise, the utility will fail to achieve its outcome objectives.) Furthermore, Toronto Hydro submits that the only way to empirically "demonstrate" that the utility optimally targets its investments is to look at historical evidence (as opposed to modeled projections). As noted above, Toronto Hydro's past performance and condition improvements provide no shortage of evidence demonstrating that the utility targets its investments optimally and effectively.

544. OEB Staff's final concern is the fact that Toronto Hydro is planning to hold reliability "essentially flat" over the forecast period. The implication in OEB Staff's view is that this casts doubt on whether future investments be optimally targeted.[651] Toronto Hydro has fully addressed the relationship between future expenditures and reliability projections earlier in this reply. As explained in detail in that section (beginning on page 120 above), Toronto Hydro's plan is the minimum investment needed to maintain reliability in light of various leading indicators of asset failure and other investment drivers that are not linked directly to reliability. The OEB provides no evidence to support its assertion that flat reliability is evidence of sub-optimal investment targeting in the future. As a result, their assertion should be rejected.

545. Regarding the replacement of assets during the 2015-2019 period, AMPCO asserts that Toronto Hydro misled the Board with respect to 2014 ACA results, i.e. that the number of assets in poor and very poor condition were overstated by 2.5 times.[652] This is an incorrect conclusion that results from AMPCO's apparent confusion. This confusion stems from a correction Toronto Hydro made to one of AMPCO's tables in the current proceeding. Toronto Hydro apologizes for this confusion, as it seems

[648] Toronto Hydro explained in its response to 2B-Staff-71(a) why it was infeasible to develop additional models to project the impacts of investment on Future Health Scores in advance of this application.
[649] OEB Staff Submission at pages 73-74.
[650] See Table 2 and the associated discussion in this Reply to Issue 3.2.
[651] OEB Staff Submission at page 73.
[652] AMPCO Submission at page 12.

to be the result of a correction that, in hindsight, was not strictly necessary in light of the context in which AMPCO is now using the data.

546. By way of explanation: one of the limitations of the Old Kinectrics Methodology was the exclusion of assets with less than 60 percent data availability.[653] For the 2014 ACA, this resulted in a sample size which represented less than half of the total population. The ACA results were expressed as percentages of assets in each health band, rather than absolute numbers, because they were, in actuality, based on samples of the larger population. To provide an estimate of the total, population-wide count of assets in each health band, the appropriate method is to multiply the percentages by the *total* population in each asset class, which is what the OEB saw in previous application, and is also what AMPCO appropriately did in its original table for the 2016 figures. Toronto Hydro's "corrected" version of AMPCO's table applied the percentages to only the *sample* of assets that had at least 60% condition data. Toronto Hydro did this to provide the count of assets in those condition bands for which the utility had sufficient data to calculate a Health Score under the Old Kinectrics Methodology. However, this approach serves to grossly underestimate the *population-wide total* count of assets in each health band, as it fails to consider the assets that do not have a Health Score (due to data insufficiency). Therefore, to summarize, AMPCO's original table was correct, and the condition evidence that the OEB relied upon in the previous CIR application was not overstated.

Toronto Hydro's System Renewal (and System Service) plans appropriately address the long-term risks associated with climate change.

547. Only Energy Probe, Mr. Hann and VECC challenged Toronto Hydro's incorporation of climate change in its DSP. Toronto Hydro respectfully submits that these intervenor assertions are unsubstantiated by evidence, disregard the evidence on the record or are supported by speculations. The utility therefore submits that the OEB give no weight to these submissions.

548. Toronto Hydro has embedded within its DSP certain replacement strategies that will help prepare the system for the long-term effects of climate change. As the evidence in the DSP clearly demonstrates, these strategies largely piggy-back on the existing System Renewal programs. Specifically, as Toronto Hydro goes through the natural cycle of replacing failing assets, it is replacing old equipment with more weather-resilient designs where feasible and appropriate.[654] For example, Toronto

[653] Exhibit 2B, Section D, Appendix C, at page 4, lines 29-34.
[654] Exhibit 2B, Section D2, at pages 8-9.

Hydro is gradually replacing its worst condition submersible transformers with stainless steel transformers that are less susceptible to moisture. Toronto Hydro is also making targeted grid modernization investments in the System Service part of the plan to improve resiliency on vulnerable parts of the grid, e.g. installing remote monitoring and control in network vaults to detect floods, fires, and to remotely disconnect and restore power (an initiative that was strongly supported by customers).[655]

549. Energy Probe and VECC argue that Toronto Hydro's climate change related activities are not supported by evidence. Energy Probe also makes the unsubstantiated claim that Toronto Hydro only provided one example of things it is currently doing and will do in the future that are different as a result of severe weather.[656] To the contrary, there is an entire section of the DSP (Section D2.1.2) that summarizes the various aforementioned intervention strategies.[657] The evidence in support of these investments is found in that section, Section E2, and throughout the program evidence in Sections E6 and E7.

550. With respect to the climate change forecasting evidence that supports the need for improved grid resiliency, Toronto Hydro's DSP is informed by the Public Infrastructure Engineering Vulnerability Assessment Protocol ("PIEVC") report,[658] Toronto Hydro's own experience through storms over the last number of years,[659] as well as its engagement within the electricity industry.[660] All of which is part of the record in this application.

551. The PIEVC report prepared by AECOM and filed in this application set out to "evaluate the vulnerability of Toronto Hydro's electrical distribution system within the City of Toronto to a changing climate by employing Engineers Canada's public Infrastructure Engineering Vulnerability Assessment Protocol (PIEVC Protocol). This study is a high-level screening analysis designed to determine where infrastructure vulnerabilities to climate change may be present, to suggest avenues for adapting infrastructure to climate change, and to identify areas of further study."[661]

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[655] Exhibit 2B, Section E7.3.
[656] Energy Probe Submission at page 18; VECC Submission at page 16.
[657] Exhibit 2B, Section D2.1.2.
[658] Exhibit 2B, Section D2.1.2 at page 7, lines 2-31 and page 8, lines 1-4.
[659] OH Volume 4 (July 4, 2019) at page 100, lines 20-24.
[660] OH Volume 4 (July 4, 2019) at page 101, lines 27-28 and page 102, lines 1-3 as well as page 103, lines 3-25.
[661] Exhibit 2B, Section D, Appendix D.

552. Toronto Hydro relied in part on the PIEVC report to develop its climate change adaptation road map, along with initiatives relating to climate data validation, review of equipment specifications, and review of the load forecasting model.[662]

553. Both Energy Probe and Mr. Hann sought to discredit Toronto Hydro's evidence by introducing their own weather-related information, claiming that it showed that weather events are not increasing in severity and frequency. [663] However, it is important to note that Toronto Hydro's climate change research in this application is focused on long-term *forecasting* to support long-term investments, and was executed by climate change experts from AECOM and RSI (relying on a number of highly credible data sources such as the Intergovernmental Panel on Climate Change). In contrast, the information introduced by Energy Probe and Mr. Hann regarding weather trends was entirely backward looking and provided no insight whatsoever as to the likely future conditions in Toronto Hydro's service territory. As a result, Toronto Hydro submits that this evidence is irrelevant and should be dismissed as such.

554. Mr. Hann asserts that Toronto Hydro has not demonstrated that its assets exceed their design loads during a weather event.[664] Mr. Hann's conclusions are unsubstantiated by data as the information required to assess his claims is either unavailable (i.e. not tracked) or incomplete.[665] Furthermore, Toronto Hydro has not, at any point, suggested that a driver of investment is the physical collapse of assets during weather events due to exceeded design loads from wind, rain or ice. This is simply not a driver of the investments in Toronto Hydro's DSP. Furthermore, Toronto Hydro submits that it builds its system according to the CSA standards[666] and that the Standards Review prepared by PSE affirms that Toronto Hydro's major equipment specifications are in line with industry best practice.[667]

555. Mr. Hann's submissions also assume that Toronto Hydro's investments seeking to increase the system's resiliency solely focus on its overhead system.[668] As a cursory reading of Section D2.1.2 of the DSP illustrates, this is simply wrong.

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[662] Exhibit 2B, Section D2.1.2 at pages 6-7
[663] Exhibits K2.4, K2.5, K2.6, and K4.1 at pages 145-146 and pages 156-163, page 168; ND Hann Submission at pages 12-19.
[664] ND Hann Submission at pages 2-3 and pages 8-9.
[665] J4.6.
[666] 1B-Hann-7 at lines 21-25.
[667] Exhibit 2B, Section D, Appendix B.
[668] ND Hann Submission at pages 2-3 and pages 8-9.

556. Finally, Energy Probe argued that that Toronto Hydro refused to put its climate change research expert on the stand.[669] This is incorrect. As Toronto Hydro explained, the report was not prepared for the purpose of this application.[670] Toronto Hydro did not and is not seeking OEB acceptance of the report as Expert Evidence for the purposes of Rule 13A in the OEB Rules of Practice and Procedure.[671] Toronto Hydro was a participant in the study by providing information and data,[672] and had no formal working relationship with Clean Air Partnership, AECOM or the third party that provided the climate change data used in the report.[673] This resulted in coordination challenges to solicit some responses from the consultants.[674] Toronto Hydro respectfully submits that it has responded to over 90 interrogatories on the topic of climate change through interrogatories and undertakings which has provided for substantive discovery and testing of this evidence.[675]

Toronto Hydro's System Service investments are unchallenged by the parties in this proceeding. System Service investments are

557. OEB Staff and intervenors have no submissions on the level of expenditures in the System Service part of Toronto Hydro's plan. In the result, Toronto Hydro respectfully submits that the System Service part of the DSP should be fully funded as filed.

Toronto Hydro's proposed System Access investments are virtually unchallenged.

558. OEB Staff and Mr. Hann have raised challenges to the System Access part of Toronto Hydro's DSP. Toronto Hydro submits that for the reasons that follow: (a) OEB Staff's proposal regarding Customer Connections reductions is inappropriate and should be rejected; and (b) Mr. Hann's assertions regarding the Metering program are not grounded in the evidence and should be rejected.

Toronto Hydro's expenditures forecast in its Customer Connections program is the result of robust analysis and is appropriate.

559. OEB Staff submits that the OEB should reduce Toronto Hydro's Customer Connections budget by $14 million to account for the effects of including 2018

[669] Energy Probe Submission at page 18.
[670] 2B-EP-37(c).
[671] JTC4.34(b) at page 4.
[672] JTC4.34(e) at page 4.
[673] Ibid.
[674] JTC4.34(i) at page 6; TC Volume 4 (February 22, 2019) at pages 194-195.
[675] Interrogatory Responses and JTC4.34.

actuals in the forecasting methodology.[676] With respect, as explained below, this proposal is inappropriate as it fails to appropriately consider the volatility of customer connections activities.

560. Toronto Hydro's Customer Connections expenditures forecast is derived from a weighted average calculation that uses actual expenditures and customer contributions from the 2014 to 2017 period. OEB Staff derived their recommended reduction to Toronto Hydro's Customer Connections forecast by simply shifting the historical period from 2013-2017 to 2014-2018 following the utility's Application Update. OEB Staff's error in this approach is that it is overly-simplistic, and fails to consider the underlying volatility of the program and the implications for computing an average customer contribution rate.[677] Specifically, OEB Staff's analysis overlooks how their proposal causes the projection calculation to overemphasize the customer contribution ratio experienced in 2017, which was an outlier year.[678] The unusually high contribution rate of 62% in 2017 is the result of two extremes occurring simultaneously: it is both the year in which gross expenditures were by far the lowest in the entire 2013-2018 range,[679] and the year with the greatest number of Offers to Connect requiring expansion work (which correlates with an increase in the level of customer contributions).[680] As a result, OEB Staff's proposed Customer Connections forecast is demonstrably understated due to a demonstrably overstated customer contributions ratio. Toronto Hydro submits that the 2014-2017 data is a better fit for the weighted average calculation and that the OEB should accept the utility's Customer Connections forecast as filed for this reason.

561. What's more is that the Customer Connections program is non-discretionary and demand-driven. This means that a reduction to Toronto Hydro's proposed budget will ultimately have the effect of increasing the likelihood that the utility will be required to overspend its "approved" Customer Connections budget at the expense of other outcomes in the DSP. Therefore, for the reasons cited above, Toronto

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[676] OEB Staff Submission at pages 66-67.
[677] As Toronto Hydro's evidence demonstrates, connections expenditures and contributions are subject to myriad external factors. During the historical 2013 to 2018 period examined in this proceeding, these external factors have driven year-over-year variances in net connections expenditures ranging from -3% to 97%. These swings are produced in part by sizable variances in the percentage of capital contributed by customers in a given year (from a low 21% in 2014 to a high of 62% in 2017).
[678] This effect is a result of the following dynamic: the second lowest annual customer contribution rate is eliminated from the calculation (i.e. 31% in 2013), and the weighting placed on the lowest annual rate (i.e. 21% in 2014) is reduced. The net result of this is a shift in the calculated average customer contribution rate toward the unusually high 62% rate in 2017.
[679] U-Staff-166.5 at page 2, Table 3
[680] Exhibit 2B, Section E5.1.3.1 at page 9, Figure 7.

Hydro submits that the OEB should reject OEB Staff's argument for a reduced Customer Connections program.

Toronto Hydro's replacement plan for low-volume meters is necessary and will deliver incremental customer benefits.

562. Mr. Hann is the only party who raises concerns with respect to the replacement of these meters. With respect, Mr. Hann's concerns are assertions not grounded in the record. At best, they are his opinion, but that opinion lacks a basis in evidence, and was rebutted by witnesses. Neither Mr. Hann nor any party tendered evidence to support this opinion. For these reasons and those below, Toronto Hydro submits Mr. Hann's submissions should be rejected.

563. At the heart of Mr. Hann's view appears to be an assumption that meters *should* have useful lives longer than the OEB's upper bound of 15 years. No support for this assessment is provided beyond that these are "*electronic smart meters with no moving parts that are deemed to last for only 5 to 15 years compared to the previous mechanical meters which lasted 45 plus years*."[681]

564. With respect, this position is simply incorrect. In addition to there not being any evidence to support this speculative conclusion, Mr. Hann's position also does not consider failure modes and corresponding useful lives of the digital components of smart meters.

565. Mr. Hann also submits that "*Toronto Hydro has not done a detailed enough analysis of the benefits of smart meters for customers given their short useful life*."[682] With respect, this too is inaccurate, and at best an unsupported opinion. Mr. Hann has pointed to no evidence to support his conclusion, and the uncontroverted evidence rebuts it.

566. Specifically, Toronto Hydro useful life of 15 years is rooted on the 2010 Asset Depreciation Study that Kinectrics conducted for the Ontario Energy Board.[683] Furthermore, as explained by Toronto Hydro's Director of Standards and Technical Studies, Toronto Hydro works in conjunction with other Canadian utilities to have dialogue with meter manufacturers to improve the next generation of smart meters. Toronto Hydro is a member of the CEA meter group as well as the Canadian Elster/Honeywell users group. Toronto Hydro also proactively works with meter

[681] Mr. Hann Submission at page 10.
[682] Mr. Hann Submission at page 10.
[683] 2B-AMPCO-50(c) at page 2, lines 14-16; EB-2010-0178, Asset Depreciation Study for the Ontario Energy Board (July 8, 2010) by Kinectrics Inc.

manufacturers regarding any quality issues that arise[684] as it does with any equipment quality issues.[685]

567. Toronto Hydro's General Manager of Engineering made this point more broadly:

> MR. LYBEROGIANNIS: I think, Mr. Hann, my answer to that would be, as with all products that Toronto Hydro uses, Toronto Hydro is always striving to work with manufacturers, the broader industry, to extend the life of equipment, to improve the quality, to improve the features, and to improve the benefits that ultimately accrue to customers of Toronto Hydro. And Toronto Hydro is continuing to do that with all of its assets.[686]

568. Further, Toronto Hydro's Metering program investments for the 2020-2024 period include a ramp-up in 2022 of end-of-life low-volume customer meter replacements.[687] The uncontroverted evidence is that without intervention, 90 percent of these meters will be operating beyond their expected useful life as of 2025, presenting unacceptable levels of risk to critical customer service outcomes.[688]

569. Mr. Hann further asserts that there are no "documented benefits" to Toronto Hydro's investment in smart meters.[689] With respect, this assessment too is contradicted by the record. As documented in detail in Toronto Hydro's evidence, replacing end-of-life smart meters with next generation technology will benefit the customer by reducing costs and enabling quicker reconnection times through expanded remote disconnection and reconnection capabilities and "Last Gasp" functionality, which allows the meter to communicate an alert as it experiences an outage.[690]

570. Additionally, the next generation of smart meters will have a more effective transmitter that will drastically increase the range and penetration of the meter signal, thus increasing the number of meters successfully read, reducing "orphaned"

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[684] JTC2.26; TC Volume 2 (February 20, 2019) at page 150, lines 22-26.
[685] Exhibit 2B, Section D1.2.5 at pages 21-22.
[686] TC Volume 2 (February 20, 2019) at page 151, lines 19-26.
[687] Exhibit 2B, Section A6 at page 34.
[688] Exhibit 2B, Section E2 at page 21, lines 2-3.
[689] ND Hann Submission at page 10.
[690] Exhibit 2B, Section E5.4.3.2 at page 9.

meters and the number of manual reads required, and further reducing the number of estimated bills issues, increasing OEB billing accuracy metrics.[691]

Energy Probe's baseless assertions with respect to the Sidewalk Labs initiative should be ignored.

571. In a matter that appears to be tangentially related to the System Access part of Toronto Hydro's DSP, Energy Probe asserts that "[a] major capital project in the 2020 to 2024 period are [sic] not addressed in the evidence" in reference to the Sidewalk Labs "advanced power grid." Energy Probe finds it "hard to believe" that "Toronto Hydro witnesses were unable to provide any information regarding capital investments required by Toronto Hydro nor any impacts on loads."[692] These assertions are not only directly contradicted by the record, but rely on unsupported *ad hominem* attacks of Toronto Hydro and its personnel.

572. Energy Probe's conclusions are ostensibly based on media articles. These articles, at best, describe a very tenuous link between Toronto Hydro and Sidewalk Labs. Energy Probe appears to conclude that because an individual who used to be (but is no longer)[693] on the Sidewalk Labs advisory committee also acted as a director and CEO of the Canadian Urban Transit Research and Innovation Consortium ("CUTRIC") which TH is a member organization of, that "there is probably a lot more connection between Sidewalk Labs and Toronto Hydro than we're led to believe."[694] This is simply idle speculation on Energy Probe's part and should be ignored.

573. What's more is that Toronto Hydro clearly stated in its Oral Hearing testimony that to the extent this so-called Sidewalk Labs project proceeded, it would be addressed as a normal part of the utility's Customer Connections program, and that projects of this type and size are common in Toronto.[695]

Toronto Hydro's proposed investments over the 2020-2024 period appropriately account for distributed energy generation and electric vehicle loads.

574. Toronto Hydro's proposed investments appropriately address distributed generation loads as well as electric vehicle loads. DRC has made a number of

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[691] Exhibit 2B, Section E5.4.3.3 at page 10
[692] Energy Probe Submission at page 18.
[693] OH Volume 11 (July 16, 2019) at pages 17-18.
[694] OH Volume 2 (June 28, 2019) at page 50, lines 18-20.
[695] OH Volume 2 (June 28, 2019) at pages 40-41 and 44-47. See Exhibit 2B, Section E5.1 for more details on Customer Connections program.

submissions with respect to tracking and reporting on EV loading. These have been addressed by Toronto Hydro in Issue 2.2.

575. Toronto Hydro respectfully submits that DRC's assertion that the utility's load does not account for distributed generation is incorrect. In its submission, DRC references the load forecast used for rate making purposes. When planning for system investments, Toronto Hydro utilizes its station load forecast to inform targeted system investments. The load growth for DGs and renewable generation is captured in that forecast.[696]

576. Toronto Hydro is also required by Chapter 5 of the filing requirements to provide a system capability assessment for renewable energy and conventional generation which provides information on the distribution systems' ability to accommodate renewable energy generation and other distributed generation connections. As such, Toronto Hydro provides information on REG applications, overall DG connection projections, the distributions system ability to connect, as well as known constraints on the distribution system.[697]

577. Toronto Hydro's proposed investments over the 2020-2024 period support the connection of renewable energy generation and the use of distributed generation:[698]

    a) Toronto Hydro's Energy Storage program[699] seeks to increase capacity of feeders and enable the connection of renewables;

    b) Investments in the Customer Connections[700] and Generation Protection, Monitoring, and Control[701] programs support the safe, timely, and cost-effective connection of distributed generation customers to the grid, including REG projects in accordance with Toronto Hydro's generation connection forecasts; and

    c) The Control Operations Reinforcement[702] program which includes plans to invest in technology required to manage the growing system requirements to support the evolution of the smart grid, not only from a monitoring and

[696] Exhibit 2B, Section D3.3.1.1 at page 37. Forecast distributed generation capacity is available from Exhibit 2B, Section E5.1 at page 13, Table 7.
[697] Exhibit 2B, Section E3.
[698] 2B-DRC-8, part (a) at page 2, lines 16-26 and page 3, lines 1-17.
[699] Exhibit 2B, Section E7.2.
[700] Exhibit 2B, Section E5.1.
[701] Exhibit 2B, Section E5.5.
[702] Exhibit 2B, Section E8.1.

control energy delivery perspective but also from an energy management perspective.

578. Furthermore, in the normal course, Toronto Hydro considers the load profile served by its infrastructure, including forecasted changes in load, when developing capital plans and designing corresponding infrastructure.[703]

579. However, at this time, loads associated with the penetration of electric vehicles are not materially affecting the distribution system. As stated a number of times by Toronto Hydro's General Manager of Engineering, Mr. Lyberogiannis:[704]

> "From a system planning perspective, it is an immaterial number."

580. Furthermore, Toronto Hydro submits that with respect to EVs, the utility continues to monitor the development of the technology and its effects on the safety and reliability of the distribution system.[705]

Toronto Hydro's General Plant investments are critical to ensure grid resiliency, operational effectiveness, and productivity and therefore are essential to the utility's plan.

Toronto Hydro's forecast for dual control centre is reasonable, and parties agree it is a beneficial investment.

581. Both OEB Staff and SEC agree that the dual control centre proposed by Toronto Hydro would be beneficial. OEB Staff states:[706] *"Toronto Hydro has discussed valid benefits of a dual control centre. There would likely be benefits to the system of a dual control centre in the scenario where the primary control centre is compromised for any reason."* SEC states:[707] *"SEC submits none of this is to suggest that there are no benefits from a fully functional dual operating facility, or that one is not in the best interest of Toronto Hydro customers."*

582. OEB Staff and SEC's agreement on the benefits of a dual control centre for Toronto's electricity grid are not surprising given the uncontroverted evidence in support for this investment. As demonstrated by the record, Toronto Hydro's

[703] 1B-DRC-6(b) at page 2, lines 16-27 and page 3, lines 1-4.
[704] OH Volume 4 (July 4, 2019) at page 11, lines 22-23.
[705] 1B-DRC-2(b) at page 2, lines 7-11.
[706] OEB Staff Submission at page 94.
[707] SEC Submission at page 55.

proposed fully functional dual control center at a separate site responds to a number of external demands now and in the future, including:[708]

- Toronto Hydro's ability to effectively respond to the evolving needs of, and external threats facing, the country's largest city. [709] This includes the growing economic and institutional importance of Toronto, and threats from factors such as climate change[710] and terrorism.[711]

- The need for Toronto Hydro to have visibility into the increasingly dynamic grid it operates to better serve its load and generation customers, including those with distributed energy resources (DERs). The rapid evolution in small scale generation, storage and grid-connection is widely considered by the industry, regulators in Ontario, and government, to be a fact that utilities are already struggling to keep pace with today, and must continue to adapt to accommodate in the future.[712]

- The realities of operating a complex grid in a dense urban environment with unique system designs. This includes factors such as: (a) the volume of system emergencies and power-outage related response needs, volume of capital/maintenance work and sustained workforce renewal needs; (b) supporting various priority services within the City of Toronto, which include Emergency services (Police, Fire and Ambulance), telecommunication facilities, hospitals, Water & Wastewater infrastructure, financial sector; and (c) the design of the system (e.g. secondary mesh network, underground radial distribution, compact radial distribution, dual radial, etc.). [713]

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[708] Exhibit 2B, Section E2 at page 42, lines 14-21.
[709] Exhibit 2B, Section E2 at page 42; Exhibit 2B, Section E8.1 at pages 2-3.
[710] Large scale environmental and hazard events are becoming increasingly more common within Toronto Hydro's service territory and across the industry. Recently, Toronto Hydro has experienced a number of severe weather-related events that caused wide-spread damage and outages. See Exhibit 2B, Section E8.1 at page 2, lines 18-22, and pages 13-17.
[711] Public Safety Canada issued a report titled "The 2017 Public Report on The Terrorist Threat to Canada" indicating that since 2014, Canada's terrorism threat level is Medium, meaning that a violent act of terrorism could occur. See Exhibit 2B, Section E8.1 from page 2, line 22 to page 3, line 4 and at pages 17-18.
[712] Advisory Committee on Innovation – Report to the Chair of the Ontario Energy Board (November 2018) Recommendation 3B at pages 16-17; Government of Ontario, Ontario's Long-Term Energy Plan 2017 at pages 63-65; Energy Transformation Network of Ontario (ETNO), "Structural Options for Ontario's Electricity System in a High-DER Future" (June 2019) at page 18.
[713] Exhibit 1B, Tab 1, Schedule 1 at pages 9-19; Exhibit 1C, Tab 1, Schedule 1 at page 2, lines 4-11; Exhibit 2B, Section E8.1 at page 1, lines 18-20; Exhibit 4A, Tab 2, Schedule 5 at page 3, lines 14-18; Exhibit 4A, Tab 2, Schedule 7 at pages 4-7.

In addition to Toronto Hydro's uncontroverted evidence, the expert evidence fully supports the dual control centre and demonstrates that it pays for itself

583. Notwithstanding this common foundation of agreement as to the benefits of the investment, OEB Staff and SEC ultimately reject the dual control centre. Their rejection is for reasons wholly unrelated to the need, Toronto Hydro's operating environment, its customers, or the distribution grid.[714] Instead, these parties submit that the OEB should rejected Toronto Hydro's proposed investment because of certain conclusions in the London Economics ("LEI") study filed in support of Toronto Hydro's proposal. With respect, the assessment of both OEB Staff and SEC rest on a mischaracterization of certain analysis and relevant conclusions in the LEI study, as well as a failure to consider other relevant data and conclusions. For these reasons and as explained below, their submissions should be rejected.

584. OEB staff and SEC assert that based on the LEI study, 20 (out of 25) of the largest utilities in Canada and the US operate in the absence of a dual control centre. As a result, OEB Staff concludes that the dual control centre proposed by Toronto Hydro is not required at this time.[715]

585. However, the LEI study does not say that 20 (out of 25) of the largest utilities in Canada and the US operate in the absence of a dual control centre. LEI instead notes that based on publicly available data, it could only identify 5. LEI specifically stated that the more utilities from the 20 may also use a backup control center, but that they were excluded from the review as no public information was available.[716] In short, it was the availability of public information that was the limiting factor, not the existence of fully functioning back-up control centres.

586. In reference to the three utilities operating both transmission and distribution assets and are subject to North American Electric Reliability Corporation ("NERC") standards discussed in the LEI report, SEC indicates that that Toronto Hydro, as a distributor only, has less of a need for a dual control centre.[717] This claim also fails to consider the evidence. The LEI report clearly points to the fact that the proliferation of DERs will transform distribution grid management functions to functions closer to that of bulk system operations with respect to reliability.[718] NERC itself noted that due to increasing adoption of DERs, the operations at wholesale

[714] Energy Probe adopted the position of OEB Staff and SEC.
[715] OEB Staff Submission at pages 93-94; SEC Submission at page 55.
[716] Exhibit 2B, Section E8.1, Appendix A (LEI Report) at pages 5-6, including footnote 2; 1B-BOMA-22; OH Volume 5 (July 5, 2019) at page 79, lines 13-28, page 80, lines 1-22.
[717] SEC Submission at page 55.
[718] Exhibit 2B, Section E8.1, Appendix A at pages 15-20.

and retail, and transmission and distribution "may be increasingly blurred".[719] Toronto Hydro notes that the party most focussed on DER support, DRC, supports the dual control centre on the basis that it will enable DER-related efficiencies.[720]

587. What's more is that OEB Staff and SEC did not reference or acknowledge a key factor in LEI's analysis – namely its consideration of the value of lost load ("VoLL") for Toronto Hydro. LEI noted that IESO utilized the concept of VoLL in its 2015 Central Toronto Integrated Regional Resource Plan. As part of this 25-year plan, IESO conducted a Probabilistic Reliability Assessment to estimate the economic impact of the risk of outages, using a VoLL assumption of CAD$30,000/MWh. As this assumption fell within LEI's previous study ranges for VoLL, LEI concluded that $30,000/MWh is an appropriate VoLL assumption in Toronto Hydro's service territory.[721] On this basis, LEI's evidence is that Toronto Hydro supplied a total of 25,588 GWh in 2016, which averages to about 2,913 MWh delivered per hour, and had an average peak load of 3,961 MW. Taking Toronto Hydro's average load per hour of 2,913 MWh, and assuming a VoLL price of $30,000/MWh, the $40.2 million cost for the dual control center represents reducing the duration of a system-wide outage by 28 minutes at VoLL prices. Based on other scenarios considered, LEI concluded that relatively short duration outages would end up costing the equivalent of the $40.2 million cost of the dual control center. Therefore, if the dual control center could reduce the duration of potential outages or allow for a fully functional alternative in the event that the main control center needs to be evacuated, the avoided outage effects mean that the dual control center could essentially pay for itself. [722]

588. Notwithstanding that SEC cannot provide any rebuttal of Toronto Hydro evidence and relies only on mischaracterizations of the LEI report, SEC concludes that Toronto Hydro's cost benefit analysis of the project falls short.[723] However, this is demonstrably incorrect. To the contrary, Toronto Hydro provided extensive evidence about the need for the dual control centre and why the proposed investments are required to address the current challenges regarding the current back-up control centre. In particular, Toronto Hydro considered and presented as part of its rate application a business case evaluation of 5 different options in this

[719] Exhibit 2B, Section E8.1, Appendix A at page 18.
[720] DRC Submission at page 20.
[721] Exhibit 2B, Section E8.1, Appendix A (LEI Report) at pages 23-24.
[722] *Ibid*, at pages 24-26.
[723] SEC Submission at page 55.

area.[724] As noted above, Toronto Hydro also supplemented its utility evidence with additional expert evidence in support of the investment.

589. In the event that despite the foregoing, the OEB is persuaded by OEB Staff and SEC that certain aspects of the LEI report are suboptimal, Toronto Hydro submits that the OEB should nevertheless support this investment. Toronto Hydro's evidence demonstrates that the expenditure is underpinned with an accepted valid need and corresponding benefits given the critical nature of the Control Centre and the potential risks and consequences. If the events described in the evidence do occur and a solution was available, an incremental report will provide little comfort to the customers of Toronto Hydro and the city that it serves.

Toronto Hydro's fleet cost forecasts are reasonable: it is effectively utilizing its fleet, replaces vehicles based on asset condition, and has undertaken appropriate analysis

590. OEB staff and SEC (together with AMPCO and Energy Probe) assert that Toronto Hydro's forecast vehicle utilization rate of 50% for 2020 is low.[725] According to OEB staff, if Toronto Hydro were to increase its utilization rate it would be able to manage with fewer vehicles over time.[726] Likewise, SEC believes that Toronto Hydro should reduce the size of its vehicle fleet.[727]

591. The utilization measure relied upon by OEB staff and SEC only measures one aspect of vehicle usage and does not provide a full representation of vehicle use, so it is an incorrect basis upon which to draw conclusions regarding vehicle utilization rate. Second, OEB staff and SEC ignore the fact that Toronto Hydro replaces its vehicles based on condition assessments, which underpins the capital expenditures the utility proposed. The OEB should not accept the submissions of OEB staff and SEC for these reasons, as discussed in further detail below.

592. Toronto Hydro derived its fleet investment plans from rigorous asset management processes aligned with the principles of its distribution system asset management approach. The planning balanced the need to minimize overall lifecycle costs,

[724] Exhibit 2B, Section E8.1 at pages 21-28.
[725] OEB Staff Submission at pages 94-95; SEC Submission at page 64, paragraphs 3.8.1-3.8.2; AMPCO Submission at page 28; EP Submission at pages 21-25.
[726] OEB Staff Submission at page 95.
[727] SEC Submission at page 64, paragraphs 3.8.1-3.8.2.

mitigate safety and security risks, improve efficiencies, and ensure business continuity.[728]

593. The utilization rate relied upon by OEB staff and SEC is shown in Exhibit 4A-AMMCO-94(b). However, that utilization measure only measures one aspect of utilization, being the vehicles use during "standard hours". Standard hours is a specifically defined term, meaning "the hours between 7:30am – 3:30 pm during weekdays (excluding Statutory Holidays)", and is "the total hours the vehicle is outside its home zone during standard hours, divided by the total number of standard hours per work day." As specifically stated in the interrogatory response, the measure excludes: "Vehicle usage outside of the "STD hours" (overtime, 24/7 System Response teams, Crews operating around road restrictions, shift employees, reactive emergencies, etc.); Time spent working in the home location (prepping equipment, safety meetings, loading material, training, inspections, returning material removed from the field, etc.)."[729]

594. That simply referring to standard hours significantly underrepresents vehicle utilization was clearly stated at the technical conference:[730]

> MS. GRICE: Okay. So if it's inside the home zone is that considered that the vehicle's not, I don't know how to phrase it, reporting to work, it's sitting idle?
>
> MR. NAHYAAN: So that's wherein lies the reason why these numbers, I would characterize them as being artificially low. There are still quite a lot of productive work associated to the vehicle and the work program that's happening within the [home] zone, specifically being circle checks, safety checks, vehicle maintenance, on-boarding of equipment as in, like, equipment required for the program or the delivery of the capital projects. Those are still happening within the [home] zone.
>
> So that is one of the reasons -- or some of the reasons why work associated to the trucks can be artificially representing these numbers to be low. There's other elements to it as well, which include safety meetings, job planning, which are key aspects of delivering the program,

[728] Exhibit 2B, Section D1 at page 2, lines 7-9, Section E8.3 at pages 1-3 and 5-15.
[729] 4A-AMPCO-94(b).
[730] TC Volume 3 (February 21, 2019) from page 138, line 27 to page 139, line 16. Note that the witness referred to the "work zone", which he later clarified meant the "home zone", which is the reason for the square brackets in the excerpt.

> which still also happen within the [home] zone that are not accounted for in these reported numbers. [emphasis added]

595. Despite their assessment clearly being contradicted by the record, OEB staff and SEC nevertheless use this limited measure of utilization to incorrectly conclude that Toronto Hydro's fleet size should be reduced. In addition to the inaccuracy of this conclusion, it ignores that Toronto Hydro has already embarked on this initiative having reduced its fleet size from 660 units down to 588, thereby, reducing the operating costs of running a larger fleet.[731] The utility continues to look for opportunities and strategies to refine the fleet size and composition. The right-sizing of the fleet is expected to continue throughout 2020-2024, by considering the size and composition of the future work programs, staffing levels and crew compliments; as well as residual value, condition assessment, utilization, procurement cost and lead-time of vehicles, and equipment.[732]

596. What's more is that OEB Staff and SEC's conclusions also ignore that condition is a key driver for Toronto Hydro's proposed capital expenditure for fleet. Toronto Hydro observes that OEB Staff and intervenors stress the need for asset replacement on the basis of condition when it relates to System Renewal investments, however then ignore it in the case of fleet investments. However, as with much of System Renewal, reference to condition analysis in the case of fleet supports the need to replace the assets.

597. Toronto Hydro refreshed its Lifecycle Cost Analysis ("LCA") in 2017 with the assistance of a third-party consultant. Following an options analysis that incorporated the LCA, Toronto Hydro determined that *when warranted by actual vehicle condition, the optimal asset management strategy was like-for-like replacement*. Consequently, as compared to 2015-2019, a greater number of heavy duty vehicles require reinvestment over the 2020-2024 period. This is the primary driver of an increase in forecasted fleet costs.[733]

598. As stated by Toronto Hydro's General Manager of Distribution Grid Operations:

> "…If you go through our evidence it states that our actual change-out of vehicle decision is based on the corresponding condition assessment of the vehicle, not necessarily a direct application of the LCA recommendation."[734]

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[731] Exhibit 2B, Section 8.3 at page 3, lines 14-17.
[732] 1B-BOMA-20(b).
[733] Argument-in-Chief at para. 116.
[734] TC Volume 3 (February 21, 2019) at page 107, lines 12-16.

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> MR. NAHYAAN: Toronto Hydro's decision-making, in terms of managing its overall fleet, is condition-based, and we -- all of the replacement decisions are based on condition.[735]

599. Indeed, in this regard, Energy Probe actually recognized the importance to vehicle replacement on the basis of condition.[736] However, it raised a different concern with Toronto Hydro's proposed fleet investment. Namely that Toronto Hydro's selected "Managed Fleet Replacement" option is not as advantageous as the LCA results and the use of average age as a basis of assessing the fleet investment.

600. With respect, Energy Probe's analysis of LCA is flawed for the reason that it engages in a false dichotomy between the LCA analysis presented by Toronto Hydro's consultant[737]and the "Managed Fleet Replacement" option proposed by Toronto Hydro[738]. Toronto Hydro uses the LCA methodology as a basis for forecasting and the optimized total lifetime costs that Toronto Hydro will use under the "Managed Fleet Replacement" option. As a result, the Managed Fleet Replacement option is actually based on the LCA analysis. The $1M difference between the $41.5M capital cost under the LCA option and the $42.5M capital cost under the Managed Fleet Replacement option is attributable to the exclusion of trailers and lifts from the LCA option, which TH has incorporated in its Managed Fleet Replacement option as run-to-fail assets.[739]

601. Furthermore, Energy Probe attempts to assess Toronto Hydro's plan related to fleet on the basis of average vehicle age under the plan relative to the average under the previous CIR period. This is not correct. The LCA provides empirical justification to identify the best time to replace vehicles in terms of age, mileage, or other pertinent factors. As the age of a vehicle increases, ownership costs decline and operating costs increase. As such, the optimal time to replace a vehicle is before the point where the operating costs begin to outweigh the decline in ownership costs. Toronto Hydro leverages this analysis to plan its future capital replacements during the 2020-2024 plan period. If the age profile of the fleet surpasses the target age identified in the LCA, reliability of these assets may become compromised, posing risks to the timeliness and reliability of distribution work. When the average age of the fleet exceeds the target age, the vehicle-related parts and services operating

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[735] OH Volume 5 (July 5, 2019) at page 15, lines 4-7.
[736] Energy Probe Submission at page 25.
[737] 1B-SEC-3, Appendix E.
[738] Exhibit 2B, Section E8.3 at pages 17-18.
[739] OH Volume 5 (July 5, 2019) at pages 7-10.

costs also begin to increase significantly. As vehicles age, they incur higher operating expenses due to increasing levels of reactive repairs. Therefore, if the recommended replacements are not completed during the 2020-2024 period, operating costs for repairs will increase with the escalating average age of the fleet.[740]

602. Energy Probe also submits that Toronto Hydro should be required to benchmark its fleet costs and profile against similar Ontario and North American utilities. With respect, this is not a reasonable suggestion. For one, Toronto Hydro has already engaged an independent consultant to assist with determining a LCA.[741] What's more, however, is that there is no known industry standard or benchmark parameter for vehicle utilization in the electric industry and any standard that may exist may not necessarily be appropriate for benchmarking, given the significant utilization differences between utilities/companies with different fleet sizes or functionalities.[742] For example, regarding vehicle utilization, it would be inappropriate to compare utilities with large service areas including rural and low-density areas such as Alectra Utilities and Hydro One against Toronto Hydro, which serves a dense urban area. Vehicle usage may be fundamentally different. Based on the many factors that could affect such a benchmarking exercise, the OEB should not prescribe benchmarking parameters based on Energy Probe's recommendation.

Toronto Hydro's approach to vehicle type (electric vs. internal combustion engine) is appropriate.

603. Based on its preference for the proliferation of electric vehicles, DRC asserts that because Toronto Hydro has not provided a breakdown of fuel, capital, and operating costs for each and every fleet investment that "legacy costs associated with internal combustion engine fleet vehicles" be excluded from the revenue requirement.[743] With respect, DRC's attempt to unilaterally impose incremental evidentiary requirements on Toronto Hydro is unreasonable and without merit.

604. For one, Toronto Hydro has complied with all of the OEB's filing requirements in preparing its evidence and has provided extensive evidence regarding capital and OM&A costs. There is no regulatory basis for electricity distributors to provide, as part of their rate application, a granular comparison of the differences between the

[740] Exhibit 2B, Section E8.3 at page 1, lines 17-22, page 2, lines 1-11, page 5, lines 20-24, page 8, lines 1-20, page 9, lines 6-13; 2B-VECC-16(a) at page 1, lines 23-26; OH Volume 5 (July 5, 2019) from page 16, line 1 to page 17, line 7.
[741] Exhibit 2B, Section E8.3 at page 2, lines 7-11; 1B-SEC-3, Appendix E.
[742] OH Volume 6 (July 8, 2019) at page 10, lines 15-25.
[743] DRC Submission at page 21.

fuel costs of electric vehicles and non-electric vehicles as a pre-condition of fleet investments.

605. What's more is that implicit in DRC's critique is an assumption that electric vehicles are always an appropriate substitute for combustion-engine vehicles across a distributor's operations. This is simply not the case. An important use of a distributor's fleet are in times of power outages when electricity is not available in certain areas of the city, or potentially, at all.[744] Similarly, electric vehicles require charging and there is no indication that Toronto will have an integrated electrical vehicle charging network across the city during the forecast period.[745] Further, Toronto Hydro does include electric vehicles in its fleet where it makes sense to do so – for example, Toronto Hydro currently owns 9 fully electric cars, 41 hybrid light duty vehicles (cars, pick-up trucks, and SUVs), and 3 heavy duty vehicles (single bucket trucks.[746] Emissions is one of the various criteria that Toronto Hydro considers as part of its vehicle procurement specifications and the choice of investing in electric vehicles is made at the purchasing stage as Toronto Hydro follows its competitive procurement process.[747]Finally, Toronto Hydro is a strong performer on reducing emissions, and continues to (i) invest in telematics and anti-idling systems for its fleet vehicles to help the utility monitor and improve utilization and reduce idling and decrease greenhouse gas emissions and (ii) encourage employees to transition to electric vehicles to reduce indirect emissions by commuting employees.[748] Toronto Hydro's proposed capital expenditures in fleet vehicles will also help limit emissions by replacing at the optimal time aging and/or deteriorating vehicles that tend to have relatively poorer fuel economy and higher emissions.[749] More generally, Toronto Hydro promotes and undertakes, internally, with key stakeholders, and within the broader City of Toronto community, a variety of sustainability initiatives. For example, over 2016-2017, the utility to reduced its fuel consumption by 36%, idling hours by 43%, kilometres travelled by 0.4%, and total greenhouse gas emissions by 7%.[750]

606. Nevertheless, as Toronto Hydro has indicated, it will continue to consider investing in additional zero emission vehicles based on various factors and whether it would

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[744] Exhibit 2B, Section E8.3 at page 5, lines 4-12, page 8, lines 2-4; Exhibit 4A, Tab 2, Schedule 11 from page 5, line 23 to page 6, line 3; 1C-DRC-6(c) at page 3, lines 22-24; 4A-Staff-125(b)(ii) at page 3, Table 1b.
[745] Exhibit 3, Tab 1, Schedule 1 from page 10, line 3 to page 11, line 3.
[746] J5.10; J5.11. Toronto Hydro notes that there are currently very few zero emission vehicle options available outside the car category that would meet the business needs of the utility: J5.10 at page 1, lines 12-14.
[747] OH Volume 5 (July 5, 2019) at page 171, lines 2-10, page 174, lines 22-28, from page 175, line 27 to page 176, line 5.
[748] Exhibit 2B, Section E8.3 from page 13, line 21 to page 14, line 9; 1C-EP-22(a).
[749] Exhibit 2B, Section E8.3 at page 8, lines 17-19, page 18, line 17; Exhibit 4A, Tab 2, Schedule 11 at page 2, Table 2 and page 7, lines 13-14.
[750] Exhibit 1C, Tab 3, Schedule 10 (THC Annual Report) at pages 32-33.

qualify for any applicable incentives.[751] On this point, DRC submits that the OEB should take into account the financial incentives that may be potentially available to Toronto Hydro in considering the Fleet and Equipment Services capital and OM&A budgets. With respect, this suggests that Toronto Hydro's asset management decisions should be based upon available government programs, the availability of which are not certain in the future. On the contrary and as indicated throughout the evidence, Toronto Hydro bases its asset management decisions on a broad range of factors.[752]

Toronto Hydro's IT capital expenditure forecast is reasonable and justified in evidence.

607. Toronto Hydro filed extensive evidence justifying the critical need for the requested funding and demonstrating the prudence of its capital budget.[753] As the record demonstrates, IT/OT systems perform vital functions that are central to the safe and reliable operation of the distribution system and effective interaction between the utility and its customers. The level of proposed spending is required to (i) refresh IT hardware systems at the end of their useful life, including data centre assets that were last upgraded just prior to the 2015 to 2019 period; (ii) upgrade Toronto Hydro's IT software applications that require remediation during the period, including the Enterprise Resource Planning ("ERP") and Customer Information System ("CIS"), and make targeted investments to provide software enhancements that address business risks or compliance matters; and (iii) address specific OT system needs to mitigate risks such as functional obsolescence.

608. SEC submits that Toronto Hydro's proposed capital IT spending increase of $56M in 2020-2024 over the 2015-2019 period is not justified because: (i) Toronto Hydro has not quantified the benefits associated with the capital projects related to Enterprise Resource Planning Phase 2 ("ERP Phase 2") and the CIS upgrade; and (ii) the benchmarking analysis provided by Gartner Consulting ("Gartner"), on which Toronto Hydro relies, was flawed and should be rejected.[754]

609. Energy Probe also challenges Toronto Hydro's proposed IT expenditures on the same basis. Energy Probe claims that Toronto Hydro has not adequately justified the increases in IT costs and recommends the OEB to either: (i) constrain 2020-2024

[751] OH Volume 5 (July 5, 2019) at page 171, lines 2-10, page 174, lines 22-28, from page 175, line 27 to page 176, line 5.; J5.9.
[752] See generally Exhibit 2B, Section D.
[753] Exhibit 2B, Section E8.4; Exhibit 4A, Tab 2, Schedule 17; 2B-SEC-70; 2B-SEC-71; 2B-Staff-76(c); U-Staff-166.4; 2B-Staff-99; 2B-EP-48; 4A-SEC-85; 4A-EP-50; JTC3.4; JTC3.5; J5.8.
[754] SEC Submission at pages 56-61.

the IT capital budget to "2013-2018" levels and impose a reduction of $6.5M per year for a total of $32.5M; or (ii) accept the 2020 budget of $54.8M as a base year but limit increases thereafter to an inflation factor of 2.5%.[755]

610. Both SEC and Energy Probe fail to acknowledge the critical need for the ERP Phase 2 and CIS projects in the consideration of benefits, and also mischaracterize or misinterpret the Gartner benchmarking study. For the reasons set out below, the OEB should reject their claims.

611. With respect to ERP Phase 2 and CIS upgrades, SEC makes the incorrect assertion that Toronto Hydro did not perform a rigorous internal analysis on the proposed projects.[756] However, Toronto Hydro's analysis is captured in its program evidence and the applicable business cases.[757] For ERP Phase 2, Toronto Hydro compared five different options of varying scope and investment levels[758] and concluded that implementing the moderate scope option, which forms the basis of the ERP II project plan, would be the optimal approach to address the need and risks in this area.[759] A comparable options analysis was undertaken for the CIS upgrade.[760]

612. Similarly, with respect to the benefits arising from ERP Phase 2, contrary to the assertions of SEC, Toronto Hydro has in fact set out benefits associated with the project. However, its ability to do that with the same quantitative granularity as with ERP Phase 1 is limited simply by the timing of ERP Phase 2. For ERP Phase 1, at the time of the 2015-19 rate application, Toronto Hydro had already incurred costs in 2013-2014[761] and completed the preparation work in advance of that rate period. These early expenses and experiences enabled Toronto Hydro to conduct a more detailed analysis for benefits associated with ERP Phase 1.[762] The same is not true for ERP Phase 2 as the project is slated to begin during the forecast period.

613. As noted in the evidence, Toronto Hydro expects ERP Phase 2 to increase company-wide benefits that include efficiency by integrating ERP with other systems. This will increase system reliability, eliminate duplication, reduce manual efforts, and improve numerous processes (including data governance and management, management reporting and decision-making, customer service through enabling

[755] EP Submission at pages 25-29.
[756] SEC Submission at pages 59-61.
[757] Exhibit 2B, Section E8.4 at pages 27-31; 2B-SEC-70, Appendices A and B.
[758] Exhibit 2B, Section E8.4 at pages 27-31. They are: 1) do nothing, 2) outsource management of IT applications, 3) simple scope enhancements, 4) moderate scope enhancements, and 5) complex scope enhancements of the ERP.
[759] Exhibit 2B, Section E8.4 at pages 27-31; 2B-SEC-70, Appendix A at pages 4-5 and 14.
[760] Exhibit 2B, Section E8.4 at pages 27-31; 2B-SEC-70, Appendix B at pages 9-11.
[761] OH Volume 5 (July 5, 2019) at page 110, lines 10-13.
[762] OH Volume 5 (July 5, 2019) from page 119, line 5 to page 120, line 24.

integrated access to customer information and work orders, and business operations and efficiency by increasing field workers' access to data in the field).[763]

614. What's more is that SEC and Energy Probe ignore a significant and material fact. Without the investment in the ERP Phase 2 project, the reliability and security of Toronto Hydro's key IT infrastructure will be at risk and impaired. Like any investment forming part of the DSP where there is a clear need for the investment to ensure the reliability of operations, extensive quantified benefits analysis is required to make the forecasted capital expenditure and resulting in-service addition reasonable and prudent. As detailed in the pre-filed evidence (and supplemented by the record since), Toronto Hydro conducted a thorough options analysis along with its business case for the investment, and clearly demonstrated the need for this investment.[764] Further, the utility articulated numerous benefits associated with ERP Phase 2, even though it was not in a position given the timeframe to yet quantify those benefits.[765] What's more and with respect, a singular focus on the monetary forecasted benefits as proposed by SEC misses one of the most significant benefit of them all, which is that ratepayers have the benefit of an upgraded network that is secure and reliable. Although SEC and Energy Probe have ignored the foregoing, Toronto Hydro submits that the OEB should not.

615. Without ERP Phase 2, Toronto Hydro's financial processes and the ability to report accurate information in line with regulatory requirements could be disrupted. In ERP Phase 1 undertaken in the 2015-2019 period, the OEB approved the replacement of Toronto Hydro's legacy system, Ellipse, in favour of a modern application to address significant reliability and cybersecurity risks. ERP Phase 2 is a necessary and valuable extension of this, and will upgrade the ERP database and application to the current version of SAP's system. SAP will no longer provide vendor support to the current version by 2025. Without the proposed upgrade, this core IT system would be exposed to unacceptable reliability and cybersecurity risks.[766]

616. With respect to the CIS project, SEC also asserts that the underlying analysis is flawed without a comprehensive benefit calculation.[767] This assertion should be rejected for the same reasons as set out above for ERP Phase 2.

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[763] 2B-SEC-70, Appendix A at pages 4 and 7.
[764] Exhibit 2B, Section E8.4 at pages 27-31; 2B-SEC-70, Appendix A at pages 4-5 and 14.
[765] 2B-SEC-70, Appendix A at pages 4 and 7.
[766] Exhibit 2B, Section E8.4 at pages 18-19.
[767] SEC Submission at page 61.

617. Further, Toronto Hydro's CIS upgrade is critically needed. Toronto Hydro currently processes approximately $18 million per day in electricity costs and issues approximately 43,000 bills per day through its CIS. Billing delays due to CIS issues can give rise to major customer and financial impacts, and would put at risk Toronto Hydro's ability to meet OEB-established metric on billing accuracy.[768]

618. The current legacy system entails increased security risks because it no longer receives security patches from the vendor.[769] Since April 2016, Toronto Hydro's legacy CIS has been without vendor support from Oracle, leaving it exposed to reliability and cybersecurity risks.[770] Every month, Toronto Hydro's IT security team successfully blocks as many as 20 million internet-based attacks. These attacks attempt to tamper with normal IT system operations, gain unauthorized access to confidential information, or cause a machine or network resource to be unavailable to its intended authorized users. A successful cyber-attack on the CIS, for example, would compromise customer usage and billing data, including confidential customer information. Stolen customer data can be used in fraud and identity theft.[771] To maintain the current CIS after the expiration of vendor support, Toronto Hydro has invested in customizations that are increasingly difficult to administer and maintain. At present, there are about 1,000 separate interfaces, configurations, and customizations to the original Customer Care & Billing software product.[772]

The Gartner Benchmarking study provides reliable and appropriate benchmarking results

619. Gartner concluded that for 2017 and the forecast 2020 year, Toronto Hydro's IT spending both as a percentage of revenue and of operational expenses are *lower* than the peer group. Toronto Hydro's total IT expenditures per user in 2017 benchmark competitively against industry peers. Gartner also concluded that in both 2017 and 2020 years that Toronto Hydro's IT investments "by cost category, investment category and functional area are all comparable to the peer group, with some variation but no significant issues identified."[773]

620. The Gartner benchmarking study was filed in support of Toronto Hydro's IT/OT expenditures generally. Instead of considering the need and basis for the IT capital expenditures for the 2020-2024 period, SEC and Energy Probe have focused a large

[768] Exhibit 2B, Section E8.3 at page 9, lines 7-9; 2B-SEC-70, Appendix B at page 4.
[769] *Ibid*, at page 9, lines 9-12.
[770] *Ibid*, at page 19, lines 27-29.
[771] *Ibid*, at page 7, lines 19-25.
[772] *Ibid*, at page 9, lines 18-23 and page 20, lines 3-8.
[773] Exhibit 2B, Section E8.4, Appendix A at page 1.

part of their respective submissions on challenging the results of the Gartner Consulting ("Gartner") independent benchmarking study.[774] In particular, SEC and Energy Probe ignore that IT capital expenditures include IT hardware that are past their useful life. Of Toronto Hydro's current assets, approximately 90 percent of existing core backend infrastructure (e.g. network, storage, and server assets) are forecast to require replacement in order to address reliability risks associated with those assets and provide the incremental capacity.[775]

621. Furthermore, Toronto Hydro's legacy IT systems no longer receive security patches and performance upgrades or fixes, rendering the applications more vulnerable to cyber-attacks. All major IT systems and their underlying infrastructure that will reach their end of life in the 2020 to 2024 period must be upgraded.[776]

622. SEC challenges the Gartner benchmarking results on the basis that the benchmark used is inaccurate and that the peer group is not appropriate. With respect, these critiques, SEC's analysis and critique of the Gartner study is without merit and should be rejected for these reasons as set out below.

623. SEC claims that benchmarking Toronto Hydro's IT spending against entire enterprise revenue and operating expenses is inappropriate because these amounts would include the cost of power, which is a flow-through cost for Toronto Hydro.[777] However, this claim is based on ignoring the uncontroverted evidence. In particular, Gartner explains that total enterprise revenue and enterprise expenses are appropriate for benchmarking because IT spending and staffing represent support for the whole of the business.[778] Indeed, Gartner squarely addressed the very concern raised by SEC: [779]

> The 2017 revenue and operational expense amounts were provided to Gartner by Toronto Hydro. Electricity commodity costs and revenue are and should be included per Gartner definitions – this data is included for all our benchmark clients and provides an accurate comparison. In addition, Gartner benchmarks are based on an alignment of business and IT support for that

[774] EP Submission at pages 25-28; SEC Submission at pages 56-58.
[775] Exhibit 2B, Section E8.4 at pages 3-6 and 16-17. The largest contributing factor is Toronto Hydro's two data centres, which were last renewed in 2014 and are scheduled for replacement during the next rate period.
[776] *Ibid*, at pages 7-8.
[777] SEC Submission at pages 56-57.
[778] Exhibit 2B, Section E8.4, Appendix A at pages 5 and 10-11.
[779] 2B-Staff-100(a).

business**.** Because IT spending and staffing represent support for the whole of the business, all revenue and operational expense should be included.

624. Furthermore, SEC fails to acknowledge that all flow-through items billed by Toronto Hydro (commodity, transmission charges, regulatory charges, etc.) impact the amount of IT investments needed because they all require configurations to the CIS, testing, the maintenance and operation of systems that enable settlement with the IESO, automated collection processes, etc. As noted above, Toronto Hydro's CIS currently processes approximately $18 million per day in electricity costs. Billing delays due to CIS issues are not delineated between pass through or non-pass through charges. Notwithstanding the nature of the charge, billing delays can give rise to major customer and financial impacts and would put at risk Toronto Hydro's ability to meet OEB-established metric on billing accuracy.[780] Furthermore, the majority of changes to billing, even if they solely relate to pass-through items, drive costs and require effort to comply with new/amended regulations.[781]

625. SEC also asserts that the peer group utilities selected by Gartner *may* be structurally different from Toronto Hydro, and as a result the Gartner study cannot be relied on.[782] This too is contradicted by Gartner's evidence, which states that Gartner selected utilities that it assessed to be structurally comparable, in that those utilities had annual revenues similar to Toronto Hydro and had distribution services in urban areas as Toronto Hydro does.[783]

626. SEC also challenges Gartner's comparison of IT spending per employee and per user, and asserts this aspect of Gartner's methodology and the corresponding results should not be accepted.[784] This, however, is merely SEC's opinion with no evidentiary basis for its assertion. To validate the results, Gartner considered all users (recognizing that users also drive costs) and discovered that the costs were much lower that than the benchmark. Gartner concluded that any differential between the IT spending per user metric and IT spending per employee relative to the peer group was due to Toronto Hydro's relatively low employee count.[785] Gartner also noted that the metric based on users is in line with the other metrics (IT Spending as a Percentage of Revenue and Operational Expense), supporting the assumption that it is THESL employee count not IT spending or staffing that drives

[780] Exhibit 2B, Section E8.4 at page 9, lines 7-9.
[781] *Ibid*, at page 12, lines 8-22.
[782] SEC Submission at page 57.
[783] 2B-EP-49(c) at page 3, lines 6-9.
[784] SEC Submission at pages 57-58.
[785] Exhibit 2B, Section E8.4, Appendix A at pages 19, 21, and 24.

the results.[786] Gartner was not directly challenged in the proceeding on this conclusion.

627. Instead of challenging Gartner directly through the procedural aspects that it is entitled to pursue, SEC merely claims that Toronto Hydro had no response to the methodology-related concerns with Gartner's study and so the study should not be accepted. SEC points to the cross-examination of Toronto Hydro's company witnesses and questions related directly to the methodology of the Gartner study. With respect, it is simply not an appropriate line of argument to put questions to a witness who is clearly not responsible for the evidence in question, and then rely on that as a failure of the utility – this is especially true in the case of expert rather than utility evidence.[787] SEC had the option to seek to examine Gartner and did not avail itself of that opportunity. No party challenged that expert's independence or expertise and as noted above (based on responses given by the expert in interrogatories and in its report) the criticism posed by SEC is not valid and should not be accepted by the OEB. Toronto Hydro submits that this tactical approach SEC seeks to employ should be discouraged by the OEB.

628. Energy Probe also asserts that the Gartner benchmarking study is flawed because of the cost benchmarks used and those not considered by Gartner for the year 2020.[788] However, Energy Probe's challenge fails to recognize that the absence of certain measures in 2020 are due to data limitations because of the forecast basis of the data required both from Toronto Hydro and the peer group and that this does not invalidate the Gartner methodology or the results. For these reasons and as explained below, Energy Probes submissions should be rejected.

629. Energy Probe takes the same position as SEC with respect to the benchmark of IT expenditures per user and Toronto Hydro submits that Energy Probe's position should be rejected on the same basis as above.

630. Energy Probe's main issue seems to be that because there were forecast data limitations for 2020, no benchmarks for that year could be considered and therefore there was no basis to evaluate the 2020 forecast. However, the two main benchmarks referred to by Gartner, IT Spending as a Percentage of Revenue and a

[786] Ibid at page 19.
[787] OH Volume 5 (July 5, 2019) at page 135, lines 3-7.
[788] Energy Probe Submission at page 28.

percentage of Operational Expense, were forecast and provided for 2020. Consistent with 2017, Toronto Hydro performed better than its peers.[789]

631. Energy Probe was also critical of the fact that it asked Toronto Hydro to provide data on IT cost/gross assets (size) and IT cost/ customer.[790] However, these benchmarks were not available as Gartner does not have access to this data on a peer level.[791] The merit of these particular benchmarks was not established by Energy Probe. Any negative inference asserted by Energy Probe with respect the availability of these benchmarks should be disregarded.

632. Energy Probe claims that it has "attempted to explore [its] concerns at the Technical Conference and in the Hearing but was met with resistance and refusals to providing further information by Toronto Hydro."[792] This is clearly incorrect. During the examination by Energy Probe at the technical conference and the oral hearing, Toronto Hydro's witness responded to Dr. Higgin's questions at length and with specific references to evidence.[793]

3.3 Is the proposed treatment of renewable enabling improvement investments appropriate?

Toronto Hydro's proposed treatment of renewable enabling improvement investments is appropriate and aligns with OEB guidance and requirements

633. Over the 2020-2024 period, Toronto Hydro proposes $18.6 million for new REI projects.[794] The utility applied the standard 6 percent direct benefit assumption provided by the OEB with respect to REI investments to calculate the provincial rate protection amounts.[795] Accordingly, Toronto Hydro submits that $1.12 million of the REI projects should be funded as part of the Toronto Hydro rate base, and $17.48 million of the REI projects should be funded through the provincial pool.

634. With the exception of Energy Probe, all parties agreed that Toronto Hydro's treatment of REI investments was appropriate. Rather than address whether the treatment of REI investments is appropriate, Energy Probe made broad and

[789] Exhibit 2B, Section E8.4, Appendix A at pages 1, 12, 19, and 24-32.
[790] EP Submission at page 27.
[791] 2B-EP-49(e).
[792] EP Submission at page 25.
[793] TC Volume 3 (February 21, 2019) from page 98, line 24 to page 103, line 21; OH Volume 5 (July 5, 2019) from page 17, line 11 to page 24, line 7.
[794] Exhibit 1B, Tab 5, Schedule 1, Table 7 at page 10; Exhibit 2A, Tab 6, Schedule 1, Section 3 at page 4; Tables corrected in J4.9. Please also refer to Exhibit 2A, Tab 6, Schedule 1 for details on Toronto Hydro's proposed REI investments.
[795] Filing Requirements for Electricity Rate Applications, Chapter 2 (July 12, 2018) at page 21, section 2.2.2.7.

factually incorrect assertions that there is a lack of evidence and transparency with respect to Toronto Hydro's planned REI investments over the 2020-2024 period.[796] These assertions ignore the clear evidence on the record and should be dismissed.

635. Energy Probe claimed that Toronto Hydro has not provided evidence about specific issues that can arise from renewable investments, nor a proposal on how to deal with these issues.[797] This assertion is wrong. Toronto Hydro's evidence includes:

- a detailed forecast for renewable generation connections,[798]
- a comprehensive discussion of the issues and challenges that it faces in respect of REI connections to the Toronto Hydro distribution system[799],
- a technical analysis of the distribution system's capability to accommodate renewables and other distributed generation connections,[800] and
- specific investment plans to alleviate REI constraints over the 2020-24 period.[801]

636. Energy Probe also baldly asserted that "by not filing evidence or proposing any plans, Toronto Hydro is preventing the OEB from conducting a prudence review in the future."[802] This statement is also false. Toronto Hydro's REI projects over the 2020-2024 period are described in extensive detail in the Generation Protection, Monitoring, and Control program[803] as well as in the Energy Storage Systems program.[804] Furthermore, additional financial details (i.e. in-service amounts) about the proposed REI investment are provided in the OEB Appendices 2-FA and 2-FB, consistent with the Filing Requirement.[805]

637. Toronto Hydro submits that the evidence filed, combined with the reporting on actual REI investments that will be provided in the next rebasing application, is more than sufficient for the OEB to evaluate the prudence of these investments. The OEB should reject Energy Probe unsubstantiated arguments.

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[796] Energy Probe Submission at page 30.
[797] Energy Probe Submission at page 30.
[798] Exhibit 2B, Section E3; Exhibit 2B, Section E5.1.
[799] Exhibit 2B Section E5.5.3.1, Page 6 of 22, lines 6-7.
[800] Exhibit 2B, Section E3.
[801] Exhibit 2B, Section E3; Exhibit 2B, Section E5.5; Exhibit 2B, Section E7.2.3; Exhibit 2A, Tab 6, Schedule 1.
[802] Energy Probe Submission at page 30.
[803] Exhibit 2B, Section E5.5.
[804] Exhibit 2B, Section E7.2.
[805] Exhibit 2A, Tab 6, Schedules 2-5.

638. In summary, Toronto Hydro's proposed treatment of renewable enabling improvement ("REI") investments is appropriate and aligns OEB guidance and requirements. The OEB should approve this proposal as filed.

4.0 LOAD AND OTHER REVENUE FORECAST

4.1 Is Toronto Hydro's 2020-2024 load forecast reasonable?

639. Toronto Hydro submits that the 2020-2024 load forecast is reasonable, and that should be the basis to set 2020 base rates and determine the growth ("g") factor in the proposed Custom Price Cap Index ("CPCI") for the 2021-2024 period.

640. With the exception of Energy Probe, no one challenged the reasonableness of Toronto Hydro's load forecast. Energy Probe argued that the load forecast is too low and that it should be frozen at the 2018 levels. As discussed in further detail below, Energy Probe's arguments are flawed, unsupported by evidence, and should be rejected by the Board.

641. Some parties expressed concerns about Toronto Hydro's load forecasting methodology. VECC took issue with Toronto Hydro's customer count forecasts and the use of extrapolation models, in particular linear trend models. VECC suggested that Toronto Hydro should improve the models by linking customer counts to changes in economic and demographic conditions,[806] while CCC argued that Toronto Hydro should file an independent review of its load forecasting methodology in the next rebasing application.[807] In addition, Staff commented that Toronto Hydro should better document its methodology in future proceedings.[808]

642. Toronto Hydro submits that VECC and CCC's concerns with respect to the load forecasting methodology should be dismissed. As explained in the AIC, Toronto Hydro used a robust approach to prepare the load forecast,[809] which is consistent with the Filing Requirements[810] and historical experience. The OEB relied on this methodology to set the utility's rates in the 2015-19 application, as well as in previous proceedings. There is no better proof than historical experience that - Toronto Hydro's load forecasting approach produces accurate and reliable results:

[806] VECC Submission at page 18.
[807] CCC Submission at page 14.
[808] OEB Staff Submission at page 102.
[809] Argument-in-Chief at para. 151. Exhibit 3, Tab 1, Schedule 1 at page 3.
[810] Filing Requirements for Electricity Distribution Rate Applications, Chapter 2 (July 12, 2018) at pages 22-28.

Table 6: Forecast versus Actual Customers and Energy for 2015-2018[811]

Year	Board-Approved Customer Forecast	Actual Customers	Customer Variance	Board-Approved Load Forecast (GWh)	Weather Normalized Actual (GWh)	Energy Variance
2015	749,679	747,811	**-0.25%**	24,993.28	25,031.07	**0.15%**
2016	763,091	759,031	**-0.53%**	25,027.38	24,909.27	**-0.47%**
2017	773,850	765,559	**-1.07%**	24,841.64	24,427.62	**-1.67%**
2018	785,107	769,690	**-1.96%**	24,696.94	24,620.32	**-0.31%**

643. Furthermore, as Mr. Seal pointed out at the Oral Hearing, Toronto Hydro continually evaluates its forecasting models to ensure that they remain valid and appropriate.[812] Staff acknowledges that unlike other utilities Toronto Hydro has the necessary resources and expertise to conduct the load forecast internally.[813]

644. In light of the utility's internal load forecasting expertise and robust methodology which produces demonstrably accurate and reliable results, Toronto Hydro submits that it's unnecessary for the OEB to order Toronto Hydro to change, or conduct a review of, the load forecasting methodology in the next application. However, in the alternative that the OEB finds merit in the submissions of CCC and VECC, Toronto Hydro proposes to address the concerns by adopting Staff's recommendation to provide enhanced documentation of the methodology in future proceedings.

645. Energy Probe argued that the load forecast is too low and that the OEB should freeze the forecast at the 2018 Bridge Year. In support of this argument, Energy Probe pointed to the discrepancy between the load forecast for billing unit purposes (energy and non-coincident peak demand by class) and the load forecast used for planning purposes (station peak loads). Toronto Hydro submits that this apples to oranges comparison is flawed and provides no meaningful information for evaluating the reasonableness of the load forecast for setting rates.

646. Toronto Hydro's load forecast is based on a robust approach that uses historical load data and statistically valid relationships with driver variables.[814] By contrast, Energy Probe's challenge is premised on the erroneous assumption that there should be a positive relationship between rate base growth and load growth. There

[811] J8.7.
[812] OH Volume 6 (July 8, 2019) at pages 133-134.
[813] OEB Staff Submission at page 102.
[814] Exhibit 3, Tab 1, Schedule 1, Section 3.1. Exhibit 3, Tab 1, Schedule 1, Appendix A-2

is no evidentiary basis for this assumption; in fact, historical rate base and billing unit loads results from the last 5 years disprove the assumption. There is clearly not a strong positive relationship rate base growth and billing unit loads.[815]

647. Toronto Hydro submits that the Board should place zero weight on Energy Probe's flawed arguments. The load forecast is a reasonable basis for setting 2020 base rates and determining the growth factor in the CPCI, and should be approved.

4.2 Are Toronto Hydro's 2020 other revenue and shared services forecasts reasonable?

648. Most of the intervenors did not make submissions on this issue. OEB Staff, supported by BOMA and VECC (who take the same position as OEB Staff), briefly addressed this issue in the submissions. OEB Staff confirmed that it "has no concerns with Toronto Hydro's shared services forecast" and that, with one exception, it "accepts the updated 2020 other revenue forecast."[816]

649. The exception put forward by OEB Staff is that the 2020 other revenue forecast should be increased by $1.78 million in respect of disposition of utility and other property. With respect, Toronto Hydro submits that there is no evidentiary basis for this proposal and that it is entirely speculative. OEB Staff's position is contrary to the evidence on this point, and should be rejected as it could arbitrarily lead to an inappropriate incentive in respect of the disposition of utility property.

650. As explained at the Technical Conference, Toronto Hydro makes decisions on property sales based on business requirements and after following a specific needs assessment process. Once properties are assessed to be decommissioned, Toronto Hydro conducts an assessment of future potential uses of those properties, for example related to switch gear growth or energy storage. Based on the outcome of that needs assessment, a determination is then made as to whether to retain or dispose of a property.[817]

651. Accordingly, property sales are not regular or routine occurrences and are certainly not done arbitrarily or without careful and proper justification. Rather, they are specific sales, based on careful business considerations relating to the particular property. In the 2015-2019 period, a number of decommissioned municipal stations have been (or are in the process of being) sold following Toronto Hydro's

[815] Exhibit U, Tab 3, Schedule 1 at page 1, Table 1.
[816] OEB Staff Submission at pages 103-104.
[817] TC Volume 3 (February 21, 2019) from page 25, line 5 to page 26, line 6.

business needs assessment process. The evidence indicates the net gain, if any, can vary significantly year to year depending on the property sales.[818]

652. Toronto Hydro's unchallenged evidence is that it has no plans to sell any properties in 2020. This evidence was confirmed at the technical conference and in the evidence update. Accordingly, and appropriately, Toronto Hydro did not forecast any revenue for property sales in 2020.[819]

653. Further, even if a property sale manifests in 2020, there is no proper or reliable basis to expect that the revenue would be $1.78 million (which OEB Staff calculated by simply taking the annual average of account 4355 for the 2015-2019 period). Any such revenue would, of course, depend on the particular circumstances of property, which include a host of site-specific considerations that can affect its value and the net gains upon disposition. As an example, if Toronto Hydro had to undertake significant remediation to clean up a property before selling it, the net gain on the sale of that property would be significantly reduced.

654. OEB Staff submits that, simply because there were property sales in the 2015-2019 period, it "believes" there will be property sales in 2020 and that the future value of those property sales will be consistent with the last period. With respect, this is faulty inductive reasoning: there is no reason to think that the future will be the same as the past, and the evidence contradicts it. As a result, OEB Staff's proposal that Toronto Hydro should forecast $1.78 million in revenue since that is the average revenue from sales in the 2015-2019 period is arbitrary. Neither of OEB Staff, BOMA or VECC cross-examined the witnesses on this point at the Hearing. At the Technical Conference Toronto Hydro expressly disagreed with the suggestion from OEB Staff that, because there have historically been some property sales, there will be some level of property sales during the forecast year.[820]

655. Not only is OEB Staff's position contrary to the evidence and involves an arbitrary/artificial suggested forecast amount, it also could create a perverse incentive for utilities to dispose of property with a view to managing revenue offsets, rather than doing so on the basis of a proper needs-based assessment. This approach, and the creation of this type of incentive, should be rejected as it could at

[818] Exhibit U, Tab 3, Schedule 2, Appendix A, OEB Appendix 2-H (Other Operating Revenue Table).
[819] 3-Staff-107(a); TC Volume 3 (February 21, 2019) at pages 25-26 and 129-130; Exhibit U, Tab 3, Schedule 2, Appendix A, OEB Appendix 2-H (Other Operating Revenue Table).
[820] TC Volume 3 (February 21, 2019) at page 26, lines 2-8.

least distort (if not entirely circumvent) the analysis underpinning property sales and could lead to decisions that may ultimately not be in ratepayers' best interests.

656. In its submissions, VECC misleadingly suggests that in the last application Toronto Hydro had forecasted zero property sales in 2015 (whereas there were some sales that year). In fact, in its evidence in the last application Toronto Hydro *did* forecast sales in 2015 for 5800 Yonge and 28 Underwriters, but the gains from those sales were not to be recorded in the revenue offsets account; rather they were to be treated differently and refunded to customers over a multi-year period as part of the Operational Centers Consolidation Program ("OCCP").[821] In this application, Toronto Hydro is clearing to customers additional gains on the sale of 5800 Yonge,[822] as well as gains on the sale of 50/60 Eglinton.[823] In total, the gains from these property sales exceed $150 million, which is a very significant benefit for customers.

657. In summary, having regard to the clear evidence on this point, and taking into account the nature of this type of revenue offset (specific, identified property sales made after and based on a business-needs assessment), Toronto Hydro's forecast of zero revenue from property sales in 2020 is reasonable and should be approved.

658. Alternatively, in the event the OEB has any concern in this regard (which Toronto Hydro submits should not be the case), a deferral and variance account could be created to track any additional revenue from property sales in 2020 and beyond. This approach would better protect ratepayers, and thus be preferable, than the imposition of the speculative and artificial revenue offset amount suggested by OEB Staff.

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[821] EB-2014-0116, Exhibit 3, Tab 2, Schedule 1 at page 6.
[822] 9-Staff-158; Exhibit 2B, Section E4 at page 5, lines 26-27; Exhibit 3, Tab 2, Schedule 1 at page 5, lines 18-25; Exhibit 9, Tab 1, Schedule 1 from page 32, line 1 to page 33, line 3; Exhibit U, Tab 9, Schedule 1 at page 9, lines 1-6.
[823] 8-Staff-146(f); Exhibit 2B, Section E4 at page 6, lines 2-8; Exhibit 3, Tab 2, Schedule 1 at page 5, lines 14-16 and 24-25; Exhibit 8, Tab 1, Schedule 1 at page 11, lines 9-16.

5.0 OPERATIONS, MAINTENANCE AND ADMINISTRATION (OM&A) COSTS, DEPRECIATION EXPENSES AND PAYMENTS IN LIEU OF TAXES (PILS) AMOUNTS

5.1 Is the level of proposed 2020 OM&A expenditures appropriate and is the rationale for planning choices appropriate and adequately explained?

659. OEB Staff and a number of intervenors claimed that Toronto Hydro's proposed 2020 OM&A expenditures are unreasonable and should be reduced by approximately $9.4 million. SEC and AMPCO argued for a higher reduction of $18.3 million. These arguments are based on purported concerns about: (a) the overall level of 2020 forecasted OM&A compared to historical actuals; (b) a small number of specific programs; and (c) whether productivity has been sufficiently built into the forecast.

660. Respectfully, Toronto Hydro submits the arguments advanced by OEB Staff and intervenors are unfounded and rely on either assertions unfounded in evidence or assertions directly contradicted by the evidence. The record in this proceeding overwhelmingly demonstrates that Toronto Hydro's proposed 2020 OM&A expenditures are prudent, reasonable and necessary to sustain utility performance in accordance with customer expectations.[824] For these reasons and as explained further below, Toronto Hydro submits that the OEB should reject the arguments made by Staff and the intervenors.

661. Toronto Hydro also submits that the OEB should reject OM&A reductions proposed by various parties for the reason that they would demonstrably negatively impact service levels and result in sub-optimal outcomes contrary to customers' expressed needs and expectations. The uncontroverted evidence in this proceeding is that Toronto Hydro already reduced its proposed OM&A budget by approximately $25 million during the Company's rigorous business planning process, and has made significant efforts and difficult trade-offs to constrain its forecast spending in these areas.[825] Consistent with customer feedback to keep prices as low as possible without compromising current service levels, Toronto Hydro re-examined each specific program and its expenditure level to minimize costs and maximize the value proposition for customers. Any further reductions to OM&A funding would

[824] Exhibit 4A, Tabs 1 and 2; Exhibit 1B, Tab 3, Schedule 1 at page 6, lines 6-22; Exhibit 1B Tab 3, Schedule 1, Appendix A; Exhibit 2B, Section E2 at pages 56-58; OH Volume 8 (July 11, 2019) at page 61, lines 18-28 and page 62, lines 1-8; Exhibit 4A, Tab 1, Schedule 1 from page 3, line 2 to page 5, line 24; see also generally Exhibit 4A, Tab 2 and Exhibit U, Tab 4A; 1B-CCC-9; 2B-SEC-47; Toronto Hydro Argument-in-Chief at page 50, paragraph 163, page 51, paragraphs 166, 169-170 and page 52, paragraphs 171 and 173.
[825] OH Volume 8 (July 11, 2019) from page 61, line 18 to page 63, line 5.

inevitably compromise the utility's ability to continue to deliver the current level of service that customers are satisfied with, and expect going forward.[826]

662. Toronto Hydro submits that a reduction in funding would have an adverse effect on customers and is contrary to the public interest. This conclusion is well-supported by the comprehensive OM&A program evidence filed and tested in the proceeding. This evidence, which is largely uncontroverted, explains in detail the need and rationale for the requested level of funding in each program. It also outlines how each program contributes to delivering customer-focused outcomes and details the utility's historical and forecast plans and initiatives to achieve continuous improvement in cost efficiency and productivity.[827]

663. The extensive benchmarking evidence in the record further establishes that the proposed OM&A expenditures are reasonable. This evidence includes:

a) PEG and PSE both found that Toronto Hydro's OM&A per customer costs are in line with the Ontario electricity industry benchmark;

b) Mercer Canada concluded that Toronto Hydro's compensation costs are positioned at the 50th percentile benchmark for the energy sector market;

c) Gartner concluded that Toronto Hydro's actual (2017) and forecast (2020) IT costs are lower than the peer group on various key IT metrics; and

d) UMS Group concluded that Toronto Hydro's costs for the studied maintenance programs (Overhead and Underground) were in the second quartile when benchmarked against its peer group.[828]

664. Despite the intervenors' assertions to the contrary, Toronto Hydro's proposed level of 2020 OM&A funding reflects a modest and reasonable increase from the utility's last rebasing application: approximately 1% annual growth rate, when adjusted for customer count and accounting changes as is appropriate. When intervenors refer to a higher percentage increase in total OM&A costs, they inappropriately ignore the increase in customers – which significantly increases costs – and/or the relevant accounting changes, which distort the comparability of the 2015 and 2020 test

[826] Exhibit 4A, Tab 1, Schedule 1 from page 3, line 2 to page 4, line 21; 1B-SEC-5 at page 1, lines 25-26 and page 2, lines 1-5 and 13-21; Toronto Hydro Argument-in-Chief at page 51, paragraph 168.
[827] Exhibit 4A, Tab 2.
[828] Exhibit 1B, Tab 2, Schedule 1 at page 24, Table 4; Exhibit 1B, Tab 2, Schedule 1, Appendix B; Exhibit 2B, Section E8.4, Appendix A; Exhibit 4A, Tab 4, Schedule 5 at page 1; Exhibit U, Tab 4A, Schedule 1, Appendix D; OH Volume 7 (July 9, 2019) at page 172, lines 11-18; J6.10, Appendix A; Toronto Hydro Argument-in-Chief at page 54, paragraphs 177-181. In addition, please refer to Issue 2.2 and Appendix A of the Toronto Hydro Argument-in-Chief for more information about benchmarking.

years. Even before taking into account the significant population growth that has occurred in Toronto Hydro's service area since 2015, the compounded annual average increase in Toronto Hydro's OM&A from 2015 to 2020 is 1.9% (when normalized for accounting changes), which is below the City of Toronto inflation rate of 2.2% in the last 5 years. Once the accounting changes are factored into the analysis, the compound annual growth rate in OM&A per customer is only 1%.[829]

665. The fact that Toronto Hydro has been able to keep the proposed OM&A expenditures per customer to an increase of only 1% is something Toronto Hydro considers to be an achievement in light of the many, and mostly externally-driven, cost pressures that the utility faces in managing OM&A costs. As thoroughly discussed in Toronto Hydro's Argument in Chief under Issue 5.1, Toronto Hydro's operational circumstances of serving a dense mature urban City and other costs drivers, including operating in Toronto, constantly put upwards pressure on the utility's expenditures.[830] Toronto Hydro managed these cost pressures, and kept OM&A increases well below inflation, by implementing countless operational efficiency and productivity initiatives, as detailed throughout the evidence, and by prudently managing compensation costs.[831] These efforts provided customers extensive benefits and significantly reduced the OM&A funding that would otherwise be needed in the 2020-2024 period.[832]

666. In short, the evidence in this proceeding overwhelmingly demonstrates that Toronto Hydro's proposed 2020 OM&A expenditures are prudent, reasonable, and necessary to sustain utility performance in accordance with customer need and expectations.[833] The OEB should reject the intervenors' arguments and proposals for OM&A reductions, and approve the 2020 forecasted OM&A expenditures as

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[829] Exhibit 1B, Tab 1, Schedule 1 at page 12, lines 4-20 and page 13, Figure 6; 4A-AMPCO-71 at page 1, lines 16-21; OH Volume 6 (July 8, 2019) at page 52, lines 22-24; J6.10 at page 1, lines 12-22 and Appendix A; Toronto Hydro Argument-in-Chief at page 50, paragraph 165 and page 53, paragraphs 174-176.

[830] These include, for example: general costs pressures associated with inflation in the City of Toronto; wage increases in collective agreements and market-based increases for non-unionized employees; requirements to address cyber-security risks and maintain resilient software; extreme weather events driving emergency response and clean-up costs; costs associated with evolving legislative and regulatory requirements; and others.

[831] Exhibit 1B, Tab 2, Schedule 1 at pages 8-21; Exhibit 4A, Tab 2, Schedule 14 at page 5, lines 13-22; Exhibit U, Tab 4A, Schedule 1 at page 3, lines 15-17 and page 4, lines 1-14; 1B-BOMA-46 at page 1, lines 16-19; 3-AMPCO-68 at pages 1-4; 4A-AMPCO-71 at page 1, lines 19-21; Evidence Overview Presentation Transcript (May 3, 2019) at page 8, lines 16-17; OH Volume 4 (July 4, 2019) at page 175, lines 4-6; OH Volume 5 (July 5, 2019) at page 127, lines 9-10 and 14-20; J3.2; J4.11, Appendix A; J5.4, Toronto Hydro Argument-in-Chief at pages 55-57, paragraphs 182-186.

[832] OH Volume 6 (July 9, 2019) at page 52, lines 10-27; OH Volume 8 (July 11, 2019) at page 61, lines 9-17 and lines 21-28, at page 62, lines 1-22; Toronto Hydro Argument-in-Chief at page 57, paragraph 186. See also section 4.2 "Cost Control and Productivity Measures" in each OM&A program filed under Exhibit 4A, Tab 2.

[833] Exhibit 1B, Tab 3, Schedule 1 at page 6, lines6-22; Exhibit 1B Tab 3, Schedule 1, Appendix A; Exhibit 2B, Section E2 at pages 56-58; OH Volume 8 (July 11, 2019) at page 61, lines 18-28 and page 62, lines 1-8; Exhibit 4A, Tab 1, Schedule 1 from page 3, line 2 to page 5, line 24; see also generally Exhibit 4A, Tab 2 and Exhibit U, Tab 4A; 1B-CCC-9; 2B-SEC-47; Toronto Hydro Argument-in-Chief at page 50, paragraph 163, page 51, paragraphs 166, 169-170 and page 52, paragraphs 171 and 173.

requested by the Applicant. In support of this position, below Toronto Hydro addresses the specific arguments and criticisms advanced by OEB Staff and intervenors.

Customer Care Program

667. In respect of the Customer Care program, OEB Staff submitted that the 2020 forecasted expenditures should be reduced by $3.7 million: a $1.6 million reduction to the bad debt expense; and a $2.1 million reduction in respect of external service costs. This would represent a significant reduction to these items, including a significant reduction in the Collections segment of the Customer Care program. With respect, OEB Staff's submissions are assertions not grounded in the record, and are contrary to uncontroverted evidence on these points.

668. Without an appropriate provision for bad debt expense and appropriate funding for external service costs to effectively manage arrears – which would be the result if OEB Staff's position were accepted – Toronto Hydro would be exposed to increased segment level risks, including: [834]

- Failure to attain full revenue collection and therefore experience higher levels of bad debt, affecting the financial stability of the utility.
- The volume and dollars associated with uncollectable accounts could increase, causing upwards pressure on rates for all customers.
- The ability to effectively communicate and deliver low income customer assistance programs could lead to customer hardship and disconnection risk.
- Cash flow could be adversely impacted and working capital costs could increase.

Toronto Hydro's Bad Debt Expense Forecast is Reasonable and Based on Sound Analysis

669. OEB Staff's position that Toronto Hydro's bad debt expense in 2020 should be reduced by $1.6M or nearly 24% is based entirely on one data point: that the utility's bad debt expense the past two winters has not increased due to the winter disconnection moratorium. From this single data point, OEB Staff concludes that the bad debt expense should not be expected to increase in 2020 as Toronto Hydro specifically forecasts it will. However, this conclusion is an assertion not grounded

[834] Exhibit 4A, Tab 2, Schedule 14 at page 4, lines 3-4 and page 20, lines 5-11.

in fact, and moreover runs directly contrary to the uncontroverted evidence. OEB Staff's request to deny the forecasted level of bad debt expense and also reduce the costs for services required to manage arrears is punitive.

670. Using historical results from a short time period – as OEB Staff seeks to do – is not a reliable indicator of future results because bad debts write-offs are a lagging measure and can vary significantly year over year. As the General Manager of Customer Care and Revenue Services testified: [835]

> [W]hat we see in one year won't necessarily replicate into the following year and the following year after that, primarily because there's various drivers of bad debt and factors that impact bad debt.

671. Indeed, OEB Staff put its assertion to Toronto Hydro during the Technical Conference, which Toronto Hydro not only rejected, but provided detailed reasons as to why it forecasts its bad debt expense will increase despite the actuals in 2017 and 2018.[836]

672. As the witness described, Toronto Hydro applies its expertise to assess a number of quantitative and qualitative factors when forecasting bad debt expense. The expected impact of the winter disconnection moratorium – the only focus of OEB Staff's submissions – is just one of the factors that is considered.[837] Other factors include accounts receivable balances, macroeconomic indicators, interest rate trends, bankruptcy trends, customer growth and policy changes. An important consideration is that commercial accounts comprise up to 50% in some years of the bad debt. In respect of the two recent historical years on which OEB Staff focused its submissions, there were very low bankruptcies in the commercial accounts in those two years, and some favourable results on the commercial side. This contributed to the bad debt those years being lower than the level that is forecasted for 2020.[838]

673. With respect to the winter moratorium, Toronto Hydro's same witness explained that there is a lag effect in terms of the moratorium's impact on bad debt expense,

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[835] OH Volume 5 (July 5, 2019) at page 42, lines 24-27; see also U-Staff-184(c) at page 3, lines 10-19.
[836] TC Volume 3 (February 21, 2019) from page 26, line 10 to page 27, line 2; and page 45, line 25 to page 46, line 22; OH Volume 5 (July 5, 2019) from page 40, line 12 to page 43, line 17; JTC 3.10.
[837] JTC 3.10; TC Volume 3 (February 21, 2019) at page 27, lines 20-23, OH Volume 5 (July 5, 2019) at page 38, lines 26-28, page 39, lines 1-2, page 40, lines 15-23, and page 43, lines 10-17.
[838] U-Staff-184(c) at page 3, lines 21-22 and page 4, lines 1-3; OH Volume 5 (July 5, 2019) at page 40, lines 15-23 and page 43, lines 2-9.

i.e. "it *takes a couple of years of lag to play through the system*." In other words, the impact of the moratorium is working through the billing and collections cycle. Toronto Hydro explained that "*right now, we're seeing high risk uncollectible accounts sitting in our active receivables, rather than moving through to our inactive stopped receivables.*" This lag effect explains why the winter disconnection moratorium did not result in increased bad debt expense in 2017 and 2018, and why Toronto Hydro expects the impacts of the moratorium (among other factors) to result in an increased bad debt expense in 2020.[839]

674. Moreover, that the bad debt expense is expected to increase is consistent with the trends that Toronto Hydro has observed over time regarding the risks which impact bad debt, and which are detailed in its evidence. For example:

- Since 2015, Toronto Hydro has experienced a 28% increase in the average amount owing by active residential customers that is greater than 90 days overdue (despite a decrease in the average monthly residential bill of 5%).[840]

- The bad debt expense is an accounting provision to a large extent, and part of the accounting provision is based on the amounts outstanding in accounts receivables, which have increased in winter months. Residential customers are carrying greater balances over longer periods of time, and as a customer carries and accumulates a balance that may be multiple times their average monthly bill (i.e. over the winter disconnection moratorium), the risk of that customer becoming unable to pay off their balance at a later point increases.[841]

675. In summary, there is no basis in the evidence for OEB Staff's submission that the forecast bad debt expense for 2020 should be reduced by $1.6 million in order to equal the average level from 2015-2018, and its position on the lack of expected impact of the winter disconnection moratorium is directly contrary to the evidence on this point.

Toronto Hydro's External Service Costs are reasonable and based on sound analysis

676. OEB Staff's position that Toronto Hydro's forecast for external service costs should be reduced by $2.1 million in 2020. This claim is also based on a single data point:

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[839] TC Volume 3 (February 21, 2019) at page 26, lines 24-28 and page 27, lines 1-2; OH Volume 5 (July 5, 2019) from page 40, line 15 to page 41, line 1, page 41, lines 2-10, and from page 41, line 11 to page 43, line 17
[840] JTC 3.10; U-Staff-184(c).
[841] TC Volume 3 (February 21, 2019) at page 26, lines 24-28, page 27, lines 1-2, page 45, lines 25-28, and page 46, lines 1-22; OH Volume 5 (July 5, 2019) from page 40, line 15 to page 43, line 17; JTC 3.10; U-Staff-184(c).

namely, the temporary underspend by the utility of that amount in 2018. From this, OEB Staff concludes that Toronto Hydro should be able to continue at this underspend level going forward because OEB Staff believes the level of bad debt will be lower than forecasted. With respect, OEB Staff's position, again, is an assertion not grounded in fact, and moreover runs directly contrary to the uncontroverted evidence.

677. During this proceeding, OEB Staff put to Toronto Hydro its assertion that the external service costs were lower in 2018 "*because [Toronto Hydro's] bad debt expense was lower than you expected, correct*?" In response, Toronto Hydro's General Manager of Customer Care and Revenue Services clearly indicated that OEB Staff's theory is wrong. Ms. Page testified: *"No. It is lower because of our transition in operations for arrears and management controls and activities.*" She explained that the company has been in a transition period in light of the winter disconnection moratorium: [842]

> We're in the midst of transitioning our operations, so we're taking that funding that we used to apply in one way before the regulatory change and shifting those activities so that we just have different mechanisms for controlling our arrears that would be as effective as we had in the past.
>
> …
>
> MS. PAGE: We forecasted that we would be spending a similar amount of money on our arrears management controls and activities. What we didn't forecast is the transition time it would take us to move from one operational regime to a different operational regime.
>
> MR. MILLAR: And so those costs will start taking effect in 2019-2020?
>
> MS. PAGE: That's correct.

678. In an evidence update interrogatory response, Toronto Hydro further explained why the 2018 external service costs were temporarily lower than the forecast in 2018:[843]

> External Services were lower [in 2018] than forecasted because of temporary underspend in services needed to support the management of bad debt. Toronto Hydro is currently putting into action an alternative arrears management strategy to better align its operations with the seasonality of the new disconnections policy. This strategy, which began to take effect in 2019, is needed to

[842] OH Volume 5 (July 5, 2019) at page 43, lines 18-28 and page 44, lines 1-24.
[843] U-Staff-184(a) at page 2, lines 15-21.

ensure that residential bad debt costs continue to be managed in an effective way under the winter disconnection framework.

679. With respect, there is no basis for OEB Staff's position that these costs should be kept at the temporary 2018 level. Artificially doing so would inappropriately prevent Toronto Hydro from implementing a prudent arrears management strategy in light of the reality of the winter disconnection moratorium, and from effectively managing the elevated risk of non-payment that is clearly shown by the accounts receivable trend noted above and in JTC 3.10.

680. For all of the above reasons, Toronto Hydro's forecasted level of bad debt expense and external service costs in the Customer Care program for 2020 are appropriate and well supported by the evidence.

Asset and Program Management Costs

681. OEB Staff submitted that the $1.2 million in CWIP write-offs included in the 2020 asset program management forecast should be removed from the forecast. There is no basis in the evidence for OEB Staff's position. The evidence demonstrates that these CWIP write-offs are reasonable. Staff's proposal would lead to an arbitrary and punitive denial of reasonable costs.

682. First, neither OEB Staff nor other parties even raised a concern in this regard at the hearing – Toronto Hydro's witnesses were not asked about the appropriateness or reasonableness of these CWIP write-offs at the hearing. Prior to the hearing, OEB Staff had merely requested an explanation as to whether and why these write-offs were included in the forecast, which Toronto Hydro explained.[844] OEB Staff is now, for the first time in argument, giving an untested and untestable opinion on CWIP write-offs, without evidence or reason in support.

683. What's more is that OEB Staff's concern in its submissions is based solely on its speculative assertions that CWIP write-offs relate to work that Toronto Hydro "*decides to start and not complete*" and "*are entirely the responsibility of management.*"[845] Those assertions are in fact demonstrably incorrect, and the unopposed evidence explains why the forecasted level of CWIP write-offs is appropriate and reasonable.

[844] 4A-Staff-115(c); TC Volume 1 (February 19, 2019) from page 87, line 18 to page 88, line 17.
[845] OEB Staff Submission at page 110.

684. The evidence demonstrates that Toronto Hydro has budgeted $1.2 million in CWIP write-offs because there is a high probability that at least some of the work will no longer be required as a result of various factors, including changes to system conditions, customer needs, or technology changes. This reflects the reality of executing work in a dynamic urban environment where plans can change as a result of external and uncontrollable factors. Planned work may sometimes be significantly changed or even cancelled, often due to external factors outside of Toronto Hydro's control.[846] Finally, the reasonability of Toronto Hydro's forecasted CWIP write-offs must be viewed in the context of the magnitude of its overall capital program: $1.2M is 0.2% of Toronto Hydro's proposed 2020 through 2024 average annual capital expenditures.[847]

685. In summary, OEB Staff's claim that Toronto Hydro is entirely responsible for, and should therefore bear the burden of, the CWIP write-offs is contrary to the evidence and is a mere assertion. Toronto Hydro submits that there is no proper basis in the evidence to deny these costs.

Toronto Hydro's Legal and Regulatory Costs are reasonable

686. Despite commending Toronto Hydro for the comprehensive nature and quality of its application,[848] OEB Staff took issue with the costs of the application and submitted that they should be reduced by $1.43 million, resulting in a proposed reduction of $0.3 million to the 2020 revenue requirement (assuming the application costs are amortized over the 5-year term).

687. With respect, this too is an arbitrary and punitive result. Toronto Hydro appreciates and understands the importance of a thorough and rigorous process to review utility rate applications, and has worked diligently to fulfill the OEB's requirements and expectations. Toronto Hydro has already incurred most of the costs that Staff take issue with, and did so in a diligent and good faith effort to meet the extensive requirements for this application. Toronto Hydro submits that the costs of this application were reasonably incurred, and resulted in a comprehensive customer engagement, community meeting, and regulatory process. They provided value by enabling broad customer and community voices to be heard and incorporated into Toronto Hydro's business plan and the examination process, and for the parties and

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[846] OH Volume 2 (June 28, 2019) at page 11, lines 20-25; OH Volume 6 (July 8, 2019) at page 131, lines 3-5; Exhibit 4A, Tab 2, Schedule 8 at pages 4-5, 8-12, 13-15, and 17-20. Exhibit 2B, Section E5.1 from page 14, line 6 to page 15, line 23 and at page 23, lines 6-18.; 4A-Staff-115(c); Exhibit 4A, Tab 2, Schedule 9 at page 36, lines 1-10. See also Exhibit 4A, Tab 2, Schedule 9 at page 20, lines 5-17.
[847] Exhibit U, Tab 2, Schedule 2, Appendix B (OEB Appendix 2-AB: Capital Expenditure Summary).
[848] OEB Staff submission at pages 6 and 111; OH Volume 5 (July 5, 2019) at page 33, lines 6-8 and 15-17.

the Board to conduct a full assessment and rigorous adjudication of this large and important application. The legal and regulatory costs should be approved as requested by the Applicant.

688. OEB Staff's claims for reductions in recovery of application costs rely on a comparison between this application and Toronto Hydro's 2015 CIR application. However, in making this argument it appears that Staff failed to consider a number of factors that drive higher costs in this application: (a) the many differences between the two applications; (b) the increased cost forecasts of OEB Staff itself as well as intervenors; and (c) inflationary and external pressures that naturally drive all costs up over time.

There are notable differences between this application and Toronto Hydro's last rebasing application

689. In order to facilitate the implementation of rates for 2020, Toronto Hydro needed to begin working on this application in 2016. This was necessary to meet the OEB's baseline and increased expectations for CIR filings, and the specific directions and guidance in its 2015 CIR Decision. Toronto Hydro filed its application in August 2018 – a year and half before the proposed implementation date – to ensure that there is sufficient time to process the application and obtain a timely decision for setting 2020 rates.[849]

690. Compared to the 2015 CIR, the timeline for the 2020 CIR was significantly longer because the preparation and adjudication of this application "*was a much more involved process*." [850] The key differences that contributed to a more exhaustive, comprehensive and lengthy application are summarized below:

a) In preparing this application, Toronto Hydro complied filing requirements that are approximately 20% more numerous than those that were applicable to the 2015 CIR application. This was in addition to the requirements and expectations set out in the 2016 Utility Rate Handbook, which did not exist at the time of Toronto Hydro's last rate application.[851]

b) Toronto Hydro's application was accepted by OEB Staff on a completeness review without issue, underscoring that Toronto Hydro's diligence in

[849] TH AIC at pages 5-6, paragraph 9.
[850] OH Volume 5 (July 5, 2019) from page 31, line 13 to page 33, line 1.
[851] Exhibit 1A, Tab 3, Schedule 2.

ensuring that it met all OEB expectations and requirements was a worthwhile investment, and also assisted in facilitating regulatory efficiency.

c) Toronto Hydro engaged a number of additional benchmarking and other external experts to conduct various studies in response to feedback provided by the OEB to Toronto Hydro and the incremental expectations discussed in the previous bullet (including various studies that were not done as part of the 2015 application) – 11 such external expert reports were filed as part of this application. As Toronto Hydro's witness Mr. Sasso explained: [852]

> That was directly in response to the feedback the OEB provided us in the previous decision … and there were costs associated with that.

d) This application – unlike the 2015 one – involved 5 community meetings, which took significant preparation time and effort, including the assistance of external counsel, as it was Toronto Hydro's first time conducting these meetings, and it prioritized the importance of this engagement consistent with OEB expectations.

e) Toronto Hydro's customer engagement process was more comprehensive. It involved a two-phase approach, including upfront customer engagement ahead of business planning, which was necessary to be fully responsive to OEB's feedback in the CIR 2015 Decision and the 2016 Utility Rate Handbook.

f) Similarly, in direct response to OEB guidance, Toronto Hydro enhanced its business planning and developed a comprehensive outcomes framework that underpins this application, all of which contributed to incremental legal and consulting costs.[853]

g) In this application, Toronto Hydro responded to approximately 2,070 interrogatories – 40% more than the number asked during the 2015 CIR.

h) Toronto Hydro filed a comprehensive application update in this application, which was necessary to provide the Board the most recent actual financial and performance results for the 2018 bridge year.

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[852] Exhibit 4A, Tab 2, Schedule 18 at page 8, lines 1-12; OH Volume 5 (July 5, 2019) from page 30, line 25 to page 33, line 1.
[853] OH Volume 5 (July 5, 2019) at page 31, lines 20-25 and page 32, lines 6-16.

i) The Technical Conference lasted 4 days and resulted in the responding parties requesting 168 undertakings – compared to a 2-day Technical Conference and 127 undertakings in 2015.

j) The Oral Hearing was also slightly longer this application (11 days compared to 10), involved more expert witnesses, and resulted in more undertakings (81 compared to 61).

k) Toronto Hydro has met all OEB deadlines in this proceeding, which as the OEB is aware, is often challenging for applicants. To do so requires pulling on all available resources, including external counsel and consultants, however Toronto Hydro submits that this is again a worthwhile investment as it contributed to regulatory efficiency.

691. Toronto Hydro also took a number of measures to reasonably contain the costs of this application. These included: reducing and freezing external law firm hourly rates through an RFP process; relying upon the expertise of external legal counsel and other subject matter experts to achieve efficiencies in complying with evolving filing requirements and OEB guidance; and economizing on the length of the application, in accordance with the OEB's guidance in the last decision to strike a balance between filing evidence necessary to evaluate the application and striving for regulatory efficiency.[854]

692. OEB Staff's argument also relied on a comparison of the external costs of this application with the external costs of Hydro One's last distribution and transmission rate applications. However, as Toronto Hydro's Director of Regulatory Affairs explained at the Oral Hearing, that is a flawed comparison which should not be used for assessing the reasonableness of the costs in this particular application.

693. The comparison is flawed because every CIR application is unique, making it difficult to compare the costs on a benchmarked basis.[855] Furthermore, Toronto Hydro and Hydro One have different regulatory cost structure and operating models. While Toronto Hydro's external costs are higher, the internal regulatory costs are more than 50% lower than Hydro One's costs. Toronto Hydro's Director of Regulatory Affairs pointed out in his testimony that Toronto Hydro's annual regulatory

[854] Exhibit 4A, Tab 2, Schedule 18 at pages 8-9; OH Volume 5 (July 5, 2019) from page 31, line 26 to page 32, line 5 and from page 33, line 24 to page 34, line 25; EB-2014-0116, Decision and Order (December 29, 2015) at page 2.
[855] 4A-CCC-42 at page 2, lines 12-13.

department costs are around $4 million, whereas Hydro One's internal costs are between $8.3 million and $8.7 million.[856] He further explained:[857]

> It makes, to me, a lot of sense that a utility that is filing rate applications almost every year or thereabouts would in-house a great deal of that support, whereas at Toronto Hydro, we've now moved to major rate applications essentially once every five years.
>
> And so we peak resource our regulatory support through consultants, through legal, and that is simply a different model.
>
> If we think about the differential, if we say Hydro One's costs are roughly $4 million greater than ours within regulatory, you know, over a 5-year period that is 20 million. Again, it probably makes sense in their operating circumstance.
>
> We have a one-time higher level of spend for those functions that… is somewhere in the ballpark of maybe $4 million or so.
>
> Again, it is hard to compare utility to utility, but I think that is a good counterpoint of why our cost structure is different than theirs and why, in fact, our absolute costs for leading regulatory applications are lower, because we file fewer of them.

OEB Staff and intervenors' cost forecasts have increased since the 2015 application

694. The increase in legal and regulatory application costs is also partly driven by the forecasted increases in OEB Staff and intervenors' costs. This outcome is expected, as the more exhaustive and comprehensive nature of this application would have also required OEB Staff and intervenors to dedicate more time and resources to the analysis of evidence and examination of the issues, given the evolution of the OEB's filing requirements and evidentiary expectations, as well as the introduction of additional OEB public outreach and community engagement steps.

695. In the last application, OEB Staff's and intervenors' actual costs totalled approximately $0.9 million, against Toronto Hydro's forecast of $0.65 million.[858] By comparison, the most recent estimate of OEB Staff's and intervenors' total costs for this application is $1.1 million, which is very close to Toronto Hydro's original estimate of $1.2 million.[859] Toronto Hydro's higher estimate of these costs, and the fact that it turned out to be accurate, reflect the maturity of the utility's approach

[856] OH Volume 5 (July 5, 2019) at page 27, lines 3-24.
[857] OH Volume 5 (July 5, 2019) from page 26, line 22 to page 28, line 25.
[858] 4A-Staff-122(a) at page 2, lines 10-11.
[859] Exhibit 4A, Tab 2, Schedule 18, Appendix A (updated July 31, 2019).

to planning this application and reasonability of its expectations that this application would have involved more work on the part of OEB Staff and intervenors.[860]

Inflationary and external pressures naturally drive up costs over time

696. Toronto Hydro also submits that the higher costs of this application are in part driven by inflationary and external cost pressures that the utility has prudently mitigated. Cost components ranging from compensation to external legal and consulting fees and materials are subject to inflationary or market-based increases over time.[861] Toronto Hydro undertook various efforts to control and mitigate these costs, as demonstrated in the evidence and discussed above.[862]

Toronto Hydro's Legal and Regulatory costs should be approved as filed

697. In summary, Toronto Hydro's Legal and Regulatory application costs have been reasonably incurred and are appropriate in the context of this large and important application. To put these costs into context: Toronto Hydro has presented a $4.3 billion plan, and the application costs represent only about 0.25% of the value of the plan. As stated, these costs have resulted in an application which meets the various OEB filing and other requirements, and enables the parties and OEB to fully and properly assess it.

698. During the Oral Hearing OEB Staff commented favourably on the resources that have been devoted to this case which "is *shown in the quality of this application*." In its submissions, OEB Staff expressly acknowledged "*that Toronto Hydro developed a comprehensive application that was well organized and articulated*" and "*that such an application is no small undertaking*."[863] Toronto Hydro should not be penalized for filing a comprehensive high-quality application through a disallowance of costs that were reasonably incurred in good faith to prepare and adjudicate this massive and complex application. As the OEB noted in the 2015 CIR Decision:[864]

> Toronto Hydro is larger and has more complex issues than most of if not all distributors in Ontario, and the Application involves billions of dollars of spending. The RRFE requires distributors to prepare and

[860] 4A-Staff-122(a) at page 2, lines 12-18.
[861] Exhibit 4A, Tab 2, Schedule 18 at pages 6-8; 4A-EP-50(d).
[862] Exhibit 4A, Tab 2, Schedule 18 at pages 8-10.
[863] OH Volume 5 (July 5, 2019) at page 33, lines 5-8 and 15-17; OEB Staff Submission, page 6.
[864] EB-2014-0116, Decision and Order (December 29, 2015) at page 12.

support their applications, particularly Custom IRs, in a very thorough way.

699. Toronto Hydro submits that the Board's reasoning in the 2015 Decision applies equally, and arguably even more so, to this application which raised the bar on the regulatory process in numerous important and valuable ways. Toronto Hydro's 2020 CIR application costs are reasonable and should be approved as filed.

Staffing and Compensation Costs

700. OEB Staff and various intervenors took issue with different aspects of the compensation costs that form part of the OM&A and capital budgets, and argued that these costs should be reduced by an amount ranging from about $3 million to $8 million. With respect, these claims for proposed reductions are fundamentally arbitrary and not rooted in the evidence. The evidence – including the unchallenged expert benchmarking analysis – establishes that the proposed staffing level and the commensurate compensation costs are necessary and reasonable. Toronto Hydro submits that for these reasons and as explained below, the claims of OEB Staff and the relevant intervenors should be rejected.

Toronto Hydro's forecasts for staffing levels are reasonable, and necessary to operate the utility

701. OEB Staff and SEC asserted that Toronto Hydro's proposed 2020 compensation costs should be reduced by $3.2 million (a $1.7 million reduction in OM&A and a $1.5 million reduction in capital). Their claim is based on a single data point, an "updated forecast" provided as an undertaking response which shows a slightly reduced 2020 FTE forecast.[865] Respectfully, this argument took the data point out of its proper context and ignored the evidence on the record.

702. The uncontroverted evidence is that Toronto Hydro is still hiring the originally forecasted number of FTEs (and needs to do so), albeit on slightly delayed timing. The evidence also shows that, while the hiring is ongoing, Toronto Hydro is incurring offsetting costs to complete the necessary work through the use of additional external resources. In short, the forecasted costs are being spent on staffing: the only difference is that Toronto Hydro is using temporary external resources while the hiring process for permanent resources completes its course.

[865] J5.2.

703. Specifically, OEB Staff and SEC's argument that staffing costs should be reduced by $3.2 million are based on the single data point that Toronto Hydro's most recent FTE forecast for 2020 is 1,491 (i.e. 26 FTEs lower than the original forecast) resulting in FTE compensation costs that are $3.2 million lower in 2020. The submissions ignored important, unopposed evidence which explains the context for the delayed hiring and justifies why the forecasted costs should not be reduced as result of the "updated forecast".

704. Toronto Hydro's evidence explains that there was a delay in hiring Power Line Technicians (PLTs) due to labour negotiations issues, and that Toronto Hydro is now in the process of filling those vacancies.[866] Toronto Hydro's Director of Human Resources testified that Toronto Hydro is working towards fulfilling the original hiring plan to reach the full forecasted level of 1,517 FTEs by 2020-2021.[867] Evidence of this commitment is that between January and May of 2019, Toronto Hydro hired 59 new employees.[868] As an interim solution while the hiring process is being completed, Toronto Hydro has and will continue to rely on additional external resources to execute the work plan. Accordingly, there has been and will continue to be an increase in external costs to offset the reduced FTE compensation costs.[869]

705. OEB Staff also critiqued Toronto Hydro for not forecasting the precise amount of increased contractor costs associated with the increase in external costs to offset FTE compensation costs. However, Toronto Hydro points out that the FTE forecast upon which Staff and SEC's entire argument is premised was provided in an Oral Hearing undertaking response (J5.2). In providing this undertaking, Toronto Hydro did not commit to reforecasting its contractors costs – it could not have reasonably provided this information within the timeliness of preparing the response. Instead, the undertaking response affirmed the Company's evidence that in the absence of "*sufficient internal resources to deliver its operations and maintenance program, the utility plans to rely on external service providers to get the work done.*"[870]

706. What's more is that Toronto Hydro's 2018 financial results show that incremental external costs are being incurred to supplement the PLT hiring lag. In 2018, the utility's actual third party services costs were approximate $12 million higher than forecasted in the bridge year.[871] The increase was primarily sustained in the

[866] Exhibit U, Tab 4A, Schedule 3 at page 2, lines 9-24; U-Staff-185; U-VECC-87(b); J5.2.
[867] OH Volume 5 (July 5, 2019) from page 35, line 27 to page 37 line 9, and page 56, lines 4-13.
[868] U-Staff-185(a).
[869] OH Volume 5 (July 5, 2019) from page 61, line 28 to page 62, line 1.
[870] J5.2 at page 1, lines 21-22.
[871] U-Staff-166.2.

maintenance and operations areas, which are supported by the trades. By logic the 2018 evidence supports that incremental costs will continue to be incurred until the hiring is completed. Contrary to OEB Staff's submission, this evidence is a reliable indicator of the cost impact of the continuing interim use of external resources pending the completion of 2020 hiring plan.[872]

707. Finally, Staff's argument for a reduction to Toronto Hydro's compensation forecasts is contradictory, as their submission also states that the utility's proposed FTE count and compensation costs are generally reasonable and well supported by benchmarking information:[873]

> OEB staff notes that Toronto Hydro's proposed 2020 FTE count (1,517) reflects a modest increase of 34 FTEs (or 2.3%) relative to 2015 actuals (1,483). The proposed 2020 compensation costs are $241.5 million, which reflects an increase of $30.4 million (or 14.4%) relative to 2015 actuals ($211.1 million). OEB staff submits that the proposed FTE count and compensation costs are generally reasonable.
>
> The compensation costs are supported by a benchmarking study for non-executive positions. The benchmarking study highlights that Toronto Hydro's compensation is generally, with a few exceptions for certain job grades, closely aligned with the 50th percentile compensation of the energy peer group and below 50th percentile compensation of the general industry peer group. Toronto Hydro also provided benchmarking information with respect to its executive compensation.
>
> OEB staff submits that Toronto Hydro's proposed compensation costs are well supported by the benchmarking information. [emphasis added]

708. In summary, it is clear on the record that: (i) Toronto Hydro will still be fulfilling the forecasted level of FTEs: and (ii) in the meantime, it is temporarily increasing external contractor costs until the remaining FTEs have been hired. In light of this evidence, Toronto Hydro submits that it would be inappropriate to accept OEB Staff and SEC's proposals to reduce compensation costs, particularly given that neither of

[872] UT J5.2; Exhibit U, Tab 4A, Schedule 1 at page 6, lines 10-19 and page 7, lines 1-3; U-Staff-166.12; U-AMPCO-123; OH Volume 5 (July 5, 2019) from page 57, line 18 to page 58, line 3, from page 62, line 18 to page 63, line 1.
[873] OEB Staff Submission at pages 113-114.

them took an issue with Toronto Hydro's forecasted FTE and compensation levels. The proposed cost reduction would prevent Toronto Hydro from completing the hiring necessary to reach the forecasted FTE level which OEB Staff expressly acknowledged as reasonable, and which Toronto Hydro submits is necessary to operate the utility efficiently and effectively.

709. Toronto Hydro provided extensive evidence detailing its workforce staffing and compensation plans – evidence which demonstrates the reasonableness of those plans and how they are necessary to maintain an appropriate workforce to complete the work programs.[874] A reduction in compensation costs would negatively impact Toronto Hydro's ability to complete the work plan and achieve the plan's objectives that customers value.

Toronto Hydro's forecasted compensation levels are reasonable and required

710. Energy Probe and PWU argued there should be reductions to the forecasted level of compensation for certain groups of employees, namely Non-Management/Non-Union employees and Executive employees. Their arguments and proposed reductions are contrary to the evidence – including the expert benchmarking evidence – which establishes that the compensation levels are reasonable.

711. Energy Probe took the position that the compensation costs for Non-Management/ Non-Union employees are excessive and that a reduction should be made to reflect a 2.5% maximum average annual increase from 2018 actuals to 2020. Energy Probe further asserts that executive incentive pay is excessive and should be reduced by about $0.75 million per year starting in 2020.

712. With respect, this is an assertion raised for the first time in evidence, was not put to any witness during the proceeding, and is not rooted in any evidentiary basis or reasons. Indeed, it is contrary to the uncontroverted evidence regarding Toronto Hydro's market-based compensation model to attract and retain the necessary skilled resources,[875] as well as its compensation benchmarking that demonstrates that compensation for Toronto Hydro's Non-Management/ Non-Union employees is generally at or below benchmark.[876] For these reasons and as discussed below, Toronto Hydro submits this assertion should be rejected.

[874] Exhibit 4A, Tab 4, Schedule 3; 4A-Staff-129; 4A-AMPCO-102; U-Staff-185; U-VECC-87; J5.2.
[875] Exhibit 4A, Tab 4, Schedule 4 from page 4, line 1 to page 5, line 14.
[876] Exhibit 4A, Tab 4, Schedule 5 at pages 4-6.

Non-Management / Non-Union Employee Group

713. In respect of Non-Management/Non-Union employees, the evidence establishes that their compensation is reasonable and justified. Mercer's expert benchmarking analysis supports that the compensation cost for this category of employees is market competitive. Specifically, the benchmarking report shows that the vast majority of the salary grade bands for the Non-Management/ Non-Union employees (grades W4 to T1) are within 10% of the 50th percentile of market for total remuneration, with a couple of grades below market and one above.[877] Mercer explains that Toronto Hydro is "*within the competitive range if they fall within 10% of the target market position on a position-by-position basis and 5% on the overall organization basis*."[878] With one grade exception,[879] compensation for Non-Management/Non-Union employees is well within the competitive range.

714. Indeed, historically Toronto Hydro's annual compensation cost increases for this group of employees has been approximately 2.5%, consistent with market-based increases. In an interrogatory response, Toronto Hydro explained the increase for this group of employees:[880]

> From 2015 to 2020 the total compensation for the Non-Management group has increased by 38 percent, which represents a compounded annual growth rate of 6.7 percent; however, once the data has been normalized for the yearly growth of the average number of FTEs and yearly average changes to benefits, the average increase in compensation costs for the Non-Management group is 13.2 percent, which represents a compounded annual growth rate of 2.5 percent. When compared to market conditions for salaries and wages in this group, the rate of growth in this category is reasonable and aligned with Toronto Hydro's compensation strategy of maintaining market competitive salary and wages, as discussed in Exhibit 4A, Tab 4, Schedule 4. [emphasis added]

715. Toronto Hydro's compensation strategy is designed to strike a balance between controlling costs and providing market-competitive compensation. Providing market-competitive compensation is essential to Toronto Hydro's ability to attract,

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[877] Exhibit 4A, Tab 4, Schedule 5 at page 4.
[878] *Ibid*.
[879] Mercer found that grade W2 exceeds the market median on base salary and total cash compensation due to upward pay pressures between management and directly supervised unionized positions. See Exhibit 4A, Tab 4, Schedule 5 at page 5.
[880] U-EP-72(b) at page 2, lines 10-19.

motivate, and retain the employees who have the knowledge, skills, and talent that the utility requires to carry out its work plan, achieve its performance objectives, and otherwise meet its obligations. Furthermore, the highly specialized nature of the electricity industry often requires Toronto Hydro to compete with other industries and electricity distributors for talent. An artificial constraint upon the compensation costs of Non-Management/Non-Union employees (or indeed any tier of employees) as Energy Probe suggests would severely restrict Toronto Hydro's ability to ensure the external competitiveness of its compensation programs and effectively draw upon the pool of eligible and qualified talent. This is an outcome that would not be in the public interest because it would hamper the utility's strategy to secure and maintain a skilled, committed, and performance-driven workforce, which is necessary to deliver customer-focused outcomes and operate efficiently.[881]

716. For the reasons discussed above, Toronto Hydro submits that the OEB should reject Energy Probe's argument challenging the utility's compensation cost for Non-Management/Non-Union employees.

Management and Executive Compensation

717. PWU and Energy Probe both made submissions regarding executive compensation. Energy Probe incorrectly asserted that "*Toronto Hydro has not provided any evidence in support of this Incentive Pay policy, such as benchmarking*."[882] PWU argued that increases in executive and managerial compensation have been unreasonable and that there ought to be a disallowance of $1.6 million per year starting in 2020. Both of these arguments are meritless and contrary to the uncontroverted benchmarking evidence of Mercer Canada, which demonstrates that Toronto Hydro's management and executive compensation are reasonable.

718. During cross-examination at the hearing, Energy Probe directly asked Toronto Hydro's Director of Human Resources what benchmarks were used when the executive incentive pay awards were determined. In response, Ms. Powell confirmed that Mercer conducted an executive benchmarking study,[883] which is on

[881] Exhibit 4A, Tab 4, Schedule 4 at page 2, lines 7-9, page 4, lines 1-23, page 5, lines 1-14, page 8, lines 14-16, page 10, lines 8-14, page 11, lines 9-14, page 12, lines 19-21, and page 13, lines 13-15; see also Exhibit 4A, Tab 4, Schedule 1 at page 6, lines 19-23.
[882] Energy Probe Submission at page 37.
[883] 1B-SEC-3, Appendix D.

the record in this proceeding, and which concluded that "*our executive compensation is just below market*" – and as an example, she pointed out:[884]

> If you look at that table on page 9 [of the Mercer report], you can see -- as an example looking at our president and CEO -- and you can see from here the results show that target total cash compensation, what is included in that is base salary, plus short term incentive. And if you look at peer group, you can see that he's paid at the forty first percentile. So it is <u>well below market</u>.
>
> … There is a range and it goes from anywhere from comparing Toronto Hydro's salary is at the 26th percentile to the highest at the 50th percentile. … <u>So there are many other executives earning a lot more.</u> [emphasis added]

719. In arriving at the conclusion that executive compensation is just below market, Mercer benchmarked all executive positions. For the named executive officers, for example, Mercer concluded that Toronto Hydro's total cash compensation (salary plus incentive pay) is generally positioned in the market for equivalent senior officer roles. Contrary to the assertion of Energy Probe that there is no "*evidence in support of this Incentive Pay policy, such as benchmarking"*, the Mercer report is a *benchmarking* report which includes comparisons for base compensation as well as *incentive compensation*. Overall, the Mercer report is strong evidence that Toronto Hydro's executive compensation, including incentive pay, is well within the reasonable market range.[885]

720. Further evidence of the reasonableness of Toronto Hydro's executive compensation is that from 2015-2020, total executive compensation has remained stable (no increase), and that from 2011-2020 it has declined by 16.6%.[886]

721. Mercer also benchmarked management and professional positions and concluded that they are generally positioned competitively against the 50th percentile of the energy sector, and at or below the market 50th percentile against the general industry due to the availability of long-term incentives in the general industry (which Toronto Hydro does not offer).[887]

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[884] OH Volume 4 (July 4, 2019) from page 176, line 25 to page 178, line 11.
[885] Mercer Report, Toronto Hydro Corporation Senior Executive Compensation Policies & Practices at pages 6-7, 1B-SEC-3, Appendix D. See also U-EP-68(a).
[886] 4A-EP-56(c).
[887] Mercer Report, Non-Executive Compensation and Benefits review, page 1, Exhibit 4A, Tab 4, Schedule 5.

722. In summary, the uncontroverted Mercer expert evidence plainly disproves the arguments advanced by Energy Probe and PWU with respect to compensation costs. None of the parties sought to challenge Mercer by way of cross-examination. OEB Staff agreed in their submission that the benchmarking evidence well-supported Toronto Hydro's compensation costs.

The mix of internal staffing and external service providers

723. PWU challenged the extent of external third-party contracting services used by Toronto Hydro (as opposed to additional internal staffing). It submitted that the use of external resources has not been sufficiently justified, and arbitrarily "*propose[d] a disallowance of 5% to the portion of OM&A and capital expenditures undertaken by third parties*." This would represent a disallowance of $5.37 million in OM&A spending in 2020 and $84.6 million in capital expenditures over 2020-2024 based on PWU's calculations. There is no basis in the evidence for PWU's proposal, and it should be rejected. The record explains and justifies Toronto Hydro's use of external contractor services.

724. As explained in the evidence, Toronto Hydro uses a number of staffing approaches, including promoting from within the utility, hiring skilled labour, and using third party service providers. The stated rationale for this strategy is flexibility: [888]

> Toronto Hydro uses a multi-faceted staffing strategy because it provides the flexibility to staff up or down as required to effectively plan and manage its staffing needs over the next five years and beyond. Given the breadth and complexity of the utility's operations, and the rate at which the City of Toronto is growing and expanding, flexibility is particularly important for Toronto Hydro.

725. In respect of its use of third-party service providers, Toronto Hydro submits that in many cases, third-party service providers enable the utility to cost-effectively ensure resource availability to meet peak demands, maintain flexibility in operations, and gain access to specified expertise. The utility endeavours to optimize the selection of third-party services providers by assessing overall value and performance, looking into cost, skills, and experience as some of the factors in selecting the provider for a given program or project.[889] Depending on the nature of the work and need, certain activities may be outsourced entirely, split between

[888] Exhibit 4A, Tab 4, Schedule 3, pages 21-23.
[889] Exhibit 4A, Tab 4, Schedule 3, page 25.

internal and external resources, or withdrawn from external service providers and returned to internal resources as appropriate.[890]

726. Toronto Hydro exercises prudent cost containment measures in respect of third-party service providers. These measures notably include a rigorous procurement process for all services that are contracted out.[891] Through the application of Toronto Hydro's procurement strategy, the average annual contractor unit price escalation over 2015-2018 was 1.52%, which is lower than the average annual increases under Statistics Canada's Construction Labour Inflation and Municipal Infrastructure Construction indices.[892]

727. Not only does the evidence demonstrate that Toronto Hydro's use of external resources is prudent and reasonable, but if PWU's proposed reduction in external resource costs was allowed, this would be prejudicial to ratepayers' interests. That is because it would reduce Toronto Hydro's staffing flexibility and curtail its ability to adapt to changing circumstances and undertake work using the most cost-effective mix of resources. Just by way of one example, the use of external resources was essential to timely emergency power restoration efforts in 2018.[893]

728. In all of the circumstances, the evidence demonstrates that Toronto Hydro's use of external resources is reasonable. There is no evidence in the record which suggests otherwise. PWU's proposal in this regard is an obvious attempt to further the interests of its members, and should be denied.

Toronto Hydro's 2020 OM&A IT expenditures are reasonable

729. SEC claimed that the increase in Toronto Hydro's IT OM&A expenditures is not justified. With respect, this claim is without merit because it ignores Toronto Hydro's clear evidence with regards to the drivers of IT OM&A costs and the Gartner benchmarking study which demonstrates that Toronto Hydro is a strong cost performer in this area of its operations. Toronto Hydro responded to all other claims made by SEC with regards to IT capital expenditures under Issue 3.2.

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[890] There are numerous examples through the evidence of how Toronto Hydro relies on third-party providers. See Exhibit 4A, Tab 2, Schedule 1 at page 28, lines 4-5; Schedule 3 from page 7, line 22 to page 8, line 2; Schedule 5 at page 9, lines 2-6; Schedule 6 at page 13, lines 11-6; Schedule 7 at page 18, lines 11-16; Schedule 8 at page 5, lines 23-26, page 6, lines 1-5 and page 7, lines 10-25; Schedule 10 from page 6, line 4 to page 7, line 6; Schedule 11 at page , lines 5-12; Schedule 15 at page 8, lines 9-11 and page 21, lines 14-23; Schedule 12 at page 10, lines 11-16; Schedule 13 from page 5, line 23 to page 6, line 17 and from page 7, line 24 to page 8, line 13; Schedule 14 at page 7, lines 1-4; 4A-Staff-117; 2A-EP-31(b); 1B-BOMA-18; JTC 3.14.
[891] Exhibit 4A, Tab 3, Schedule 1.
[892] JTC4.30.2; J5.6.
[893] 4A-AMPCO-101(d); JTC3.16; U-Staff-185; U-VECC-87(b); OH Vol. 5 from page 35, line 21 to page 38, line 11, from page 56, line 22 to page 58, line 17; J5.2; J6.1.

730. The forecasted increase in 2020 IT OM&A expenditures (over 2015 levels) is driven by the IT Operations segment.[894] The two largest components of costs under this segment are Labour & Materials and Maintenance Contracts.[895] The cost of labour and materials under the IT Operations segment actually *decreased* over the 2015-2020 period from $15.1M to $13.4M.[896] Therefore, the primary increase in this segment is attributable to maintenance contracts.[897] As most of these contracts are based in US dollar they have been affected by a 30% increase in the exchange rate over this period, which is not a controllable cost.[898]

731. Furthermore, this is a non-discretionary cost item, as software licences and hardware must be maintained to ensure the continuity of the critical processes and assets that enable Toronto Hydro to maintain the integrity, reliability, availability, and security of its systems.[899] The IT program continues to adopt measures to control costs and mitigate these uncontrollable cost pressures, such as working directly with internal clients to limit the need for additional licences, managing external vendor costs, and optimizing the use of internal resources.[900] Therefore, Toronto Hydro's submits that the evidence clearly demonstrates that Toronto Hydro's 2020 OM&A IT expenditures for 2020 are prudent and reasonable.

732. The prudence of Toronto Hydro's IT OM&A costs is also demonstrated by the Gartner benchmarking evidence, which concluded that Toronto Hydro's actual (2017) and forecast (2020) IT costs (capital and OM&A) are lower than the peer group on various key IT metrics.[901] For a full discussion about the Gartner benchmarking study, please refer to the reply submission in Issue 3.2.

Any reduction to the OM&A budget in relation ERP Phase I Cost Savings is not justified

733. OEB Staff submitted that Toronto Hydro's overall 2020 OM&A budget should be reduced by $2.5 million. Their claim is based on an assertion that the Enterprise Resource Planning ("ERP") capital project resulted in lower savings than originally forecasted in 2014. With respect, OEB Staff's claims are based on a misinterpretation of evidence in both the CIR 2015 application and the current application, and should be rejected.

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[894] Exhibit 4A, Tab 2, Schedule 17 at page 7, Table 3.
[895] 4A-SEC-85.
[896] 4A-SEC-85.
[897] OH Volume 5 (July 5, 2019) at page 127, lines 3-23.
[898] *Ibid*.
[899] Exhibit 4A, Tab 2, Schedule 17 at page 7, lines 8-12.
[900] *Ibid*, at page 9, lines 6-17.
[901] Exhibit 2B, Section E8.4, Appendix A at page 1.

734. The ERP is part of Toronto Hydro's IT software expenditures, within general plant capital expenditures. Any issue about the costs and benefits of this project should properly be considered as part of issues 3.1 and 3.2, relating to the prudence of capital expenditures. Under issues 3.1 and 3.2, Toronto Hydro explains: the need for the ERP project, including the risks addressed; the various benefits and savings resulting from the project, and how the ERP project costs were prudently incurred.

735. In any event, OEB Staff's analysis of the benefits and cost savings attributable to the ERP project misinterprets the evidence, as discussed below. OEB Staff refers to the initial 2014 forecasted cost savings of $4.1 million and asserts that there is now only $1.6 million of savings (and the $2.5 million difference between these amounts is the basis for its submission that OM&A should be reduced by $2.5 million).

736. Toronto Hydro explained that the initial 2014 forecast had different assumptions at the time which impacted the forecasted costs and benefits. The business case for ERP Phase I was created in mid-2014 and Toronto Hydro's plan was to start the project in early 2015 and complete implementation by the end of 2016.[902] The $4.1 million in cost savings for 2020 that was forecasted in 2014 was based on the assumptions underlying the original project.[903] However, due to the timing of the CIR 2015 decision, which was released in December 2015, Toronto Hydro delayed the start of the project to 2016 and the system went live in October 2018.[904] Because of the changes in the timing and scope of the project, it is not reasonable for OEB Staff to compare the latest 2020 forecasts of $1.6 million in savings[905] to the original forecasts from 2014.

737. Furthermore, OEB Staff inappropriately conflated the OM&A savings with the capital overtime cost reduction of $1.5 million that was forecasted in the original business case.[906] Toronto Hydro excluded the capital overtime cost reduction from the revised benefits table because these savings cannot be directly and fully attributed to ERP Phase I.[907] Therefore, it would be unreasonable and punitive to reduce Toronto Hydro's 2020 OM&A budget with reference to a variance that relates to a capital benefit.

738. OEB Staff also challenged Toronto Hydro's evidence of the downward trend in overtime costs in footnote 6 in undertaking JTC3.4, where Toronto Hydro has noted

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[902] OH Volume 5 (July 5, 2019) at page 111, at lines 18-21.
[903] OH Volume 5 (July 5, 2019) at page 115, lines 8-12.
[904] OH Volume 5 (July 5, 2019) from page 111, line 24 to page 112, line 4.
[905] JTC3,4, Appendix A, Table 2 and J5.8, Appendix A.
[906] JTC 3.4 at page 3, lines 6-9;
[907] OH Volume 5 (July 5, 2019) at page 116, lines 4-28.

the decline in such costs as a result of various productivity initiatives, and notes that "*it is not clear to OEB staff what downward trend Toronto Hydro is referring to as the actual overtime costs in 2015 were $12.6 million and increased to $17.1 million in 2018 …*"[908] This, too, is based on a misreading of the evidence.

739. Toronto Hydro's overtime costs were flat over 2015-2017 and are projected to slightly decline over 2019-2020, despite year over year wage escalations.[909] OEB Staff's implication that the 2018 overtime costs are indicative of a rising trend ignores the exceptional operating conditions that prevailed in 2018, such as the high number of weather-related events that required extraordinary mobilization of resources.[910] Therefore, OEB Staff's commentary on the trending of overtime costs is contradicted by evidence and should be rejected by the OEB.

740. As further discussed in Issue 3.1, the ERP project produces material direct and indirect benefits and savings beyond the $1.6 million cost savings to which OEB Staff referred. OEB Staff referred solely to the cost savings table in JTC3.4, but that table was updated in J5.8 and the types of various expected direct benefits and cost savings from ERP Phase 1 for the 2021 to 2026 are set out in it. In total, the entire forecasted direct benefits from the project from 2019 to 2026 are $57.9 million.[911]

741. The ERP project has also resulted in other savings, such as $0.4 million due to the decommissioning of legacy software made obsolete with the introduction of the ERP system and a $0.2 million decrease in temporary staffing supporting the legacy applications that were no longer required.[912]

742. It is also important to bear in mind that the need for, and approval of, the ERP project was not based solely on the forecasted monetary benefits. As referred to under issue 3.2 above, the legacy ERP system was functionally obsolete and unsustainable, which created risks and limitations on operational efficiency. So the ERP project needed to be undertaken, and has resulted – for ratepayers' benefit – in an upgraded network that is secure and reliable.

743. In summary, ERP Phase I is resulting in significant benefits, including various cost savings, and OEB Staff's recommendation to reduce the overall OM&A budget is

[908] OEB Staff Submission at page 112.
[909] 4A-Staff-128(b); 4A-AMPCO-100(e); U-Staff-166.11; OH Volume 5 (July 5, 2019) from page 57, line 18 to page 58, line 3.
[910] Exhibit U, Tab 4A, Schedule 1 at page 3, lines 15-17 and page 4, lines 1-17.
[911] J5.8; JTC 3.4; OH Volume 5 (July 5, 2019) at page 115, lines 8 -12.
[912] J5.8; OH Vol. 5, pages 116 l. 7 to 117 l. 25; Exhibit 4A, Tab 2, Schedule 17, pages 16-17.

based on various misinterpretations of evidence. Therefore, the OEB should reject their argument.

5.2 Are Toronto Hydro's proposed depreciation expenses (including decommissioning provision and derecognition) for 2020-2024 appropriate?

744. No one challenged the depreciation or the derecognition expense proposed for the 2020-2024 period. BOMA and OEB Staff objected to the continuation of the derecognition account. Their concerns are addressed in Issue 8.3.

745. OEB Staff argued that Toronto Hydro should complete a useful lives study for assets whose useful lives values are outside of the range established in the OEB's 2010 Kinectrics Report.[913] Toronto Hydro submits that it isn't necessary to complete another useful life study as the 2009 THESL Kinectrics Study (the 2009 Study) justifies Toronto Hydro's useful life ranges using a similar methodology as the OEB's study.[914] Furthermore, Toronto Hydro notes that it filed uncontroverted evidence explaining why certain assets are outside of the ranges established by the Board's study.[915]

746. During the Technical Conference, Toronto Hydro confirmed that it reviews its useful lives on an annual basis to ensure consistency with the capitalization policy, and confirmed that there were no changes to the useful lives since the 2009 Study.[916] Toronto Hydro further submits that there is no business change necessitating a useful live study being undertaken.

5.3 Are Toronto Hydro's proposed PILs and other tax amounts for 2020-2024 appropriate?

747. OEB Staff and SEC proposed that Toronto Hydro update its PILs estimates and incorporate any changes for the years 2018, 2019 and 2020-2024 at the time of the Draft Rate Order ("DRO") based on its more up-to-date understanding of the tax changes. In addition to updating its PILS estimate, OEB Staff submitted that at the time DRO Toronto Hydro should update its CRRRVA to include the 2018 revenue requirement impact of Bill C-97. Toronto Hydro accepts these proposals.

748. SEC and BOMA took the position that Toronto Hydro should record balances associated with the impact of Bill C-97 in Account 1592, as directed in the OEB letter of July 25, 2019. Toronto Hydro rejects this proposal because it creates the

[913] OEB Staff Submission at page 118.
[914] 1B-CCC-12; 2B-AMPCO-50(a); 2B-SEC-38, Appendix A.
[915] 4B-Staff-139.
[916] TC Volume 1 (February 19, 2019) at page 89, lines 3-11.

additional tasks of segregating tax expense amounts in Account 1592. The CRRRVA will appropriately record the PILs impact for 2018 and 2019;[917] therefore, there is no need to perform the extra steps of recording amounts in Account 1592. OEB Staff's submission supported Toronto Hydro's approach for 2018 and 2019.[918] Similarly, the PILS impact of Bill C-97 will be embedded in the 2020-2024 capital forecast at the time of the draft rate order,[919] which means that the CRRRVA will capture any forecasting variances. As is the case with 2018 and 2019, the proposed treatment of the 2020-2024 PILS impacts of Bill-C97 negates the need to use Account 1592.[920]

749. OEB Staff also submitted that if for some reason the large credit that is currently forecast in the CRRRVA for 2019 does not materialize, the 2019 revenue requirement impact of the new CCA rules should be moved into the new sub-account of 1592. Toronto Hydro accepts this proposal.

[917] U-Staff-188(d).
[918] OEB Staff Submission at page 121.
[919] J1.2 at page 2, Table 1.
[920] U-Staff-188(d).

6.0 COST OF CAPITAL

6.1 Are Toronto Hydro's proposed 2020-2024 cost of capital amount (interest on debt and return on equity) appropriate?

750. None of the parties took an issue with Toronto Hydro's proposed cost of capital calculation methodology or the 2020-2024 proposed amounts. Toronto Hydro submits that its proposal for cost of capital is appropriate and should be approved.

7.0 COST ALLOCATION AND RATE DESIGN

7.1 Are Toronto Hydro's cost allocation and revenue-to-cost ratio proposals appropriate?

751. Energy Probe expressed concerns about the proposed revenue to cost ratios. Specifically, Energy Probe objected to the proposed residential revenue-to-cost ratio and argued that the ratio should remain at current levels, or if adjustments are needed that 100% is an appropriate ceiling. Energy Probe further noted that the OEB directed Toronto Hydro to set the revenue to cost ratio for the CSMUR rate class at 1.00.

752. Toronto Hydro notes that Energy Probe's submission departs from the standard OEB policy, which Toronto Hydro followed in calculating the revenue-to-cost ratios. The residential ratio falls with the OEB's established guideline ranges.[921] Unlike with the CSMUR class, the OEB did not previously instruct Toronto Hydro to set the revenue to cost ratio for the residential class at 1. The evidence explains that changes in consumption per customer and number of customers are the primary reasons for the increase in the 2020 ratio relative to 2015.[922]

753. Toronto Hydro submits that the proposed ratios for all rate classes are consistent with OEB policy, are appropriate and should be approved.

7.2 Are Toronto Hydro's proposals for rate design (including, but not limited to fixed/variable split, loss factors, retail transmission service rates, specific and other service charges) appropriate?

754. VECC stated that a revised version of the RTSRs model was not filed when the 2020 load forecast that was updated in April 2019. Toronto Hydro proposes that it will provide a revised version of the RTSRs model based on the 2020 load forecast approved by the Board.

755. VECC further noted that Toronto Hydro should update the UTR billing determinants used in the model to reflect the OEB's final determinations regarding the 2020 load forecast. Toronto Hydro proposed to update the RTSRs during the Draft Rate Order process based on the most recently set UTRs and the OEB approved forecast, in accordance with standard OEB practice.[923]

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[921] Exhibit U, Tab 7, Schedule 1 at page 2, Table 1.
[922] 7-Staff-145; 7-CCC-45.
[923] Exhibit 8, Tab 1, Schedule 1 at page 7.

7.3 Is Toronto Hydro's approach to cost responsibility for customer service charges under its conditions of service appropriate?

756. OEB Staff, SEC, VECC, BOMA, GTAA, and Energy Probe argued that the policy of providing one free vault access each year should remain in place until the next rebasing. Toronto Hydro respectfully disagrees and submits that there is no reason to depart from the standard process that the utility follows when making periodic updates to its Conditions of Service. The evidence demonstrates that this process has worked in the past and therefore that it is appropriate to continue to follow it in the future. The requests made by SEC, GTAA and others to bypass the established process should be rejected by the Board.

757. Toronto Hydro confirmed at the Technical Conference and the Oral Hearing that it withdrew its proposal to amend the current policy of attending one vault entry per year at no charge, and that it does not have a plan to amend this policy.[924] As a result, this policy is no longer a live issue in this proceeding.

758. With respect to any future changes, Toronto Hydro intends to follow the established standard process through which it reviews Conditions of Service on an annual basis.[925] As part of this process, when there are proposed changes to the Conditions of Service, Toronto Hydro informs customers of the proposed changes via bill inserts, the website, e-newsletters, e-mail and direct letters (if applicable). Toronto Hydro gives customers the opportunity to comment and provide feedback on the proposed changes. Following the review of customer comments and feedback, Toronto Hydro finalizes the changes and amends its Conditions of Service.[926] Where customers are unsatisfied with the result, as prescribed by the DSC and in the Conditions of Service, customers are able to raise their concerns to Toronto Hydro. And if Toronto Hydro is unable resolve their concern, customers can escalate the matter to the OEB.[927]

759. The evidence demonstrates that Toronto Hydro's standard process has worked in the past, and therefore that it is appropriate to continue to follow this process in the future. Over the 2015-2019 period, Toronto Hydro made various changes to its Conditions of Service,[928] none of which were implemented in opposition to or

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[924] TC Volume 2 (February 20, 2019) from page 15, line 18 to page 16, line 8 and from page 51, line 25 to page 52, line 13; OH Volume 4 (July 4, 2019) from page 159, line 18 to page 160, line 12; OH Volume 6 (July 8, 2019) from page 54, line 23 to page 56, line 17; J6.11.
[925] 4A-GTAA-3(d); OH Volume 2 (June 28, 2019) from page 91, line 17 to page 92, line 10.
[926] 4A-GTAA-3(d).
[927] OH Volume 4 (July 4, 2019) from page 161, line 22 to page 162, line 6 and from page 162, line 19 to page 163, line 13.
[928] 1A-CCC-6; JTC4.26.2.

ignorance of customer feedback.[929] In fact, Toronto Hydro demonstrated its commitment to the standard process of consulting with customers on prospective changes to Conditions of Service in respect of the vault access issue. While this application was being processed, Toronto Hydro proposed (in the normal course) changes to the vault access provisions in the DSC. Upon receipt of customer feedback opposing this change, Toronto Hydro made a decision not to amend the noted provisions in the Condition of Service.[930]

760. SEC's assertion that if "*Toronto Hydro is allowed to revise the policy at a later date during the Custom IR term, then in addition to the result that those affected by the change would lose the opportunity to fight it*"[931] is incorrect. The Conditions of Service and the Distribution System Code provide clear path for dispute, escalation and resolution for complaints. As described above, Toronto Hydro's standard process provides customers the opportunity to comment and give feedback on proposed changes, as well as the ability to escalate their concerns to the OEB if Toronto Hydro is unable to resolve them. In the event a future change is proposed, customers and stakeholders such as GTAA and SEC can engage in the standard process to voice their concerns.

761. Last, Toronto Hydro notes that there is a key inaccuracy in SEC's submissions that it would like to correct: [932]

> These customer-owned vaults store THESL equipment at no cost to THESL, and are maintained by the customer pursuant to the Conditions of Service. At the same time, when customers access the vault to undertake maintenance and other activities, the same Conditions of Service require THESL personnel to be in attendance.

762. SEC's quoted statement is incorrect. Both Toronto Hydro and customer equipment is located in the vault. Toronto Hydro inspects its own equipment under the Preventative and Predictive Maintenance program.[933] The Conditions of Service require Toronto Hydro personnel to be in attendance when the customer is doing work in the vault on the customer's equipment as there are safety and reliability risks to the customer, the customer's equipment and Toronto Hydro's equipment.

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[929] J6.11; TC Volume 2 (February 20, 2019) at page 15, lines 26-28.
[930] OH Volume 4 (July 4, 2019) from page 161, line 22 to page 162, line 6 and from page 162, line 19 to page 163, line 13; J6.11.
[931] SEC Submission at page 78.
[932] SEC Submission at page 78.
[933] Exhibit 4A, Tab 2, Schedule 3 at page 2, lines 1-5, page 4, lines 12-16, and Section 5, "Customer Location Maintenance Segment" at pages 8-15.

8.0 ACCOUNTING AND DEFERRAL AND VARIANCE ACCOUNTS

8.1 Have the impacts of any changes in accounting standards, policies, estimates and adjustments been properly identified and recorded, and is the rate treatment of each of these impacts appropriate?

763. Toronto Hydro adopted and applied three new accounting standards effective January 1, 2018 as required by the International Accounting Standards Board. The new standards are: IFRS Financial Instruments (IFRS 9); IFRS Revenue from Contracts with Customers (IFRS 15); and IFRS Leases (IFRS 16).[934]

764. OEB Staff and intervenors did not challenge these changes in their submissions. Toronto Hydro submits that the changes should be approved as proposed.

8.2 Are Toronto Hydro's proposals for the disposition of balances in existing deferral and variance accounts and other amounts appropriate?

765. Toronto Hydro proposes to dispose of a credit balance of $8.2 million[935] in its Group 1 Accounts and of a credit balance of $189.2 million in its Group 2 Accounts and Other Amounts effective January 1, 2020.[936] The balance includes a new proposed account for Excess Expansion Deposits ($8.0 million),[937] and other amounts to clear the net gains on the sale of 50/60 Eglinton Avenue ($11.8 million) and historical accounts receivable credits ($3.4 million) through rate riders.[938] For the reasons set out below, Toronto Hydro submits that its proposals are appropriate and should be approved by the Board as requested.

The proposed disposition of the Group 1 and Group 2 Accounts is appropriate

766. OEB Staff accepted Toronto Hydro's proposal to (1) dispose of the Group 1 DVA balances of approximately $8.2 million (credit) on an interim basis,[939] and (2) clear the 2018 LRAMVA to a future proceeding.[940] OEB Staff proposed that the 2018 and 2019 LRAMVA be brought forward for disposition in the 2021 rates proceeding. Toronto Hydro accepts this proposal. BOMA[941] and Energy Probe[942] supported the OEB Staff's proposal. Other parties did not make submissions about the Group 1

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[934] Argument-in-Chief at para. 234.
[935] Exhibit U, Tab 9, Schedule 1 at pages 11-12, Table 16.
[936] This total reflects the sum of the $174.0 million (Argument-in-Chief, Table at page 71), the $3.4 million and the $11.8 million.
[937] Argument-in-Chief, Table at page 71.
[938] Exhibit U, Tab 9, Schedule 1, Appendix E and Exhibit 8, Tab 1, Schedule 1 at page 11, lines 1-5 and 18-26.
[939] OEB Staff Submission at page 133.
[940] OEB Staff Submission at page 121.
[941] BOMA Submission at page 52.
[942] Energy Probe Submission at page 30.

dispositions. Toronto Hydro submits that the OEB should approve the request for disposition of the Group 1 balance as proposed.

767. With two exceptions, OEB Staff accepted that the Group 2 DVA balances and Other Amounts can be disposed as proposed by Toronto Hydro.[943] BOMA, CCC and Energy Probe generally supported OEB Staff's arguments on this issue, and other parties did not make submissions.

768. OEB Staff challenged two aspects of Toronto Hydro's proposals:

(i) the disposition of the projected 2019 principal activity in Group 2 DVAs, and

(ii) the disposition of the Impact for USGAAP Deferral Account.

769. For all the reasons set out below, Toronto Hydro submits that the Board should deny the exceptions proposed by OEB Staff and approve the disposition of the Group 2 DVAs and Other Amounts as proposed by the Applicant.

The proposed disposition of the Group 2 accounts on the basis of forecasted 2019 balances is justified and should be approved.

770. Toronto Hydro proposes to clear the Group 2 accounts on the basis of the 2018 audited balances and forecasted 2019 balances. As noted in the Applicant's Argument-in-Chief, this is an appropriate customer-centric proposal in in the circumstances, and should be approved by the OEB because it:[944]

a) provides ratepayers the immediate and full benefit of the proposed distribution rate reduction;

b) improves regulatory efficiency by eliminating the need for an additional process to examine and clear the 2019 balances after the OEB renders its final decision in respect of this application; and

c) protects customers with respect to any variances through the proposal to true-up the 2019 forecasted Group 2 DVA accounts in the next annual rates update.

771. OEB Staff challenged Toronto Hydro's proposal, and argued that 2019 balances for the Group 2 DVAs should be brought forward for disposition in the 2021 annual rate

[943] OEB Staff submission at page 132.
[944] Argument-in-Chief at paras. 251-252.

update proceeding. Energy Probe, BOMA and CCC support OEB Staff's submission. Other parties did not make any submissions on this point.

772. Toronto Hydro respectfully submits that OEB Staff's proposal should be rejected because it results in sub-optimal outcomes for customers in the circumstances. In particular, OEB Staff's proposal would: (1) reduce the credit balance (i.e. refund) to customers in 2020 by $47.4 million; (2) delays customers' receipt of this benefit until 2021; and (3) results in regulatory inefficiency through duplication of, or additional, process and costs.[945]

773. Toronto Hydro recognizes that its proposed approach departs from standard OEB policy to dispose of audited DVA balances only. However, as OEB Staff noted in their submission, exception to this rule have been made.[946] Moreover, Toronto Hydro's proposal to true-up the 2019 forecasted Group 2 DVA balances as part of the 2021 rates update honors the objective, and provides the benefit, of regulatory certainty inherent in the OEB's policy of clearing audited DVA balances.

774. Furthermore, the alternative proposal advanced by OEB Staff also requires a departure from OEB policy to not review Group 2 accounts during annual rate adjustment applications.[947] As discussed further below, OEB's Staff proposal to defer the review of the 2019 Group 2 DVA balances until the 2021 proceeding leads to a potentially lengthy, costly and duplicative review, which goes against the OEB's objectives of regulatory efficiency.

775. On the balance of the policy considerations set out above, and the comparative costs and benefits of the two approaches discussed below, Toronto Hydro submits its proposal to depart from the OEB policy of disposing of audited DVA balances only is justified and should be approved by the Board in the circumstances of this case.

Toronto Hydro's proposal provides ratepayers the immediate and full benefit of the proposed distribution rate reduction.

776. The 2019 balances reflect work and activities performed during the 2015-2019 rate period, which were subject to extensive review as part of this application. Delaying the clearance of these balances until after 2020 postpones the receipt of an immediate benefit by customers in 2020 in respect of work undertaken during the

[945] OEB Staff Submission at page 136.
[946] OEB Staff Submission at page 136.
[947] Argument-in-Chief at para. 254; EB-2008-0046, Report of the Board on Electricity Distributors' Deferral and Variance Account Review initiative (EDDVAR) (July 31, 2009) at pages 20-22.

last rate period. This approach is contrary to the principles of intergenerational equity.

777. OEB Staff's view is that ratepayers will benefit from deferring the clearances until 2021 because it results in improved rate smoothing over the 2020-2024 rate term. However, there are a number of factors that affect the total bill which could change and offset the rate smoothing effect of this proposal during the term. Toronto Hydro's approach provides immediate rate relief to customers in 2020. The Applicant respectfully submits that this immediate benefit to customers is greater than, or at best equal to, the prospective benefit of rate smoothing over the term.

Deferring the clearance of the 2019 balances until the 2021 rates application would result in regulatory inefficiency.

778. OEB Staff asserted that the benefits of deferring the clearance of the 2019 balances (i.e. disposing of audited balance and rate smoothing) outweigh the costs of the additional review that will be required in the 2021 rates proceeding to approve the clearance of Group 2 DVA balances.[948] Toronto Hydro respectfully disagrees. As submitted above, the benefits of OEB Staff's proposal are lower than, or at best equal to, Toronto Hydro's proposal. The costs however are notably higher.

779. OEB Staff acknowledged in their submission that deferring the clearance of the 2019 balances will require additional review as part of the 2021 rates application.[949] However, OEB Staff did not perform any analysis to estimate or quantify the incremental effort and costs that would be required to undertake this review in 2021. Toronto Hydro did the analysis, and as shown below, the incremental costs of a Group 2 DVAs review could be significant.

780. Toronto Hydro performed a review of standalone applications by other utilities to clear Group 2 DVA balances. The results are summarized in Table 7 below.

[948] OEB Staff Submission at page 136.
[949] OEB Staff Submission at page 136.

Table 7: Group 2 DVA Disposition Applications

Applications	Duration	Intervenors	Cost Awards
EB-2018-0243	7 months	6	$73,882.68
EB-2018-0331	11.5 months	10	Not awarded yet
EB-2017-0091	4 months	12	$64,654.74
EB-2015-0010	4 months	11	$88,503.26
EB-2014-0370	9 months	8	$105,746.88
EB-2012-0002	5 months	6	$157,073.33

781. Applications to clear Group 2 DVAs can take more than 6 months to complete as they can attract a high level of regulatory scrutiny and intervention requests by multiple parties, which of course increases the duration and cost of the proceeding. The cost awards indicate the level of effort that is required to process these applications. The average cost award is about 1/10th of the costs of Toronto Hydro's expected cost award in this major rate application. A similar ratio can be expected with respect to Toronto Hydro's and the OEB's costs in preparing and adjudicating such an application.

782. The costs of the current proceeding are significant, and that is testament to the comprehensiveness and rigor of the regulatory process that Toronto Hydro and the OEB undertook to prepare and adjudicate this major application, including the 2019 forecasted DVA balances for which the Applicant has requested disposition.[950] Toronto Hydro submits that it would be inefficient to expend additional resources and incur incremental (and duplicative) costs to review the Group 2 DVA balances in the 2021 rates update proceeding.

783. Toronto Hydro submits that the proposed dispositon of Group 2 accounts including the 2019 forecasted balances provides the same or greater benefits to customers, but at a lower cost through regulatory process efficiences. However, in the event that the OEB sees merit in OEB Staff's arguments to defer the clearance of the 2019 Group 2 DVA balances, the OEB should include specific directions in the decision limiting the review to material variances between the 2019 forecast and 2019 actual balances. Such directions are necessary and appropiate to constrain the scope and reduce the incremental (and duplicative) costs of the additional regualtory process.

[950] OH Volume 5 (July 5, 2019) from page 27, line 9 to page 28, line 25, and page 30, line 28 to page 33, line 1; Exhibit 4A, Tab 2, Schedule 18, Appendix A.

The OEB should approve the disposition of Account 1508 Impact for US GAAP

784. Toronto Hydro seeks approval to dispose of Account 1508 Impact for USGAAP (the "Account"). This account was approved by the OEB in a previous proceeding to capture actuarial gains and losses realized on Toronto Hydro's OPEB costs.[951] OEB Staff opposed the disposition of this account, and BOMA, CCC and Energy Probe supported Staff's position. The other intervenors did not make submissions on this point.

785. Toronto Hydro submits that the Board should reject OEB Staff's arguments with respect to the disposition of this account. With respect, these arguments are premised on a mischaracterization of the facts and accounting principles, and result in unfair consequences to both customers and Toronto Hydro if the account is not at least partially disposed of in the current proceeding.

786. The OEB should accept Toronto Hydro's request for disposition of the Account for three main reasons: (1) historical evidence shows that the balance in the account has been volatile but has not offset itself; (2) failure to dispose of this account in this proceeding will result in the impairment of the balance and intergenerational inequity. Each of these reasons are structured as rebuttals to OEB Staff's submission opposing the Applicant's request for disposition.

The balance in the Account has been volatile, but has not offset itself

787. Toronto Hydro's request for disposition of the Account is consistent with the OEB's guidance in the Pension and OPEB Report:[952]

> Utilities may propose disposition of the account in future cost-based rate proceedings if the gains and losses that are tracked in this account do not substantially offset over time.

788. Results over the past several years show that the balances in the Account have been significant and sustained since its inception in 2010.[953] These results, which are shown in Table 8 below, demonstrate that despite year over year volatility in the, the actuarial gains and losses that are tracked in the Account did not substantially

[951] EB-2012-0079, Decision and Order (June 7, 2012) at pages 7-10.
[952] EB-2015-0040, Report of the Ontario Energy Board, Regulatory Treatment of Pension and Other Post-employment Benefits (OPEBs) Costs (September 14, 2017) at page 13.
[953] U-Staff-193 at page 3, Table 1.

offset in almost a decade. On average, since 2010 the balance remained above $60 million and did not drop below the initial amount of $30 million.

Table 8: USGAAP OPEB Account Balance ($ Millions)[954]

Year	Balance	Balance Change
2010	30.1	n/a
2011	64.8	34.7
2012	61.5	-3.3
2013	38.8	-22.7
2014	87.3	48.5
2015	81.2	-6.1
2016	60.2	-21.0
2017	85.3	25.1
2018	48.1	-37.2
Average	**61.9**	**2.0**
Total	**n/a**	**+18.0**

789. Despite the evidence, OEB Staff submitted that the balance in the Account should not be disposed of at this time because it would be premature to conclude that the balance will not substantially offset itself over-time.[955] This position appears to be entirely based on the fact that there was significant decline in the account balance in one year – from 2017 to 2018 ($85.3 million to $48.1 million).[956] Toronto Hydro respectfully submits that this is too narrow of a view to evaluate the request, and that the Board should place limited weight on this isolated timeframe taken out of the context of the larger picture.

790. Instead, in making a determination about the disposition of the Account, the OEB should consider the longer-term view shown above in Table 8. This evidence supports Toronto Hydro's position that although the balance in the Account is volatile it has not offset itself in almost a decade.

791. However, in the event that the entire balance in the Account is more than offset by actuarial gains during the upcoming rate period, the gains in excess of approximately $30.9 million (the remaining balance in the Account if the OEB accepts Toronto Hydro's proposal) will trigger a refund[957] to customers in the next

[954] U-Staff-193 at page 3, Table 1.
[955] OEB Staff Submission at page 139.
[956] Exhibit U, Tab 9, Schedule 1 at pages 2 and 4.
[957] Using EARSL or another method to determine the annual amount for disposition.

rate period. In other words, customers will be kept whole under this scenario. Furthermore, if there are significant actuarial losses in the 2020-2024 rate period, Toronto Hydro's proposal reduces the amount to be collected from customers in the next rate period.

792. Toronto Hydro submits that it met the test to dispose of the whole balance in the Account as set out in its initial proposal.[958] Nonetheless, during this proceeding it considered OEB Staff's concerns about the reduction of the balance in 2018, and accordingly put forward a revised request to dispose of $17.2 million of the current balance in the Account.[959] This amount represents less than a third of the average $60.1 million balance of the account, and a little over half of the $30.1 million original (and lowest) balance of the account. Toronto Hydro submits that the revised proposal appropriately balances the concerns raised by OEB Staff during the proceeding and the utility's need to obtain disposition of this account in order to avoid an impairment of the balance.

Deferring the disposition of the balance in the Account poses a risk of impairment

793. Toronto Hydro faces the risk of an impairment, and a corresponding write-off, if the OEB does not approve its request to dispose of the balance in the Account.[960] OEB Staff opined that Toronto Hydro's external auditors may not be opposed to the continued recognition of this account balance for the near term if the regulator acknowledges that the account balance will be revisited as part of the next cost-based application.[961] Respectfully, there is no evidentiary basis for this assertion, nor was it put to any witness during examination. On the contrary, the company's Director of Corporate Accounting and External Reporting testified that she reviewed the likelihood of recovery with the external auditors, and assessed that it was likely that if there is no clearance of at least part of the balance in this account, Toronto Hydro will not be able to continue to recognize the Account as a regulatory balance in its external financial statements.[962]

794. Contrary to OEB Staff's assertion, the risk of impairment is significant and if it materializes, the outcome of an impairment of a $48 million balance would have a notable impact on the company's financial results. Poor financial results due to regulatory denials could negatively affect the company's financial situation

[958] Exhibit 9, Tab 1, Schedule 1 at pages 7-10.
[959] U-Staff-193.
[960] OH Volume 6 (July 8, 2019) at page 147, lines 7-12.
[961] OEB Staff Submission at page 140.
[962] OH Volume 6 (July 8, 2019) at pages 146-147; U-Staff-193 at page 5, lines 16-19.

including its credit ratings. Erosion of credit metrics could increase Toronto Hydro's borrowing costs, which are passed on to customers through rates. At present, Toronto Hydro has a strong credit rating, and as a result of this and other factors, customers enjoy the benefit of comparatively lower interest rates.[963]

795. For the reasons noted above, Toronto Hydro submits that an OEB decision that leads to the impairment of the balance in the Account would be contrary to both the public interest and the Company's financial interests. Furthermore, it could send a negative message to other utilities in the industry about the ability to obtain regulatory approval for the recovery of these accounts.

Deferring the clearance of the Account leads to intergenerational inequity.

796. OEB Staff submitted that the disposition of the balance in the Account should be deferred to Toronto Hydro's next rebasing application in 2025. However, this proposal leads to intergenerational inequity because it pushes the clearance of the amounts farther out into the future. KPMG – the Board's accounting expert on Pensions and OPEBs – flagged this consideration in its Report dated May 2, 2016:[964]

> [R]easonable OPEB costs should be included in customer rates in time periods as close to the time periods to which they relate as is reasonable while recognizing the need for rate stability and predictability. [emphasis added]

797. Toronto Hydro's proposed approach protects intergenerational equity by bringing the balances forward for clearance in reasonable proximity to the time period to which they relate. It also protects intergenerational equity by clearing the balance using the EARSL method, as further discussed below.

The OEB should approve the disposition of Account using the EARSL method.

798. OEB Staff argued that in the alternative that the Board sees merit in approving the disposition of the Account, it should be so on the basis of the corridor method.[965] Toronto Hydro disagrees with this proposal, and submits that the OEB should approve the clearance of the Account on the basis of the EARSL method. Compared

[963] 1C-Staff-48; JTC3.8.
[964] KPMG Report to the Ontario Energy Board, Report on Pension and Other Post-Employment Benefit Costs (May 2, 2016) at page 88.
[965] OEB Staff Submission at pages 140-141.

to the alternative corridor method proposed by OEB Staff, the EARSL method is preferred because it protects the principles of intergenerational equity.

799. In its OPEB Report, KMPG considered the accounting treatment of deferral of actuarial gains and losses, and noted that utilities have an accounting policy choice in how these amounts are recognized:[966]

a) Recognize all the amounts immediately in income;

b) Defer all amounts and smooth them through application of the corridor method.

c) Apply another systematic amortization method that results in faster recognition than the corridor method (i.e. the EARSL method).

800. KPMG acknowledged both the corridor and the EARSL method in this report to the OEB. However, with respect to the corridor method, KMPG flagged important considerations regarding intergenerational equity and cost comparability between utilities:[967]

> The corridor method used for accrual accounting under US GAAP only amortizes and recognizes amounts that are outside the 10% corridor. Amounts that are inside the 10% corridor are typically not amortized and recognized until the last pension obligation has been settled. This could cause issues relating to which generation of customers should pay for which costs and, depending on the room available within the 10% corridor, reduces period-to-period comparability of accounting costs between entities. [emphasis added]

801. Intergenerational equity is an issue in the corridor approach because the costs are collected over a longer period of time as a result of the 10% principle. This can have the effect of penalizing future generations with costs incurred in past periods. [968] The EARSL approach addresses this concern because it proposes the recovery of the entire balance over the employees' average remaining service life.

802. Toronto Hydro submits that the OEB should approve the EARSL approach on the basis of the policy consideration summarized above. However, putting these

[966] KPMG Report to the Ontario Energy Board, Report on Pension and Other Post-Employment Benefit Costs (May 2, 2016) at page 107
[967] KPMG Report at page 28.
[968] KPMG Report at page 28.

considerations aside, Toronto Hydro submits that either approach is acceptable to the utility from the perspective of avoiding a potential impairment of the balance in the Account.

8.3 Are Toronto Hydro's proposals for the establishment of new accounts, closing of existing accounts or continuation of existing accounts appropriate?

803. Intervenors and OEB Staff made submissions in respect of the following accounts that Toronto Hydro proposes for the 2020-2024 rate period: (1) Account 1592 Account 1522 – Pension and OPEB Forecast Accrual versus Actual Cash Payments Differential Tracking; (2) the Earnings Sharing Mechanism ("ESM") Account; (3) the Capital Related Revenue Requirement Account ("CRRRVA"); (4) Derecogntion Variance Account; and (5) the Externally Driven Capital Variance Account ("EDCVA"). Their submissions argued for various changes with respect to the treatment of these accounts – treatment which was previously approved the Board in the 2015 application. For all the specific reasons detailed below in respect of each account, Toronto Hydro submits that all the arguments and proposal should be rejected. The OEB should continue to approve the noted accounts as proposed by the Applicant.

Account 1522 – Pension and OPEB Forecast Accrual versus Actual Cash Payments Differential Tracking

804. OEB Staff submitted than an alternate approach to determine the forecast accrual amount in rates is not warranted because associated dollar are not material enough to justify the added complexity that an alternate methodology will introduce to the regulatory process.[969] Toronto Hydro respectfully disagrees. OEB Staff's argument is based on materiality. However, the OEB's guidance in the OPEB Report doesn't specify that materiality is the test for justifying a different approach. The test is incremental value, which Toronto Hydro submits is not limited to monetary impacts.

805. Fairness and consistency are the incremental values that warrant the use of an alternate approach in this case. Toronto Hydro's proposed methodology ensures that the calculation of the accrual amount is representative and reflective of how Toronto Hydro collects funding for OPEBs through rates. The approach is consistent with the intent of this tracking account, which is to compare the OPEB amounts

[969] OEB Staff Submission at pages 143-146.

collected in rates on the basis of the accrual method with the cash payments made by the utility.

806. On average, over the past 4 years (2015-2018), Toronto Hydro capitalized approximately 44% of its OPEB costs. As a result, customers are not paying for these costs one-to-one in rates. Toronto Hydro submits that the capitalization of OPEB costs has a material impact on Toronto Hydro's OPEB recovery in rates.[970] That is why (consistent with the OEB's guidance in the OPEB report)[971] Toronto Hydro proposed the alternate methodology for the OPEB accrual versus cash payments differential tracking account. To be fair to Toronto Hydro's circumstances and consistent with how OPEB costs are reflected in customers rates, Toronto Hydro submits that the alternate approach is warranted for this account.

Earning Sharing Mechanism ("ESM") for 2020-2024.

807. OEB Staff and intervenors challenged various aspect of the current and proposed ESM, and proposed two adjustments to the 2020-2024 ESM. Specifically, OEB Staff argued that the symmetrical nature of the account does not sufficiently incentivize the utility to spend on a prudent basis, and that the current methodology does not protect ratepayers against fluctuations in the load and customer forecasts that underpin the revenue requirement. Staff proposed that the account be asymmetrical in favour of ratepayers, and that it should be calculated using the ROE method which captures the effect of differences in customer and load forecasts.[972] SEC, BOMA, VECC, CCC, AMPCO and Energy Probe echoed or agreed with Staff's submissions.[973] Toronto Hydro respectfully disagrees with Staff's proposed adjustments to the ESM.

808. OEB Staff and intervenors proposed that the ESM should be asymmetrical to ensure that it operates only to share overearnings with ratepayers. Other parties supported this proposal and noted it would be an appropriate way to balance the risk between Toronto Hydro and its customers during the CIR period.

809. Toronto Hydro agrees that an ESM can be one of the ways to protect customers (and hence balance risk between them and the utility) during a CIR period. However, as the Board noted in the Utility Rate Handbook, the ESM is not a

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[970] U-Staff-196(b) at page 4, Table 2.
[971] EB-2015-0040, Report of the Ontario Energy Board – Regulatory Treatment of Pensions and Other Post-employment Benefits (OPEBs) Costs (September 14, 2017) at page 12.
[972] OEB Staff Submission at pages 49-51.
[973] SEC Submission at pages 18-21; BOMA Submission at page 18; CCC Submission at pages 12-13; AMPCO Submission at page 28; and Energy Probe Submission at page 6.

mandatory mechanism, and has downsides with respect to incentivizing productivity:[974]

> The OEB does not require a Custom IR to include an earnings sharing mechanism, except in the context of deferred rebasing periods as part of electricity distributor consolidation. While an earnings sharing mechanism protects customers from excess earnings, it can diminish the incentives for a utility to improve their productivity, and any benefits to customers are deferred. The requirement for a custom index ensures that benefits are shared immediately with customers through productivity commitments. [emphasis added]

810. Toronto Hydro submits that its current (and proposed) ESM achieves an appropriate balance between customer protection and safeguarding the utility's incentive to improve productivity. It does so by offering a symmetrical sharing of risks and benefits, as approved by the Board in the last CIR application.[975] The OEB should reject the intervenors' proposals to turn the ESM into an asymmetrical account.

811. Furthermore, Toronto Hydro does not agree with the ROE methodology proposed by OEB Staff and others. First, the ROE method introduces unnecessary complexity in the calculation of the ESM. As shown in the undertaking response to JTC4.3, numerous adjustment have to be made to the calculation of the ROE to account for out of period items and the effect of deferral and variance accounts like the CRRRVA.[976] The current and proposed methodology of comparing non-capital related revenue requirement funded through base rates with the actual non-capital related revenue requirement is a more direct and straight-forward way to calculate the ESM as it does not require as many adjustments as the alternative ROE method.

812. Toronto Hydro also rejects the ROE method (particularly in conjunction with an asymmetrical and non-cumulative account) because this approach captures the effect of load and customer count variances – which tend to be outside of the utility's control, particularly in the context of weather-related impacts on load. Toronto Hydro submits that the risk of customer and load differences in the forecast should be equally shared between customers and the utility, as is the case in the normal course during the incentive period of the plan. As Mr. Seal noted:[977]

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[974] Handbook to Utility Rate Applications (October 13. 2016) at page 28.
[975] EB-2014-0116, Decision and Order (December 29, 2015) at page 49.
[976] JTC4.3.
[977] OH Volume 7 (July 9, 2019) at page 184, lines 12-20.

> [T]he load forecast is a risk we've always taken, the load and customer forecast is a risk we have always taken, higher or lower than what we forecast.
>
> In fact, I think if you look at our load forecast variance that we submitted the correction for yesterday, our load forecast at least for the first four years was slightly -- or the actual was slightly below what the forecast was. So we take that risk.

813. In the alternative that the OEB is inclined to approve ROE method, Toronto Hydro submits that the account should be cumulative in order to normalize the effects of weather-related load forecasting differences. A cumulative ESM account is consistent with the OEB's guidance in the Utility Rate Handbook:[978]

> If a utility proposes an earnings sharing mechanism as its mechanism to protect customers against excess earnings, it should be based on overall earnings at the end of the term, not an assessment of earnings in each year of the term, consistent with the approach to limiting mid-term updates. [emphasis added]

CRRRVA for 2020-2024

814. While OEB Staff and CCC supported the continuation of the CRRRVA,[979] VECC and BOMA challenged how the account operates and proposed various adjustments. VECC argued that the CRRRVA doesn't provide sufficient accountability because it tracks gross capital spending, and proposed that the account should be organized by the investment categories of the Distribution System Plan.[980] BOMA similarly argued that the cumulative tracking features of the account are inappropriate because it allows to utility offset underspending in earlier years with overspending in the later years. BOMA proposed that the CRRRVA should capture annual underspending to be returned to ratepayers through the annual rate adjustment process.[981]

815. With respect, these proposals are antithetical to the CIR framework, integrated nature of the DSP, and the purpose of the CRRRVA as approved by the OEB in utility's 2015-2019 CIR decision.

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[978] Handbook for Utility Rate Applications (October 13, 2016) at page 28.
[979] OEB Staff Submission at page 51; CCC Submission at pages 11-12.
[980] VECC submission at page 27.
[981] BOMA Submission at pages 15-17.

816. A key compact of the CIR framework is that a utility must not come in for rebasing or incremental funding for the term of the plan (absent major events such as standard Z-factor and off-ramps such as +/- 300 bps ROE from approved).[982] In exchange for five year rate certainty and price protection for customers, CIR provides utilities an envelope of funding that they must manage within. The OEB states in the RRFE that it "*expects a distributor's application under Custom IR to demonstrate its ability to manage within the rates set, given that actual costs and revenues will vary from forecast*."[983] The CRRRVA is one mechanism that enables the utility to meet this expectation. It also goes further, and provides an additional insurance mechanism for customers by ensuring that any cumulative underspend be returned to ratepayers, whereas any cumulative overspend be absorbed by the utility and its shareholder.

817. The DSP is a comprehensive and integrated five year plan. It is not 5 one year capital plans as BOMA suggests, or as VECC suggest four ring-fenced capital plans to be executed annually over the 5 year rate period. To effectively ring-fence investments by DSP category as VECC suggested, or require the plan to be trued up annually as BOMA proposed, defies the integrated nature of the DSP. It also undermines a key purpose of CIR – namely, that a utility must manage within the rates set given that actual costs and revenues will vary from forecast. What's more is that the proposed CRRRVA adjustments would limit Toronto Hydro's operational effectiveness by taking away its ability to be nimble in the face of externally driven conditions that may require it to shift funding between years and programs.[984] This flexibility is critical to achieving customer-centric outcomes, enabling productivity, and simply operating in the mature and dense urban environment that is Toronto.

818. BOMA's and VECC's proposal to clear the CRRRVA annually are also antithetical to the purpose of the account, as established in the last CIR decision. In approving the CRRRVA, the OEB acknowledged that the purpose of the account is "*to protect ratepayers [by tracking] the revenue requirement associated with approved in-service capital additions and actuals, if they were less than approved.*" The Board also acknowledged that the account must operate on a cumulative basis so that the utility can "*maintain the required flexibility to plan and execute its capital*

[982] Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach (October 18, 2012) *[RRFE Report]* at page 19.
[983] Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach (October 18, 2012) *[RRFE Report]* at page 19.
[984] OH Volume 6 (July 8, 2019) at pages 129-131 and at page 133, lines 20-24.

investment strategy in response to the various factors that may require the shifting of projects and project spending earlier or later in the Custom IR term."[985]

819. To achieve its intended purpose of protecting ratepayers and enabling the utility to execute an efficient and effective five-year plan within the challenges of its operating environment, the CRRRVA must operate on a cumulative basis. Without this essential feature, the CRRRVA will no longer serve the purpose it was intended to, and will serve to undermine a key purpose of CIR. The account would, instead of optimizing Toronto Hydro's ability to deliver and efficient and effective capital plan aligned with customer outcomes, severely restrict Toronto Hydro's flexibility to optimize its investments decisions and respond prudently to operational conditions and challenges that it faces on the ground in the execution of its plan. Both Toronto Hydro's Chief Financial Officer and its General Manager of Engineering underscored the importance of having this flexibility:

> MS CIPOLLA: … what you will naturally see in a plan of a five years, that there are going to be puts and takes between years, … given the nature of where we operate, the changes as around weather incidents, reactive work that we need to do, changes in the city, and considerations around that environment, external factors, there is going to be moves, and that is where [the CRRRVA] allows us to catch up in future years…[986]
>
> MR LYBEROGIANNIS: …naturally within a given year, and as we have spoken about before, there are changes that occur to work programs within years, and we've spoken a lot about the execution challenges that we have within a dense and urban city such as Toronto.[987]

820. With respect, BOMA and VECC's untested and asserted opinions regarding the CRRRVA are demonstrably disproved by Toronto Hydro's lived experience with the account. The 2015-2019 plan results show that the CRRRVA worked as-designed to protect customers and facilitate the successful completion of the plan. By having the necessary flexibility to manage the capital program, Toronto Hydro's total in-service additions over the 2015-19 period are expected to be within 1% of the amounts approved by the OEB.[988] Furthermore, the CRRRVA successfully protected customers from the effect of necessary and prudent changes in the timing and mix of capital work over the rate period. As a result, customers will receive a financial

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[985] EB-2014-0116, Decision and Order (December 29, 2015), Section 3.22 at page 52-53.
[986] OH Volume 2 (June 28, 2019) at page 4, lines 21-28 and page 5, line 1.
[987] OH Volume 2 (June 28, 2019) at page 11, lines 20-25.
[988] Argument-in-Chief at para. 23.

benefit of an $88.4 million credit upon clearance of the account.[989] This financial benefit is in addition to the wide array of benefits that customers derived form from the successful execution of the 2015-19 plan, which enabled the utility to deliver strong performance on key outcomes such as reliability, safety, customer service, and public policy responsiveness.[990]

821. Regarding VECC's proposal that the account should be organized by the DSP categories, Toronto Hydro also submits that it isn't necessary or practical to organize the account in this way. It isn't necessary to amend how the CRRRVA tracks variances because utilities must file this information in their rebasing applications to comply with the OEB's Filing Requirements. Specifically, Chapter 2 and Chapter 5 require utilities to report and explain material variances with respect to planned versus actual capital expenditures at both the program and investment category level. This information allows the OEB and intervenors to examine the prior plan variances and test their prudency as part of rebasing. VECC's proposal to organize the CRRRVA by DSP categories introduces unnecessary (and duplicative) reporting requirements.[991] Furthermore, it introduces the unnecessary complexity of tracking all the aspects of the capital-related revenue requirement variances (i.e. in-service additions, depreciation, PILS, cost of capital) at the investment category level.[992]

822. Toronto Hydro submits that accepting the CRRRVA adjustments proposed by the intervenors would have the effect of eradicating Toronto Hydro's flexibility to execute the capital program. As discussed above, this flexibility is a key aspect of the CIR framework under the RRFE and the purpose of the integrated DSP that this framework funds. Limiting Toronto Hydro's flexibility would not only be antithetical to the Board's regulatory paradigm, but it would also have detrimental consequences for the utility and its customers.

823. For all the reasons noted above, Toronto Hydro submits that VECC and BOMA's arguments and proposals with respect to the tracking features of CRRRVA are without merit, and should be rejected. However, in the alternative that the OEB seems any merit in their submissions (which Toronto Hydro continues to contest), then Toronto Hydro submits that the more appropriate way to address their concerns would be to require Toronto Hydro to report on in-service additions by

[989] OH Volume 2 (June 28, 2019) at page 5, lines 21-28. This balance reflects the impact of Bill C-97 noted in U-Staff-188 at page 5, Table 1 in line (c).
[990] Argument-in-Chief at para. 23.
[991] Filing Requirements for Electricity Distributors, Chapter 5 (July 12, 2018) at pages 19-20.
[992] J7.2; 9-Staff-153; 9-Staff-154.

investment category for the 2020 to 2024 period at the time of its next rebasing application.

Discontinuation of the Derecognition Account

824. OEB Staff and BOMA challenged the ongoing need for the Derecognition Variance account, and proposed that the account should be discontinued in the next rate period as derecognition variances can be recorded in the CRRRVA. OEB Staff's rationale for this proposal is that Toronto Hydro should take on the risk associated with forecasting derecognition and that the CRRRVA being an asymmetrical variance account protects ratepayers from overages in capital and derecognition related revenue requirement.[993] BOMA, CCC and Energy Probe supported OEB Staff's proposal. Others did not make submissions about this account.

825. With respect, Staff's argument disregards the clear evidence on the record that there is an ongoing operational need for this symmetrical account "*because there is a significant amount of volatility that is experienced in the derecognition process due to things like asset age and dynamic nature of the capital program.*"[994] Toronto Hydro's uncontroverted evidence is that derecognition is challenging to manage as it is driven by external factors (e.g. weather related equipment damage and externally initiated plant relocations), and highly dependent on operational considerations (e.g. asset age, type and mix variety across Toronto Hydro's diverse system;[995] dynamic nature of the capital program).[996]

826. Staff's argument also fails to consider the many practical challenges and considerations that affect Toronto Hydro's ability to accurately forecast and manage derecognition, and how as a result, it would not be appropriate to collapse the derecognition account into the asymmetrical CRRRVA. Furthermore, as derecognition is a financial concept that is related to but distinct from the operationally focused CRRRVA, there is value in keeping these accounts separate. As Toronto Hydro's Director of External Reporting explained at the Technical Conference: "*keeping the [two] accounts separate will also provide the transparency and visibility to the drivers of the variances within these accounts.*" [997]

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[993] OEB Staff Submission at pages 117-118; BOMA Submission at page 50.
[994] OH Volume 4 (July 4, 2019) at pages 145-146.
[995] Please refer to Exhibit 1C, Tab 1, Schedule 1 for an overview of Toronto Hydro's operating environment and Exhibit 2B, Section D2 for an overview of the utility's distribution assets.
[996] Exhibit 4B, Tab 1, Schedule 2 at page 1, lines 23-24 and page 2, lines 1-10; TC Volume 4 (February 22, 2019) at pages 46-47; EB-2014-0116, Exhibit 4B, Tab 1, Schedule 1.
[997] TC Volume 4 (February 22, 2019) at page 47, lines 15-18.

827. In summary, Toronto Hydro submits that it requires a symmetrical Derecognition Variance Account going forward in order to manage this volatile expense, and that there is value to keeping this account separate from the CRRRVA. However, if the OEB is inclined to discontinue the account (which in Toronto Hydro's view would be an unreasonable outcome), Toronto Hydro proposes that derecognition expenses related to externally initiated plant relocations and expansion should be tracked in the Externally Driven Capital Variance Account. This carve-out would be an appropriate way to recognize and account for the fact that Toronto Hydro's depreciation expenses are driven by external factors which are beyond the utility's control.

Externally Driven Capital Variance Account ("EDCVA")

828. OEB Staff and CCC supported the continuation of the account, while BOMA and SEC criticized it in various ways. Toronto Hydro respectfully submits that the criticisms are meritless and should not be given any weight by the OEB for all the reasons discussed below. The uncontroverted evidence is that Toronto Hydro continues to need this account to protect customers and the utility from highly volatile projects, the timing and cost of which are largely driven by third-party requirements outside of Toronto Hydro's control.[998]

829. SEC noted that account shifts risk onto ratepayers because it protects Toronto Hydro against the risk of both incremental work relocation requests, as well as cost overruns for those relocations that have to be done.[999] Toronto Hydro submits that SEC's characterization of the EDCVA is incorrect. Being symmetrical, the account protects *both* Toronto Hydro and ratepayers with respect to effect of work that is outside the utility's control. Furthermore, to the extent that Toronto Hydro incurs incremental costs in this account, its ability to recover the incremental costs will be subject to a prudence review in the next application when it requests clearance of the account. The OEB weighed all of these considerations in approving the account in the 2015 CIR decision: [1000]

> The OEB approves this account as requested. As these projects are completely outside Toronto Hydro's control as to both need and timing, they are appropriate for a variance account. Given the size of Toronto Hydro's overall budget, the OEB is not inclined to require Toronto Hydro

[998] Exhibit 2B, Section E5.2.1 at pages 1-2; Exhibit 9, Tab 1, Schedule 1 at pages 14-17; 9-Staff-155; TC Volume 4 (Feb 22, 2019) at page 46, lines 17-25; OH Volume 7 (July 9, 2019) at pages 85-86.
[999] SEC Submission at page 12.
[1000] EB-2014-0116, Decision and Order (December 29, 2015) at page 50.

> to include a larger portion of these expenditures in its budget. The OEB recognizes the risk of this approach is there may be a significant recovery from ratepayers when the account is cleared, but is of the view that is preferable to the risk of ratepayers paying now for work that may not materialize. The issues of prudence and recovery periods will be dealt with as usual when Toronto Hydro applies to clear the balance of this account.

830. Toronto Hydro's experience and results over the 2015-19 period prove that this account is necessary and appropriate. In the last proceeding, Toronto Hydro's forecasted expenditures for externally-driven relocations and expansions were approximately $119 million as a result of a number of large transit projects (e.g. Eglinton and Finch LRTs).[1001] Through the establishment of this account, the forecasted expenditures embedded in rates were reduced to $20 million on the basis that there was uncertainty and volatility with respect to the external projects.

831. The 2015-19 results show that the expected uncertainty and volatility did in fact materialize.[1002] Major public works projects with significant activities planned for the 2015-2019 period were delayed by a variety of factors, all which were outside of Toronto Hydro's control. These factors included changes to City and provincial funding priorities, changes in scope, unforeseen project complications and longer than expected agreement negotiation periods.[1003] As a result of the delays experience, Toronto Hydro's customers did not have to pay for any additional costs through this account, but in fact they are expected to receive a $3.2 million credit (refund) upon clearance of the account.[1004] In short, over the 2015-19 period the Externally Driven Capital account served its purpose of protecting customers from the risk of overpaying for work that ultimately did not materialize due to circumstances beyond Toronto Hydro's control.

832. In the upcoming rate period, Toronto Hydro has identified a number of major projects that may materialize but that have not been included in the forecast. These projects include the Metrolinx Regional Express Rail and Toronto Transit Commission Scarborough Subway Extension. [1005] BOMA proposed that 50% of any relocation-required capex, over and above that included in rates, be absorbed by

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[1001] EB-2014-0114, Exhibit 2B, Section E5.3 at page 10.
[1002] Exhibit 9, Tab 1, Schedule 1 at page 16.
[1003] Exhibit 9, Tab 1, Schedule 1 at page 16.
[1004] Exhibit U, Tab 9, Schedule 1, Table 2 at page 2.
[1005] Exhibit 9, Tab 1, Schedule 1 at pages 16-17.

Toronto Hydro through reduction of other, lower priority projects.[1006] Toronto Hydro rejects this proposal and submits that there is no basis for imposing this arbitrary and punitive threshold. If the Externally Driven Capital Account is not approved as requested, Toronto Hydro submits that the OEB should allow Toronto Hydro to include these projects in its forecasts at the time of Draft Rate Order process.[1007]

833. BOMA challenged Toronto Hydro's ability to include variances related to expansion projects that are occasioned by relocation requests and proposed that this feature of the account be removed. [1008] However, BOMA did not put forward any evidence to justify its request, and did not seek through interrogatories, undertakings or examination any information to test this feature of the account. Instead, BOMA just made a bald assertion that it is not appropriate to combine these two types of work.

834. BOMA's assertion is wrong and should be rejected. The evidence on the record is that combining relocation and expansion work can maximize efficiencies and reduce costs. This feature of the account was tested and approved by the OEB in the 2015 CIR application. It was approved on the basis of detailed evidence including examples and analysis to demonstrate the efficiencies of combining this work.[1009] Toronto Hydro's need and rationale for continuing this aspect of the account remains unchanged,[1010] as Mr. Higgins explained to BOMA at the Oral Hearing.[1011]

> You spoke to the expansion piece. I just want to clarify on that as well. So the expansion piece respect to that program is simply the advancement of expansion work that would be directly linked to the project being undertaken, and it is effectively -- we're taking advantage of opportunities where -- only where obviously the growth is going to be coming and we need to expand the system.

[1006] BOMA Submission at pages 17-18.
[1007] Exhibit 9, Tab 1, Schedule 1 at pages 16-17.
[1008] BOMA Submission at page 17.
[1009] EB-2014-0116, Exhibit 2B, Section E5.3 at page 19: *Another example of how expansion and relocations may be combined to maximize efficiencies is the Eglinton LRT project. To accommodate the LRT line on Eglinton, Toronto Hydro reviewed two options. The first option was simply to undertake the relocation necessary to facilitate the Metrolinx project without constructing any additional civil infrastructure to accommodate Toronto Hydro's anticipated demand growth. The second, and preferred, option was to construct civil infrastructure sufficient to accommodate both the relocation and Toronto Hydro's anticipated demand growth and other system requirements. To predict the system capacity that will be required in the future, the Planning teams have been using reports published by the City regarding planned usages for Eglinton Avenue, as well as looking at other examples of similar transit stations and the demand required in those areas. Eglinton Avenue, on average, is currently lacking 25% of the Toronto Hydro infrastructure available, compared to similar areas along transit lines within Toronto.*
[1010] Exhibit 9, Tab 1, Schedule 1 at page 13, lines 20-25 and page 14, lines 1-2.
[1011] OH Volume 7 (July 9, 2019) at pages 85-86.

> To do that work at the same time that -- we would not otherwise be doing that work at that time if not for the fact that a third party is going in, opening up a road, and likely there will be upwards of a ten-year road moratorium after that project is over, and so it really is a timing consideration.

835. Additionally, BOMA submits that Toronto Hydro does not have any incentive to negotiate vigorously the cost sharing for various relocation projects that do not fall under the *Public Works on Highways and Service Act*.[1012] BOMA's assertion is plainly wrong and contrary to evidence on the record, which is that: (1) Toronto Hydro always strive to negotiate the best cost sharing arrangements for its customers,[1013] and (2) the historical results demonstrate that the utility efforts in this regard have been very successful. Over the 2015-2019 period, Toronto Hydro recovered just under 80% of the total gross capital expenditures in the Externally Initiated Plant and Relocations and Expansion program.[1014]

836. In conclusion, Toronto Hydro submits that BOMA and SEC's arguments regarding the Externally Driven Capital Variance Account should be dismissed. The evidence demonstrates that this account continues to be necessary and appropriate to protect customers and the utility with respect to third party-initiated relocation projects the timing and scope of which are uncertain and outside of management's control. Furthermore, there are a number of major projects on the horizon for the upcoming rate period, which have not been included in the forecast on the basis that the costs (if and when they materialize) will be tracked in the Externally Driven Capital Variance Account. If the account is not approved as requested (which Toronto Hydro submits would be an unreasonable outcome), the OEB should allow Toronto Hydro to include these projects in its forecasts at the time of Draft Rate Order process.[1015]

[1012] BOMA Submission at page 17.
[1013] 2B-BOMA-79.
[1014] Exhibit U, Tab 2, Schedule 2 at page 6, Table 5.
[1015] Exhibit 9, Tab 1, Schedule 1 at pages 16-17.

APPENDIX A: COPELAND TRANSFORMER STATION

Toronto Hydro's Copeland TS – Phase 1 has spanned 3 applications and is summarized in this Appendix.

INTRODUCTION

1. Copeland Station is one of the most complex projects ever undertaken by the Toronto Hydro Corporation.[1] Copeland TS – Phase 1 was built to meet Toronto's capacity needs as without it, Toronto Hydro would be challenged to handle anticipated load increases in the coming years. The station provides greater operating flexibility, improves reliability, and needs the growing electric demand in downtown Toronto. Reliability of supply in downtown is critical, as this area includes major complexes, businesses, and the Toronto Stock Exchange.[2] The additional capacity provided at Copeland TS will allow Toronto Hydro to make necessary repairs to two other transformer stations in downtown Toronto.

2. Copeland TS is not only the second underground transformer station of its kind in Canada, but it is also the first transformer station to be built in the downtown core since the 1950s[3] as well as the first gas insulated transformers in Canada (second in North America).[4] Copeland TS – Phase 1 was built to add the much-needed additional capacity to the grid – it adds a total of 144 MVA of additional capacity,[5] which is the equivalent of approximately 70 condominium towers.[6]

3. The station is able to provide backup via 13.8kV underground feeders – as feeder ties did not exist. It also improves Toronto Hydro's operating flexibility and maintenance scheduling. Most importantly, Copeland TS provides the grid with enhanced reliability – second contingency support to key stations – in downtown Toronto.

4. Copeland TS is located at the John Street Roundhouse ("the Roundhouse") which is a designated National Historic Site of Canada. Due to its location, it is important to note two things:

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[1] Exhibit 1C, Tab 3, Schedule 5 at page 20
[2] EB-2012-0064, Tab 4, Schedule B17, Appendix 3 at page 1.
[3] Exhibit 1C, Tab 3, Schedule 5 at page 20 and Schedule 6 at page 20; Toronto Hydro-Electric System Limited, *Improving Reliability: Copeland Station*. Available at: https://www.torontohydro.com/improving-reliability/copeland-station
[4] EB-2012-0064, Tab 4, Schedule B17.
[5] Exhibit 2B, Section E7.4.3.
[6] Toronto Hydro-Electric System Limited, *Improving Reliability: Copeland Station*. Available at: https://www.torontohydro.com/improving-reliability/copeland-station

- Toronto Hydro was required to complete a heritage impact assessment to ensure the historical value of the area was taken into account in the design and execution of the project. As a result, the station was built below-grade, beneath the machine shop, to maintain the integrity of the heritage site. Additionally, Toronto Hydro dismantled the machine shop and preserved the bricks, windows, doors, and structural steel from the machine shop and restored the building to its historic condition following the completion of the underground construction. The machine shop was not only rebuilt to its previous condition, but it was also rebuilt to withstand earthquakes.[7]

- Copeland TS is located within the city's flood plane and therefore below the water table. Therefore, the station was built to withstand flooding by building it with an impermeable wall, and impermeable concrete foundation. This allows the station to act as a "bathtub" thus protecting the equipment inside the station from flooding.[8]

EXECUTION CHALLENGES

5. As highlighted throughout the evidence on the record, the execution of Toronto Hydro's Copeland TS – Phase 1 was not without its challenges outside of Toronto Hydro's control. The execution was subject to harsh weather conditions from the onset, including the 2013 ice storm. Site conditions were more challenging that initially planned for, and it experienced logistical challenges due to the location of the construction site. The execution was challenged by the performance of its contractor, who declared insolvency towards the end of the project.[9]

6. As highlighted in 2B-Staff-95, during construction, the GTA experienced the ice storm of 2013-14, which delayed the concrete and reinforcing steel placement. Additionally, sustained wind speeds in excess of 50km/h required suspension of tower crane operations several times during civil construction. It should be noted that the construction site required 3 cranes for the purpose of executing the project.[10]

[7] EB-2012-0064, Tab 4, Schedule B17.
[8] Toronto Hydro-Electric System Limited, *Improving Reliability: Copeland Station*. Available at: https://www.torontohydro.com/improving-reliability/copeland-station
[9] J1.5; JTC2.22; 1C-EP-26.
[10] 2B-Staff-95.

7. The site conditions were exacerbated by the proximity to the heritage Roundhouse required special cate and protection of the adjacent historic building.[11] Toronto Hydro's initial business case accounted for the heritage site conditions, and the work required to mitigate any impact to the heritage site to meet heritage requirements and design standards. The conditions encountered during the project were not anticipated despite a thorough heritage impact assessment.[12]

8. With respect to the logistical challenges, it is highly important to note the location of the construction site. Copeland TS is located on the Roundhouse site, bounded at the north by Bremner Boulevard and to the south by Lakeshore Boulevard. It is located opposite the CN tower and the Rogers Centre.[13] Due to the activity of the surrounding area and the morning rush hour, Toronto Hydro was unable to secure from the City a large amount of road space for laydown and material delivery. This required twice daily "bump-out" of perimeter fence. Further the delivery of two 155 tonne transformer tanks from the port of Toronto to Copeland site required 6 months of planning and engineering studies of the integrity of the structures along the routes. [14] Toronto Hydro's activity on the site were limited by its location. Due to active Blue Jays Games and concerts, as well as the Pan Am games, work at the construction site was limited for public safety purposes.

ENABLING ASSET REPLACEMENT AT WINDSOR TS

9. As stated above, the completion of Copeland TS – Phase 1 will not only enable the replacement of both Toronto Hydro and Hydro One end-of-life equipment at Windsor TS (also known as John TS), but it will also have the potential to enable load relief at Esplanade TS, Strachan TS, Windsor TS, Cecil TS, and Terauley TS.[15]

10. The Windsor Station, originally constructed in 1950, contains some of Toronto Hydro's oldest equipment – some obsolete – yet service one of the most critical and sensitive loads in the GTA.[16] There are six 13.8kV switchgear busses, each of which has few or no spare feeder positions to unload other feeders or pick up load from other switchgear line-up, either for feeder outages or maintenance. Compounding

[11] 2B-Staff-95.
[12] EB-2012-0064, Tab 4, Schedule B17.
[13] EB-2012-0064, Tab 4, Schedule B17, Appendix 3 at page 27.
[14] 2B-Staff-95.
[15] Exhibit 2B, Section E5.3 at page 9, lines 20-21.
[16] EB-2012-0064, Tab 4, Schedule B17 at page 6.

this problem is the absence of interior and floor space to add new or expand existing switchgear busses.[17]

11. Windsor TS's the switchgear unit is a critical asset located in and supplying Toronto's downtown core. The unit was originally installed in 1956 and will be 63 years old in 2019. The high loading on this switchgear combined with its age and condition contributed to the need for Copeland TS. Replacement parts for some of the equipment in this station is no longer manufactured which creates a significant risk to system reliability.[18]

12. With Copeland TS online, Toronto Hydro gains the capacity required to offload and replace the Windsor TS (A5-6WR) switchgear. This will provide increased reliability to 434 customers consuming 53 MVA of peak load, a vert high ratio of average load per customer. Many of these customers are large commercial entities in high-rise buildings in the centre of the city's financial district.[19]

13. As highlighted in Toronto Hydro's 2012 ICM business case for Copeland TS, the load density and type of load serviced observed by Toronto Hydro and its consultant Navigant suggested continuity of service to downtown electric load could not be compromised: as it includes Toronto's financial district, large office complexes, numerous high rises, and major tourist destinations.[20] Not building Copeland TS would have caused reliability to seriously degrade and violate the minimum reliability set out in Toronto Hydro's planning guidelines; its ability to serve peal demand under first contingency conditions.[21]

14. Load growth in the City of Toronto's downtown core (notably in the area served by Windsor TS, Esplanade TS, Strachan TS, Terauley TS, and now Copeland TS) has increased. Toronto Hydro receives high volumes of requests for connections and updated for residential and commercial developments each year.[22] From 2012 to 2016, the City's development pipeline included 2,523 projects in various stages of approval and completion[23] with 1,156 built, 743 active and 624 under review.[24] This is reflective of the pace of development and growth observed in Toronto over the

[17] EB-2012-0064, Tab 4, Schedule B17, Appendix 3 at pages 12-13.
[18] EB-2012-0064, Tab 4, Schedule B17, Appendix 3 at pages 13-14.
[19] Exhibit 2B, Section E6.6 at page 10, lines 1-5.
[20] EB-2012-0064, Tab 4, Schedule B17, Appendix 3 at page 8.
[21] EB-2012-0064, Tab 4, Schedule B17, Appendix 3 at page 24.
[22] Exhibit 2B, Section E5.1.3.1 at pages 4-5.
[23] Including projects that are pending approval, approved, awaiting or holding building permits, or under construction.
[24] City of Toronto, "How Does the City Grow?" (April 2017).

last few years. From 2013 to 2018, Toronto Hydro has seen its customer base increase by approximately 50,000 customers.[25]

15. The observed pace of development and growth, the increase in load growth, the increase in customer base, the increased number of customer requests for connections, the increased number of condominiums in the City highlight the need for Copeland TS – Phase 1. The addition of Copeland TS has substantially reduced outage exposure, particularly for low probability, high impact events such as the complete loss of a downtown station. A loss of a core downtown station such as Windsor likely would cause major outages lasting for more than 24 hours. The economic impact likely would be in the tens of millions of dollars.[26]

16. Had Toronto Hydro not built the transformer station, the utility's distribution system would have been constrained and without contingency.[27] Additionally, this would have put Toronto Hydro's ability to meet mandated service obligations and service requests as well as maintain system reliability at risk.[28]

ADDRESSING CAPACITY CONSTRAINTS THROUGH COPELAND TS – PHASE 2

17. The completion of Phase 1 of the Copeland TS project enables work on Copeland TS – Phase 2 which is "required to address capacity constraints in the downtown core, which continues to experience a high degree of densification and growth as identified in the most recent Regional Planning Needs Assessment Report (i.e. IRRP). The Copeland TS – Phase 2 project is incremental to Phase 1 and is intended to make full use of potential capacity at the Copeland TS site. This will: (i) reduce loading on highly loaded buses at surrounding stations, allowing Toronto Hydro to continue to connect customers efficiently within the station service areas; and (ii) create 40 spare feeder positions, enabling load transfers through switching operations and new customer connections. Copeland TS – Phase 2 will provide an additional 144 MVA in the downtown area by 2024."[29]

[25] Exhibit 2B, Section E5.1.3.1, Figure 2 at page 5.
[26] EB-2012-0064, Tab 4, Schedule B17, Appendix 3 at page 24.
[27] EB-2012-0064, Tab 4, Schedule B17, Appendix 3 at pages 11-12.
[28] *Ibid*. Toronto Hydro is required to fulfill service connection requests or make an offer to connect any customer in its service area and meet its legal obligations to connect these new and existing customers to its distribution system pursuant to its Conditions of Service and s. 28 of the *Electricity Act*, subject to certain exemptions specified in the DSC (Exhibit 2B, Section E5.1.3.1 at page 3).
[29] Exhibit 2B, Section E7.4.3.1 at page 7, lines 2-10

ALL OF WHICH IS RESPECTFULLY SUBMITTED.