**EB-2018-0165**

**ONTARIO ENERGY BOARD**

**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 ("Toronto Hydro") for an Order or Orders approving or fixing just and reasonable distribution rates and other charges, effective January 1, 2020 to December 31, 2024.

.

---

# COMPENDIUM OF THE SCHOOL ENERGY COALITION
# (Panel 3 – CIR Framework & DVAs)

---

**Shepherd Rubenstein P.C.**
2200 Yonge Street, Suite 1302
Toronto, Ontario M4S 2C6

**Mark Rubenstein**

Tel: 416-483-3300
Fax: 416-483-3305

**Counsel for the School Energy Coalition**

# RATE FRAMEWORK

This schedule describes Toronto Hydro's rate framework for the 2020 to 2024 plan period. The utility's proposed rate framework continues the rate framework approved by the OEB in Toronto Hydro's 2015-2019 Rate Application.[1] The framework is aligned with OEB policy, and based on sound ratemaking principles. It has been structured in a way that includes productivity gains as part of the rate adjustment mechanism, constrains operational funding increases going forward at less than the rate of inflation, and reconciles a price-cap formula with funding requirements to address Toronto Hydro's significant, multi-year investment needs over the 2020 to 2024 period.

## 1. SUMMARY

Toronto Hydro's rate framework is a modification of the standard Fourth Generation Incentive Rate-Setting ("4th Generation IR") IR approach. The framework is comprehensive, covers the entirety of the application's term, and is informed by Toronto Hydro's forecasts. It is also informed by the OEB's current inflation and productivity analysis, and is aligned with Toronto Hydro's third party benchmarking of Toronto Hydro's costs. As noted, the framework is a continuation of the framework approved by the OEB in the utility's 2015-2019 Rate Application. As explained below, this includes the modifications required by the OEB in its 2015 decision, as related to the application of the stretch factor to capital and the inclusion of a growth variable to capture changes in revenue occurring due to changes in customers and loads.[2]
Year 1 is a traditional rebasing year, with costs allocated and rates set on the basis of a forecast Test Year.

[1] EB-2014-0116 Decision and Order (December 29, 2015).
[2] Ibid.

Distribution rates in Years 2 through 5 are adjusted annually by a Custom Price Cap Index ("CPCI"), as follows:

**CPCI = I – X + C - g**

Where,

- "**I**" is the OEB's inflation factor, determined annually;
- "**X**" is the sum of:
  - The OEB's productivity factor, as of the date of filing; and
  - Toronto Hydro's custom stretch factor;
- "**C**" provides funds incremental to "I – X" that are necessary to reconcile Toronto Hydro's capital need within a PCI framework;
- "**g**" captures revenue growth occurring due to customer and/or load changes over the forecast period, based on Toronto Hydro's forecast of loads and customers for the 2021-2024 period;

## 2. YEAR 1: STANDARD REBASING

The first year of the proposed rate application is a standard rebasing year, consistent with the OEB's 4th Generation IR approach. Toronto Hydro developed and has submitted in this application a forecast of its base revenue requirement for 2020. The utility developed forecasts of its costs based on its capital and operational plans for 2020. The Distribution System Plan ("DSP") and Operations, Maintenance, and Administration ("OM&A") evidence contained in Exhibits 2B and 4A, respectively, provides the details supporting these projected costs. The calculated revenue requirement resulting from these projections is detailed in the Revenue Requirement evidence filed at Exhibit 6, Tab 1.

Similarly, Toronto Hydro employed the OEB's Cost Allocation model to allocate the revenue requirement to its eight rate classes, and developed base distribution rates for each class. The standard rebasing approach maintains revenue-to-cost ratios for each class within the boundaries set out in the OEB's 2011 Review of Electricity Cost Allocation Policy.[3] For more information about Toronto Hydro's Cost Allocation and Rate Design, please refer to Exhibits 7 and 8, respectively.

In addition to base distribution rates, Toronto Hydro is applying to clear a number of Deferral and Variance accounts. Based on the values Toronto Hydro has proposed for clearance, a number of new rate riders are proposed for implementation beginning in 2020 pursuant to various clearance time frames. For more information about Toronto Hydro's proposed rate riders, please refer to Exhibit 9, Tab 3.

## 3. YEARS 2 TO 5: CUSTOM PRICE CAP INDEX ("CPCI")

Under 4th Generation IR, rates in the years following a rebasing year are subject to an incentive rate mechanism ("IRM"). The IRM is a formulaic approach to rate making under which distribution rates are adjusted annually using a two-component PCI:

$$\mathbf{PCI = I - X}$$

The I-factor is intended to reflect changes to the input prices faced by the industry (i.e. inflation), while the X-factor is intended to capture changes in the productivity of the Ontario electricity distribution industry as a whole, and differences among utilities within it.

[3] EB-2010-0219, EB-2012-0383 and OEB letter issued June 12, 2015 Issuance of New Cost Allocation Policy for Street Lighting Rate Class.

In the RRFE Report, the OEB offers alternative forms of rate making "to accommodate differences in the operations of distributors, some of which have capital programs that are expected to be significant."[4] The OEB notes that the CIR option in particular "will be most appropriate for distributors with significant large multi-year […] investment commitments that exceed historical levels," whereas 4th Generation IR is more suitable for utilities with "some" incremental needs.[5] The evidence at Exhibit 1B, Tab 2, Schedule 4 and the DSP at Exhibit 2B discuss Toronto Hydro's capital investment needs and, by extension, the appropriateness of the CIR option in greater detail.

A challenge for CIR applicants like Toronto Hydro is to reconcile their significantly large, multi-year investment commitments within a framework that aligns with RRFE guidance. To this end, Toronto Hydro proposes that these needs be reconciled within a CPCI framework that entrenches the OEB's inflation and productivity factors within a formulaic approach to adjusting distribution rates, with customization as set out in this evidence. The following subsections set out the approach in more detail.

### 3.1 Inflation and Productivity Factors

In 2013, the OEB updated its standard rate adjustment parameters following a consultation process that explicitly considered:[6]

1) The development of a more Ontario-specific inflation factor;
2) The estimation of long-run Ontario electricity distribution total factor productivity ("TFP"); and
3) The development and implementation of total cost benchmarking.

[4] RRFE Report at page 9.
[5] RRFE Report at page 14.
[6] EB-2010-0379, Report of the Board, Rate Setting Parameters and Benchmarking under the Renewed Regulatory Framework for Ontario's Electricity Distributors (December 4, 2013) [the "OEB Rate Setting Parameters Report"].

The OEB decided on a new methodology for the I-factor. The I-factor is based on a 30/70 weighting of labour and non-labour sub-indices and is updated annually. The labour sub-index is determined by changes in the average weekly earnings of Ontario workers, and the non-labour sub-index is determined by changes in the Canada Gross Domestic Product Implicit Price Index for final domestic demand.

Toronto Hydro proposes to use the OEB's I-factor in its CPCI. As the value for the I-factor is updated annually, Toronto Hydro will incorporate the updated value into its CPCI to appropriately adjust base distribution rates for the following year.

The productivity factor, one of the two X-factor components, was also updated. The productivity factor is intended to estimate the overall trend in the productivity of the electricity distribution industry in Ontario by measuring changes in TFP, defined by Pacific Economics Group ("PEG") as a "comprehensive measure of the extent to which firms convert inputs into outputs."[7]

In its report, PEG used an indexing method to estimate TFP for the Ontario distribution sector based on data from the 2002 to 2012 period.[8] This sample excluded the experience of both Toronto Hydro and Hydro One because, as a result of their large size relative to the rest of the industry, PEG determined that they were exerting a disproportionate impact on industry TFP.[9] Toronto Hydro presumes that this principle would have held if one or both had outperformed the sector on TFP.

[7] Pacific Economics Group (2013), Productivity and Benchmarking Research in Support of Incentive Rate Setting in Ontario, (corrected January 24, 2014) at page 12 [the "PEG Report"].
[8] PEG suggests that a ten-year horizon is the minimum required for TFP Indexing.
[9] PEG Report, *supra* note 7 at page 4.

The result of PEG's analysis that excluded the two utilities suggested that industry TFP over that period changed at an average annual rate of -0.33 percent. That is, TFP for the sector actually declined over that period. In alignment with PEG's recommendation, the OEB ultimately adopted a zero productivity factor as a matter of policy, inclusive of an implicit stretch of 0.33 percent.

Toronto Hydro proposes to embed the OEB's productivity with its implicit incremental stretch factor unchanged within the proposed CPCI, fixed throughout the term of the ratemaking period.

### 3.2 Custom Stretch Factor

The second component of the X-factor is an explicit stretch factor. According to the OEB, "stretch factors promote, recognize, and reward distributors for efficiency improvements relative to the expected sector productivity trend."[10] Under the current methodology, which was updated most recently in 2013, utilities are assigned one of five stretch factors. This occurs on the basis of a comparison of the utility's total costs relative to their predicted total costs. The predicted total costs are determined using a total cost econometric model developed by PEG.[11]

As part of this application, Toronto Hydro is submitting alternative total cost benchmarking, the details of which can be found in the Power System Engineering's ("PSE") Econometric Benchmarking Report, at Exhibit 1B, Tab 4, Schedule 2 (the "PSE Report"). The alternative total cost benchmarking model prepared by PSE for Toronto Hydro is econometric in nature (similar to PEG's model) and includes an expanded data set. The results are statistically significant and relevant to the OEB's consideration of

[10] OEB Rate Setting Parameters Report, *supra* note 6 at page 18.
[11] OEB Rate Setting Parameters Report, *supra* note 6 at page 19.

Toronto Hydro's performance. The PSE Report also addresses the benchmarking comments set out in the OEB Decision in Toronto Hydro's 2015-2019 Rate Application.[12]

The PSE Report provides an appropriate and robust basis for setting Toronto Hydro's stretch factor. As noted in the PSE Report, Toronto Hydro's forecasts of its total costs are within 10 percent of its predicted total costs. Utilities within this demarcation point are assigned to Group III of the OEB's benchmarking cohorts, implying a stretch factor of 0.30 percent. Toronto Hydro therefore proposes that the stretch factor in the proposed CPCI framework be set at 0.30 percent, and fixed throughout the term of the ratemaking period.

Toronto Hydro's proposed plan and resulting revenue requirement in this CIR application reflects the results of a total cost econometric forecasting model, as envisioned in the Filing Requirements. A custom element of this CIR Application is using a PSE forecasting model in place of a PEG forecasting model.

### 3.3 Custom Capital Factor

The premise of the inclusion of a custom capital factor ("C-factor") is to reconcile the OEB's guidance that the CIR framework is best suited for utilities with significant, multi-year capital investment requirements as it is clear that the standard 4th Generation IR framework is not.

The proposed C-factor is designed as a rate adjustment mechanism that is directly proportional to the degree of capital investment required by Toronto Hydro, as detailed

[12] Supra note 1 at pp.16-17.

in its DSP (Exhibit 2B). It is comprised of two sub-components that serve two primary functions:

- Reconcile Toronto Hydro's capital investment need in a price cap framework; and
- Return to ratepayers the funding already provided for capital through the standard "I – X" increase.

The first sub-component, termed "$C_n$", is determined as the percent change in total revenue requirement that is attributable to changes in capital-related revenue requirement – that is, depreciation, return on equity, interest and PILs/taxes. Changes in capital-related revenue requirement are based on forecast changes in average annual rate base, associated depreciation, and taxes. Tax rates and the cost of capital are maintained at their 2020 levels, consistent with the standard 4th Generation IR treatment and the OEB approved treatment in Toronto Hydro's 2015-2019 Rate Application.

The OEB approved values of $C_n$ from the 2015-2019 Rate Application are shown in Table 1 below.[13]

**Table 1: OEB Approved $C_n$ factors for 2016-2019**

| 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|
| 4.07 | 7.60 | 5.99 | 4.43 |

For the current application, Cn for 2021-2024 is be determined on the following basis:

[13] EB-2014-0116 Draft Rate Order Update (February 29, 2016) page 6.

**Table 2: Calculation of $C_n$ ($ Millions)**

| Revenue Requirement Component[14] | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|
| Ratebase | 4,615.3 | 4,829.0 | 5,081.6 | 5,374.5 | 5,650.0 |
| Interest Expense | 100.8 | 105.5 | 111.0 | 117.4 | 123.4 |
| Return on Equity | 162.8 | 170.4 | 179.3 | 189.6 | 199.3 |
| Depreciation | 268.7 | 281.9 | 293.1 | 310.9 | 325.4 |
| PILs/Taxes | 34.7 | 36.5 | 32.7 | 35.7 | 42.2 |
| **Capital-related RR (A)** | 567.0 | 594.3 | 616.0 | 653.6 | 690.3 |
| OM&A | 277.5 | 280.0 | 282.5 | 285.1 | 287.6 |
| Revenue Offsets | -47.7 | -48.1 | -48.5 | -49.0 | -49.4 |
| **Total RR (B)** | 796.8 | 826.2 | 850.0 | 889.6 | 928.5 |
| **$Cn = (A_{yx} – A_{y(x-1)}) / B_{y(x-1)}$** | | 3.43% | 2.63% | 4.42% | 4.12% |

For example, in the above table, the change in forecast capital related revenue requirement from 2020 to 2021 is $27.3 million ($594.3 million minus $567.0 million). The total revenue requirement in 2020 is $796.8 million. $C_n$ for 2020 is therefore:

$$C_n = (594.3 – 567.0) / 796.8 = \mathbf{3.43\%}.$$

The values shown in Table 2 are filed as part of the OEB's Revenue Requirement Workforms, at Exhibit 6, Tab 1, Schedules 2-6. Capital-related revenue requirement, as noted, is determined on a forecast basis. By contrast, OM&A and Revenue Offsets are assumed to increase by "I – X".

The values of $C_n$ represent the amount by which base rates would need to be increased to fund Toronto Hydro's capital needs over the course of the rate term.

[14] Each component can be found in the Revenue Requirement Workforms filed as Exhibit 6, Tab 1, Schedule 2-6.

With the inclusion of $C_n$ in the CPCI, Toronto Hydro would receive sufficient funding for its capital needs as presented in the DSP. However, the "I – X" increase already included in the CPCI formula does provide some degree of incremental funding for capital. Absent adjustment, the CPCI formula with just $C_n$ would risk over-funding relative to Toronto Hydro's capital needs. This risk is removed in the CPCI through a scaling of the $C_n$ values. Termed $S_{cap}$, this scaling factor is calculated in the following fashion:

$S_{cap}$ = (capital-related revenue requirement) / (total revenue requirement)

This scaling reduces the incremental funding for capital to capture just the capital component incremental to the "I – X" already included in the CPCI. Table 3 provides the information inputs for calculating $S_{cap}$ for 2021-2024.

**Table 3: Revenue Requirement Components for Determining $S_{cap}$**

| Revenue Requirement Component | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| Interest | 105.5 | 111.0 | 117.4 | 123.4 |
| ROE | 170.4 | 179.3 | 189.6 | 199.3 |
| Depreciation | 281.9 | 293.1 | 310.9 | 325.4 |
| PILs/Taxes | 36.5 | 32.7 | 35.7 | 42.2 |
| **Capital-related RR (A)** | **594.3** | **616.0** | **653.6** | **690.3** |
| OM&A | 280.0 | 282.5 | 285.1 | 287.6 |
| Revenue Offsets | -48.1 | -48.5 | -49.0 | -49.4 |
| **Total RR (B)** | **826.2** | **850.0** | **889.6** | **928.5** |
| **$S_{cap}$ = A / B** | **71.9%** | **72.5%** | **73.5%** | **74.3%** |

In Toronto Hydro's 2015-2019 Rate Application, the scaling factor was applied to a full "I – X". However, the OEB ruled that the scaling should only apply to "I", so that the

stretch factor incentive remained a component of the capital funding.[15] Toronto Hydro's proposed CPCI conforms to this finding.

### 3.4 Growth Factor

In its 2015 Decision, the OEB found that the inclusion of a growth variable in the CPCI was warranted to capture the change in distribution revenue that would naturally occur (in the absence of any rate changes) due to changes in billing units (customer numbers and loads) over the forecast period.[16]

Toronto Hydro has accordingly included the growth term, "g", in the CPCI. The value of the growth term is determined based on Toronto Hydro's forecast of loads and customers for the 2021-2024 period,[17] applied to 2020 proposed rates. This methodology is consistent with the OEB's approved methodology in Toronto Hydro's 2015-2019 Rate Application, and results in a g-factor value of 0.2 percent. Calculation of the g factor is shown in Table 4, below.

**Table 4: Forecast Revenue at 2020 Proposed Rates ($ Millions)**

| | 2020 | 2021 | 2022 | 2023 | 2024 | Annual Average |
|---|---|---|---|---|---|---|
| Revenue at 2020 Rates | 796.8 | 797.8 | 799.8 | 801.6 | 804.8 | |
| Annual Growth Rate | | 0.1% | 0.2% | 0.2% | 0.4% | 0.2% |

The above discussion sets out the variables that constitute Toronto Hydro's proposed CPCI. The resulting CPCI value for a given year would, in keeping with IRM principles, be applied to all distribution rates from the previous year to determine the following year's distribution rates.

[15] Supra note 1 at page 18.
[16] Supra note 1.
[17] See Exhibit 3, Tab 1, Schedule 1, for Toronto Hydro's forecast of loads and customers

To summarize, the CPCI is determined in the following fashion:

$$\textbf{CPCI} = \textbf{I} - \textbf{X} + \textbf{C} - \textbf{g, or}$$

$$\textbf{CPCI} = \textbf{I} - \textbf{X} + \textbf{C}_n - (\textbf{S}_{cap} * \textbf{I}) - \textbf{g}$$

Where,

- "**I**" is the OEB's inflation factor, determined annually;
- "**X**" is the sum of:
  - The OEB's productivity factor of 0.0 percent; and
  - Toronto Hydro's custom stretch factor, applied to both OM&A and capital expenditures;
- "**C**" is the difference between:
  - $\mathbf{C_n}$, a reflection of Toronto Hydro's capital investment need, and
  - $\mathbf{S_{cap}} * \mathbf{I}$, an offsetting adjustment required to ensure that the C-factor provides funding only in excess of what is already provided for capital through the inflation factor I;
- **"g"** is the growth factor determined by growth in distribution revenue due to changes in load and customers over the CPCI period.

Table 5, below, shows the components of the CPCI based on an assumed I-factor of 1.2 percent, the current OEB approved inflation value, the proposed stretch factor, the forecast values of $C_n$ and $S_{cap}$, and the g factor, shown in Tables 1 and 2, above.

**Table 5: CPCI Values Assuming an Inflation Factor of 1.2% for Each Year**

| CPCI Component (%) | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| I | 1.2 | 1.2 | 1.2 | 1.2 |
| X – productivity | 0.0 | 0.0 | 0.0 | 0.0 |
| X – custom stretch | 0.3 | 0.3 | 0.3 | 0.3 |
| $C_n$ | 3.43 | 2.63 | 4.42 | 4.12 |
| $S_{cap}$ | 71.9 | 72.5 | 73.5 | 74.3 |
| g | 0.2 | 0.2 | 0.2 | 0.2 |
| **CPCI** | **3.26** | **2.46** | **4.24** | **3.93** |

For comparison purposes, the CPCI values approved by the OEB in EB-2014-0116 are shown in Table 6 below.[18]

**Table 6: CPCI Values approved in EB-2014-0116**

| 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|
| 3.83 | 7.32 | 5.67 | 4.10 |

## 4. OFF-RAMPS AND Z-FACTOR

Toronto Hydro proposes to apply the OEB's existing policy with respect to off-ramps. The RRFE Report indicates that each rate-setting method includes a trigger mechanism with an annual return on equity dead band of plus or minus 300 basis points, at which point a regulatory review may be initiated. The OEB approved both a non-capital-related Earnings Sharing Mechanism and a Capital Related Revenue Requirement Variance Account in its EB-2014-0116 decision. Both of these mechanisms were established to protect ratepayers over the term of the CIR period. Toronto Hydro proposes to continue both of these mechanisms for the 2020-2024 period.

[18] EB-2014-0116 Draft Rate Order Update, February 29, 2016, page 6.

Finally, the OEB affirmed in its EB-2014-0116 decision that Z-factor relief was available to Toronto Hydro, if required, and based on the generic criteria for such applications. Toronto Hydro relies on this affirmation for the 2020-2024 period, should the need arise.

## 4.1 Earnings Sharing Mechanism Calculation

In its Decision and Order for Toronto Hydro's 2015-2019 CIR application, the OEB accepted the utility's proposal for a symmetrical earnings sharing mechanism ("ESM"), incorporating a 100 basis point dead band. As the OEB approved a separate Capital Related Revenue Requirement Variance Account, it approved the ESM to track the variance between the non-capital related revenue requirement embedded in rates and the actual non-capital related revenue requirement. Non-capital revenue requirement consists of OM&A expenditures and revenue offsets. Toronto Hydro determines whether to track an amount in the ESM variance account by calculating the contribution to ROE from the difference between actual and funded non-capital revenue requirement items. This calculation and determination is performed annually.

### *4.1.1 Calculation Methodology*

To determine the variance in ROE resulting from non-capital related revenue requirement, Toronto Hydro uses an approach consistent with the OEB's ROE Workform – that is, ROE divided by deemed equity. Specifically, the utility calculates this as follows:

$$\frac{\text{(Actual non-capital revenue requirement) – (Funded non-capital revenue requirement)}}{\text{Actual equity on a deemed basis}}$$

The actual OM&A and revenue offset amounts included in the numerator are obtained from Toronto Hydro's RRR filing.[19] The funded amounts result from the base year approved OM&A and revenue offsets, adjusted for inflation and productivity.

[19] These amounts are adjusted, consistent with adjustments included the RRR ROE Workform and to make the actual results comparable to the amounts embedded in base rates.

# RESPONSES TO OEB STAFF INTERROGATORIES

**INTERROGATORY 18:**

**Reference(s): Exhibit 1B, Tab 4, Schedule 1, p. 5**

Preamble:

Toronto Hydro states:

"The OEB decided on a new methodology for the I-factor. The I-factor is based on a 30/70 weighting of labour and non-labour sub-indices and is updated annually. The labour sub-index is determined by changes in the average weekly earnings of Ontario workers, and the non-labour sub-index is determined by changes in the Canada Gross Domestic Product Implicit Price Index for final domestic demand.

Toronto Hydro proposes to use the OEB's I-factor in its [Custom Price Cap Index] CPCI. As the value for the I-factor is updated annually, Toronto Hydro will incorporate the updated value into its CPCI to appropriately adjust base distribution rates for the following year" (Exhibit 1B / Tab 4 / Schedule 1 / p. 5).

The current electricity distribution price cap plan has been in place for five years (2014 to 2018), and 2019 will be the sixth year. The OEB may review and update the plan at some point in the future. Changes to parameters such as inflation could be considered in such a review.

a) In the event that the OEB were to change its inflation measure, please provide Toronto Hydro's views as to whether it considers it appropriate to continue with the 2-factor inflation factor for its Custom IR plan.

**RESPONSE:**

a) In the event that the OEB were to change the inflation measure used for the I-factor in IRM plans, Toronto Hydro would need to assess at the time the applicability of that inflation measure for inclusion in its CPCI. The utility has proposed its CPCI taking into account the conditions, including variable methodologies and values, as are detailed throughout its evidence in this application. Toronto Hydro does not know the nature of any changes the OEB may make, which would be necessary to assess whether those changes would be appropriate in the context of the utility's CPCI rate mechanism and the need for funding its underlying capital and operational plans.

# RESPONSES TO OEB STAFF INTERROGATORIES

**INTERROGATORY 19:**

**Reference(s): Exhibit 1B, Tab 4, Schedule 1, p. 6**

Preamble:

Toronto Hydro notes that the OEB adopted a base X-factor of 0% (excluding any stretch factor based on the annual cost benchmarking commissioned by the OEB for all electricity distributors).

Toronto Hydro states that it: "… proposes to embed the OEB's productivity with its implicit incremental stretch factor unchanged within the proposed CPCI, fixed throughout the term of the ratemaking period" (Exhibit 1B / Tab 4 / Schedule 1 / p. 6).

a) Please advise whether Toronto Hydro's proposal is to fix the X plus stretch factor in its PCI formula at 0% + 0.3%, or that, if the OEB were to adopt a different base X-factor due to a generic review, Toronto Hydro would adopt the updated base X-factor? Please explain your response.

**RESPONSE:**

a) Please refer to Toronto Hydro's response to interrogatory 1B-Staff-18.

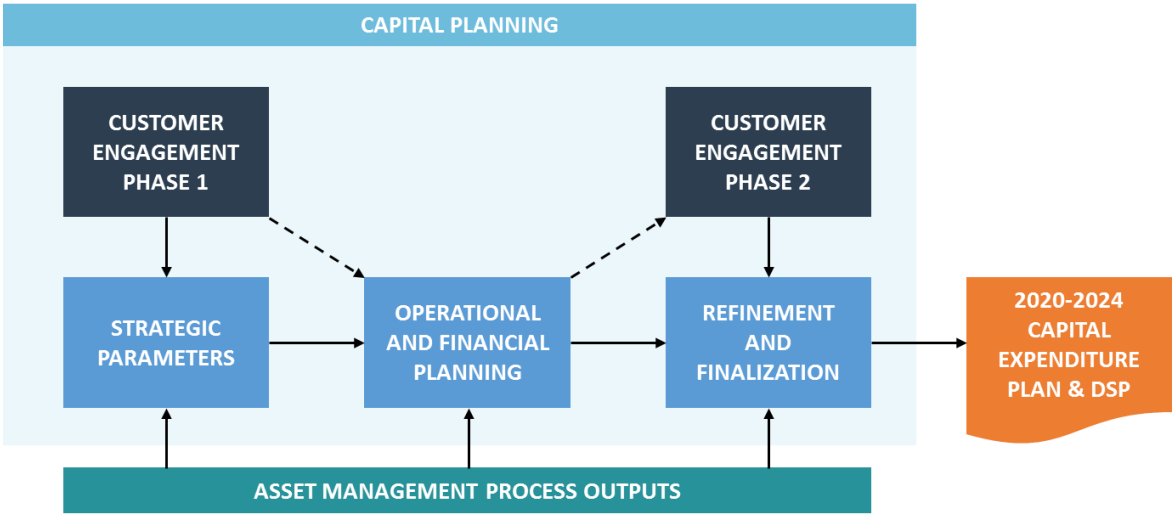



**Figure 1: Capital Planning in Business Planning**

The following sections provide an overview of how the elements of business planning came together to generate the capital plan that forms the basis of Toronto Hydro's 2020-2024 Distribution System Plan.

### E2.1.1 Customer Engagement and Strategic Parameters

Toronto Hydro began business planning by engaging customers (i.e. Phase 1 of Customer Engagement) and using the feedback received to help set the initial strategic parameters for the business planning horizon. Feedback from customers was that price, reliability, and safety were their top three priorities. Overall, most customers preferred prices be kept as low as possible while maintaining average reliability performance and improving reliability for customers experiencing below-average service. [1]

With consideration for customers' priorities and preferences and other inputs (discussed below), Toronto Hydro set the following strategic parameters for the capital plan:

1) **Price Limit:** Toronto Hydro set an upper limit of 3.5 percent as a cap on the average annual increase to base distribution rates.[2]
2) **Capital Budget Limit:** Toronto Hydro set an upper limit of $562 million for the average annual capital plan budget, which corresponded with capping infrastructure and operations

[1] The results of Customer Engagement, Phase 1, are discussed in detail in Section E2.3.
[2] As calculated for the monthly bill of a Residential customer using 750 kWh.

spending predominantly at sustainment levels. As discussed in Section E2.2, this upper limit was based on an assessment of system and operational needs as derived from the utility's asset management processes, reflecting the need to, at a minimum, meet the utility's service obligations, maintain average reliability performance, and sustainably manage asset risk over the long-term while mitigating material safety and environmental risks.

3) **Performance Objectives:** Toronto Hydro developed an Outcomes Framework that aligned with the utility's corporate strategic pillars and the *Renewed Regulatory Framework*, establishing a lens through which the utility could express its plans and performance in terms that demonstrate value for customers, and are meaningful to its operations. This framework is summarized in Figure 2, below.

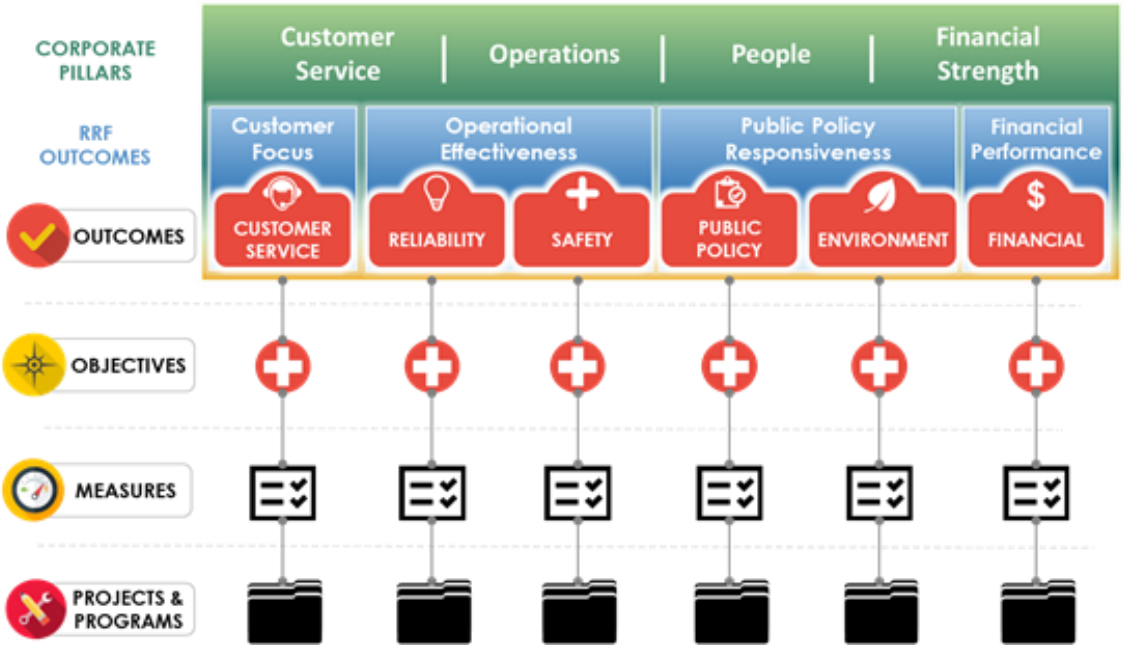



**Figure 2: Toronto Hydro's Customer-Focused Outcomes Framework**[3]

In developing these strategic parameters, Toronto Hydro considered a number of inputs, including:

- as mentioned above, customer priorities and preferences identified in Phase 1 of the utility's planning-specific Customer Engagement activities;

[3] The RRF Outcomes are aligned alongside Toronto Hydro's Outcomes based on the definitions provided by the OEB in the Utility Rate Handbook. It should be noted that Toronto Hydro's Financial outcome includes cost-related components that the OEB would classify within the Operational Effectiveness outcome.

- customer needs and preferences as understood by the utility through routine and ongoing engagement with customers and community stakeholders;
- historical and forecast system performance;
- projected system use profiles and pressures;
- long-term asset stewardship needs;
- safety and environmental risk assessments;
- evolving business conditions and the emergence of new technologies;
- resiliency and business continuity risks, including climate change risk;
- evolving regulatory and compliance needs;
- workforce needs and challenges;
- inflationary cost pressures, including ongoing and anticipated upward pressure on construction costs in Toronto;
- total cost benchmarking; and
- distributor scorecard benchmarking.

To further inform the selection of price and capital budget limits, Toronto Hydro performed a high-level scenario analysis based on preliminary planning scenarios for each capital program. These scenarios – described further in Section E2.2 – reflected a baseline "sustainment" level of system investment, an "improvement" level, and an "accelerated improvement" level. Figure 3, below, illustrates what the total capital expenditure plan would look like if Toronto Hydro had selected exclusively from either the sustainment, improvement, or accelerated improvement options for every investment program. The three lines represent a fully unconstrained budget on the high-end, a minimal system sustainment budget on the low end, and a mid-point budget in between.

# RESPONSES TO SCHOOL ENERGY COALITION INTERROGATORIES

**INTERROGATORY 12:**

**Reference(s): Exhibit 1B, Tab 1, Schedule 1, p. 6**

What is the basis for the specific 3.5% upper limit on annual increases to base distribution rates? Please define what Toronto Hydro defines as base distribution rates.

**RESPONSE:**

This was the lowest annual average increase to base distribution rates that Toronto Hydro determined would be sufficient to fund the investments and expenses necessary to be responsive to: (1) the utility's legal requirements including safety; (2) customer feedback; and (3) business input through expert analysis and professional judgment to develop programs that address technical and operational requirements. Please also see Exhibit 2B, Section E2, E.2.1.1 and E.2.1.2, and Exhibit 1B, Tab 1, Schedule 1.

Toronto Hydro understands base distribution rates to be the fixed and variable components of rates that recover Base Revenue Requirement, excluding rate riders.

# RESPONSES TO BUILDING OWNERS AND MANAGERS ASSOCIATION INTERROGATORIES

**INTERROGATORY 121:**

**Reference(s): Exhibit U, Tab 1A, Schedule 2, p. 5**

a) Table 3 provides bill increases for each rate class for each year of the 2020-2024 plan. Please provide a similar table which shows the updated distribution charge increase for each rate case for each year of the plan. Please do not include the impact of any rate riders in the table.

b) Please provide a similar table to the one requested in (a) above, but inclusive of the impacts of any rate riders anticipated over the plan term.

**RESPONSE:**

a) Table 1 below provides a summary for 2020-2024 base distribution bill changes for all rate classes.

**Table 1: Base Distribution Bill Change**

| | Change in bill | 2020 Proposed | 2021 Proposed | 2022 Proposed | 2023 Proposed | 2024 Proposed |
|---|---|---|---|---|---|---|
| **Residential** | ***$/30 days*** | 0.54 | 1.37 | 1.07 | 1.89 | 1.83 |
| | ***%*** | *1.3* | *3.3* | *2.5* | *4.2* | *3.9* |
| **Competitive Sector Multi-Unit Residential** | ***$/30 days*** | 0.20 | 1.09 | 0.85 | 1.50 | 1.44 |
| | ***%*** | *0.6* | *3.3* | *2.5* | *4.3* | *3.9* |
| **General Service <50 kW** | ***$/30 days*** | 4.07 | 3.45 | 2.69 | 4.75 | 4.59 |
| | ***%*** | *4.0* | *3.3* | *2.5* | *4.2* | *3.9* |
| **General Service 50-999 kW** | ***$/30 days*** | 54.13 | 56.28 | 43.87 | 77.46 | 74.84 |
| | ***%*** | *3.2* | *3.3* | *2.5* | *4.2* | *3.9* |

Panel: CIR Framework & DVAs

| | Change in bill | 2020 Proposed | 2021 Proposed | 2022 Proposed | 2023 Proposed | 2024 Proposed |
|---|---|---|---|---|---|---|
| **General Service 1,000-4,999 kW** | ***$/30 days*** | 485.15 | 463.58 | 361.18 | 637.95 | 616.32 |
| | ***%*** | *3.5* | *3.3* | *2.5* | *4.2* | *3.9* |
| **Large Use** | ***$/30 days*** | 2569.34 | 2,388.19 | 1,860.80 | 3,286.69 | 3,175.65 |
| | ***%*** | *3.6* | *3.3* | *2.5* | *4.2* | *3.9* |
| **Street Lighting** | ***$/30 days*** | 3,986.27 | 4,052.96 | 3,174.76 | 5,596.06 | 5,444.86 |
| | ***%*** | *3.3* | *3.2* | *2.4* | *4.2* | *3.9* |
| **Unmetered Scattered Load** | ***$/30 days*** | -3.34 | 0.98 | 0.76 | 1.35 | 1.31 |
| | ***%*** | *-10.0* | *3.3* | *2.5* | *4.2* | *3.9* |

b) Table 2 below provides summary for 2020-2024 distribution bill changes including Rate Riders for all rate classes.

**Table 2: Distribution Bill Change including Rate Riders**

| | Change in bill | 2020 Proposed | 2021 Proposed | 2022 Proposed | 2023 Proposed | 2024 Proposed |
|---|---|---|---|---|---|---|
| **Residential** | ***$/30 days*** | -3.28 | 0.94 | 1.07 | 1.33 | 1.83 |
| | ***%*** | *-7.0* | *2.2* | *2.4* | *2.9* | *3.9* |
| **Competitive Sector Multi-Unit Residential** | ***$/30 days*** | -1.63 | 0.96 | 0.85 | 0.94 | 1.44 |
| | ***%*** | *-4.6* | *2.9* | *2.5* | *2.6* | *3.9* |
| **General Service <50 kW** | ***$/30 days*** | -4.87 | 2.11 | 2.69 | 4.19 | 4.59 |
| | ***%*** | *-4.3* | *1.9* | *2.4* | *3.7* | *3.9* |
| **General Service 50-999 kW** | ***$/30 days*** | -391.69 | 232.00 | 43.87 | 77.46 | 74.84 |
| | ***%*** | *-18.3* | *13.3* | *2.2* | *3.8* | *3.6* |
| **General Service 1,000-4,999 kW** | ***$/30 days*** | -3,829.18 | 2,462.58 | 361.18 | 637.95 | 616.32 |
| | ***%*** | *-20.6* | *16.7* | *2.1* | *3.6* | *3.4* |
| **Large Use** | ***$/30 days*** | -483.69 | -933.09 | 1,860.80 | 3,286.69 | 3,175.65 |
| | ***%*** | *-0.6* | *-1.1* | *2.3* | *4.0* | *3.7* |
| **Street Lighting** | ***$/30 days*** | -6,410.20 | 6,161.23 | 3,174.76 | 5,596.06 | 5,444.86 |
| | ***%*** | *-5.0* | *5.0* | *2.5* | *4.3* | *4.0* |
| **Unmetered Scattered Load** | ***$/30 days*** | -5.73 | 0.78 | 0.76 | 1.35 | 1.31 |
| | ***%*** | *-16.2* | *2.6* | *2.5* | *4.3* | *4.0* |

# RESPONSES TO BUILDING OWNERS AND MANAGERS ASSOCIATION INTERROGATORIES

**INTERROGATORY 44:**

**Reference(s): Exhibit 1B, Tab 5, Schedule 1, p. 3**

What specific additional escalators were applied to capital expenditures over the plan term?

**RESPONSE:**

Instead of applying a generic inflationary value to all capital programs, Toronto Hydro had regard for the terms set out in its commercial agreements in escalating the forecasted costs of applicable capital programs.

# RESPONSES TO CONSUMERS COUNCIL OF CANADA INTERROGATORIES

**INTERROGATORY 14:**

**Reference(s): Exhibit 1B, Tab 1, Schedule 1, p. 21**

The evidence states that THESL has proposed a ratemaking framework for this Application that provides incentives for the utility to seek out further productivity and efficiency improvements over the 2020-2024 period. Please explain how the rate framework incents productivity. Please set out for each year 2015-2019 the productivity gains achieved for both OM&A and Capital. What are the specific productivity initiatives expected for the period for 2020-2024 both with respect to capital and OM&A? Please provide a detailed list.

**RESPONSE:**

As described in Exhibit 1B, Tab 2, Schedule 1, Toronto Hydro is proposing an incentive-based rate framework that encourages the utility to continuously seek efficiencies. This incentive is created by including the OEB's productivity factor and a custom stretch factor in the custom Price Cap Index ("PCI"). In doing so, Toronto Hydro is committing to share with its customers the benefits of these efficiencies before they are realized, by directly reducing rates funding. This approach provides customers with a guaranteed, up-front share in productivity generated by the utility.

The evidence in Exhibit 1B, Tab 2, Schedule 1 provides an overview of Toronto Hydro's historical productivity and performance, including specific examples of productivity and process improvements at Exhibit 1B, Tab 2, Schedule 1, at pages 8 through 20. For additional examples over the 2015-2019 period, please refer to the OM&A program evidence at Exhibit 4A, Tab 2 (Cost Management and Productivity sections of each OM&A

program and segment), and the Capital program evidence at Exhibit 2B, Sections E5 through E8. Specific interrogatory responses also provide additional details: see for example, Toronto Hydro's response to 2B-BOMA-77.

The references to the OM&A and Capital programs above also detail examples of the investments and initiatives that will support the utility's efforts to control costs and increase productivity over the 2020-2024 period. For example, Exhibit 2B, Section A4.4 highlights some of these activities including: grid modernization, capacity improvements, standardization, area rebuilds, conservation first, safety and environmental costs, enhanced work coordination, and facilities asset management system and procurement.

At this time, Toronto Hydro is unable to quantify the estimates of cost savings of the planned initiatives. As part of continuous improvements throughout the plan period, Toronto Hydro intends to evaluate the operational efficiencies gained, as well as the reduced and avoided costs. The cost savings realized will help Toronto Hydro to realize the savings required by the incentive-based rate framework that encourages the utility to continuously seek efficiencies by including the OEB's productivity factor and a custom stretch factor in the custom PCI, and to deliver on the planned outcomes for customers.

# RESPONSES TO OEB STAFF INTERROGATORIES

**INTERROGATORY 20:**

**Reference(s):** **Exhibit 1B, Tab 4, Schedule 1, p. 6-7**
**OEB Handbook for Utility Rate Applications, p. 26**
**Empirical Research in Support of Incentive Rate-Setting: 2017 Benchmarking Update, August 2018, Pacific Economics Group LLC**

Preamble:

Toronto Hydro proposes to use a custom stretch factor of 0.3%, based on the total cost benchmarking study of Power Systems Engineering (PSE).

Pacific Economics Group LLC (PEG) annually conducts a total cost benchmarking on behalf of the OEB, which is used to determine the cohort and stretch factor for all Ontario LDCs for Price Cap Incentive Rate-setting (IR) and similar rate adjustment mechanisms.

PEG's most recent analysis, for 2019 rate adjustment applications, was issued by the OEB on August 23, 2018. In Table 4 on page 21 of that report, Toronto Hydro is assigned a stretch factor of 0.6% (cohort 5) based on 2015-2017 actual data. Toronto Hydro has also typically been assigned cohort 5 in PEG's analyses in the past.

With respect to Custom IR proposals, the OEB's Handbook for Utility Rate Applications (the Rate Handbook), issued October 13, 2016 states on page 26, with respect to the OEB's expectations for Custom IR plan proposals, that:

It is insufficient to simply adopt the stretch factor that the OEB has established for electricity distribution IRM applications. Given a utility's ability to customize the approach

to rate-setting to meet its specific circumstances, the OEB would generally expect the custom index to be higher, and certainly no lower, than the OEB-approved X factor for Price Cap IR (productivity and stretch factors) that is used for electricity distributors.

Toronto Hydro's proposal for the Price Cap Index (PCI), net of the capital and growth factors, is 0% + 0.3%. Under the standard Price Cap IR option, Toronto Hydro's IPI would be 0% + 0.6% based on the estimated stretch factor for 2019 and earlier years.

a) Please explain how Toronto Hydro's proposed 2020-2024 Custom IR plan satisfies the OEB's expectation in the Rate Handbook quoted above.

**RESPONSE:**

a) The alternative total cost benchmarking model prepared by PSE for Toronto Hydro was undertaken to provide an approach that is econometric in nature (similar to PEG's model), statistically significant, and includes an expanded data set intended to help inform the OEB's analysis of Toronto Hydro's performance. The PSE work and corresponding report was also undertaken to address the comments about Toronto Hydro's cost benchmarking set out in the OEB's Decision in Toronto Hydro's 2015-2019 Rate Application (EB-2014-0116). While PSE's benchmarking results put Toronto Hydro in the median cohort - which results in a lower stretch factor than the stretch factor that the OEB has established for electricity distribution IRM applications - Toronto Hydro respectfully concludes this is appropriately driven by the data and analysis detailed in PSE's report, will provide a revenue requirement necessary to fund the utility's proposed plan, and contributes to Toronto Hydro's productivity incentives. Please also see Section 3.2 of Exhibit 1B, Tab 4, Schedule 1.

Panel: Rates and CIR Framework

this Report is an important step in the continued evolution of electricity regulation in Ontario.

In developing the policies set out in this Report, the Board has been informed by, and has benefitted greatly from, extensive consultation and dialogue with stakeholders representing a broad range of interests and perspectives. The materials generated for and through this consultation provide useful background and context for the issues discussed in this Report, as well as a detailed record of stakeholder comments on those issues. Many of these materials are listed in Appendix A, and all are readily available on the Board's website.

The renewed regulatory framework is a comprehensive performance-based approach to regulation that is based on the achievement of outcomes that ensure that Ontario's electricity system provides value for money for customers. The Board believes that emphasizing results rather than activities, will better respond to customer preferences, enhance distributor productivity and promote innovation. The Board has concluded that the following outcomes are appropriate for the distributors:

*Customer Focus:* services are provided in a manner that responds to identified customer preferences;

*Operational Effectiveness:* continuous improvement in productivity and cost performance is achieved; and utilities deliver on system reliability and quality objectives;

*Public Policy Responsiveness:* utilities deliver on obligations mandated by government (e.g., in legislation and in regulatory requirements imposed further to Ministerial directives to the Board); and

*Financial Performance:* financial viability is maintained; and savings from operational effectiveness are sustainable.

Power System Engineering, Inc.

Full-service consultants

# Econometric Benchmarking of Historical and Projected Total Cost and Reliability Levels

**Prepared at the Request of:**

Toronto Hydro-Electric System Limited

TORONTO HYDRO

**Prepared by:**

Power System Engineering, Inc.

July 16, 2018

**www.powersystem.org**

The next table and figure break down the benchmark total costs and company total costs from 2005 to 2024. Toronto Hydro has consistently been below its expected benchmark levels. During the most recent historical period of 2015 to 2017, Toronto Hydro's costs are 18.6% below the benchmark values. During the CIR period of 2020 to 2024, Toronto Hydro's costs are 6.0% below the benchmark values on average.

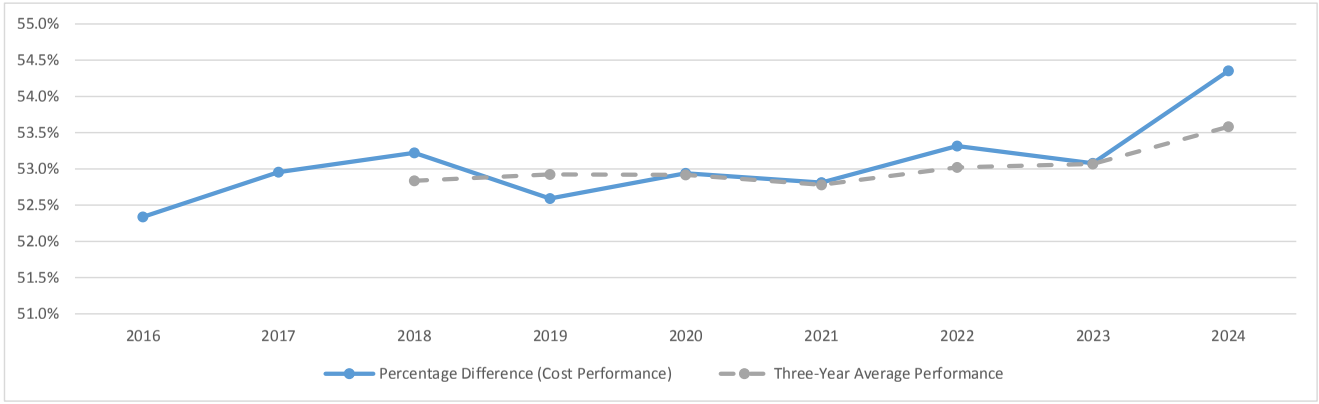
**Table 7 Toronto Hydro's Cost Performance 2005-2024**

| Year | Toronto Hydro Actual Costs ('000, C$) | Toronto Hydro Benchmark Costs ('000, C$) | % Difference (Logarithmic) |
|---|---|---|---|
| **2005** | $ 436,128 | $ 641,275 | -38.6% |
| **2006** | $ 450,686 | $ 681,212 | -41.3% |
| **2007** | $ 502,433 | $ 744,486 | -39.3% |
| **2008** | $ 556,429 | $ 813,528 | -38.0% |
| **2009** | $ 595,932 | $ 852,775 | -35.8% |
| **2010** | $ 647,456 | $ 882,130 | -30.9% |
| **2011** | $ 710,544 | $ 912,729 | -25.0% |
| **2012** | $ 691,388 | $ 910,814 | -27.6% |
| **2013** | $ 727,152 | $ 925,488 | -24.1% |
| **2014** | $ 777,414 | $ 976,095 | -22.8% |
| **2015** | $ 826,886 | $ 1,024,030 | -21.4% |
| **2016** | $ 861,394 | $ 1,034,492 | -18.3% |
| **2017** | $ 904,560 | $ 1,061,642 | -16.0% |
| *2018 (projected)* | $ 964,885 | $ 1,095,430 | -12.7% |
| *2019 (projected)* | $ 999,492 | $ 1,122,407 | -11.6% |
| *2020 (projected)* | $ 1,044,567 | $ 1,148,601 | -9.5% |
| *2021 (projected)* | $ 1,085,324 | $ 1,174,549 | -7.9% |
| *2022 (projected)* | $ 1,134,689 | $ 1,201,662 | -5.7% |
| *2023 (projected)* | $ 1,180,820 | $ 1,229,463 | -4.0% |
| *2024 (projected)* | $ 1,225,282 | $ 1,257,907 | -2.6% |
| | | | |
| **Average % Difference** | | | |
| **2015-2017** | | | **-18.6%** |
| **2020-2024** | | | **-6.0%** |

# Summary of Cost Benchmarking Results

**Toronto Hydro-Electric System Limited**

| Cost Benchmarking Summary | 2016 (History) | 2017 (History) | 2018 (Bridge) | 2019 (Bridge) | 2020 (Test Year) | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|
| Actual Total Cost | 795,760,801 | 800,177,736 | 863,285,008 | 964,491,010 | 1,022,259,047 | 1,066,456,946 | 1,118,547,007 | 1,162,351,174 | 1,229,172,373 |
| Predicted Total Cost | 471,504,404 | 471,202,505 | 507,014,192 | 570,020,142 | 602,067,400 | 628,910,589 | 656,308,484 | 683,638,448 | 713,773,966 |
| Difference | 324,256,397 | 328,975,232 | 356,270,816 | 394,470,868 | 420,191,647 | 437,546,358 | 462,238,524 | 478,712,727 | 515,398,407 |
| **Percentage Difference (Cost Performance)** | **52.3%** | **53.0%** | **53.2%** | **52.59%** | **52.94%** | **52.81%** | **53.32%** | **53.08%** | **54.35%** |
| Three-Year Average Performance | | | 52.8% | 52.92% | 52.92% | 52.78% | 53.02% | 53.07% | 53.58% |
| Stretch Factor Cohort | | | | | | | | | |
| Annual Result | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Three Year Average | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 |



Power System Engineering, Inc.

Full-service consultants

# Reply Report to PEG's Report ("IRM Design for Toronto Hydro-Electric System")

**Prepared by:**

Power System Engineering, Inc.

May 31, 2019

The column labeled "PEG TC Results (2012 Capital Level)" shows the updated PEG results from their Interrogatory Answers. PEG corrected their results from the initial PEG Report in their response found in M1-TH-026 (f).[1]

**Table 1 PSE Total Cost Results vs. PEG Total Cost Results**

| 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%** | |

In Table 1 we show each model's annual benchmarking score and included the average of the prior three years for both PSE's results and PEG's results. We also included the applicable stretch factor (SF) based on the 4th Generation SF cohorts.[2]

As can be seen in the table, PSE's results suggest a 0.30% SF for the majority of the Custom IR period and for the 2020 to 2024 average. PEG's model results also suggest a 0.30% SF for the majority of the Custom IR period. If the full custom IR forecasted period is averaged, PEG's recommended stretch factor becomes 0.45%.

This convergence in results toward a 0.30% stretch factor is primarily due to the advancement of the congested urban variable. PSE and PEG each use the new variable in their models. The congested urban challenges of Toronto Hydro are now being recognized in both models, and the total cost benchmarking results of both consultants reflect this advancement.

[1] In PEG's response to interrogatory questions M1-TH-026 (e) and (f), PEG calculated total costs using 2008 and 2012, respectively, as the capital levelization year. In Table 1 we show the results using the newer 2012 capital levelization found in part (f) of the interrogatory response. In Section 3.1.1 we discuss why using the more recent capital levelization provides the most accurate depiction and partially mitigates the impact of PEG using inconsistent asset price escalators between Toronto Hydro and the rest of the sample. We note that in the PEG Revised Report, PEG used the older and less accurate 2008 capital levelization year.

[2] The 4th Generation SF cohorts are based on the 3-year historical total cost benchmarking scores. Average scores greater than 25%, between 10% to 25%, between 10% to -10%, between -10% to -25%, and less than -25% suggest a SF of 0.60%, 0.45%, 0.30%, 0.15%, and 0.00%, respectively.

# IRM Design for Toronto Hydro-Electric System

*May 22, 2019 (revised)*

**Mark Newton Lowry, Ph.D.**
President

**PACIFIC ECONOMICS GROUP RESEARCH LLC**

44 East Mifflin, Suite 601
Madison, Wisconsin USA 53703
608.257.1522 608.257.1540 Fax

- PSE used the U.S. Employment Cost Index ("ECI") for *salaries and wages* as its labor price escalator even though an ECI for *total* compensation is available which would be more appropriate since its study includes pension and benefit expenses.

General Concerns

In addition to our comments above on specific techniques used by PSE, we have more general reservations about the use of benchmarking in this application.

- PSE's benchmarking suggests a continuation of the material decline in the cost performance of Toronto Hydro which occurred during its first Custom IR plan. It is possible that brisk cost growth is a rational response to special circumstances such as capacity constraints and advanced system age. However, no evidence has been provided that suggests that Toronto Hydro's cost performance is improving after taking account of such challenges. This arguably violates the Board's Custom IR guidelines that we discussed in Section 2.
- Setting the stretch factor on the basis of a cost forecast rather than the actual cost incurred during the plan removes a potential incentive benefit of stretch factors in that cost reductions cannot lower stretch factors. Consideration should be paid to having the stretch factor reset annually during the years of its plan on the basis of whichever benchmarking model the Board prefers.
- Total cost benchmarking does not shed light on the sources of high and low costs that utilities incur. Knowledge of strengths and weaknesses in more granular management of major cost categories such as OM&A expenses is useful to utilities and regulators alike.

## Implicit Stretch Factor

We also wish to challenge the notion that a 0% base productivity target contains an *implicit* stretch factor. Ontario data have many limitations for the accurate measurement of multifactor productivity trends. These include the recent transition of many utilities to IFRS accounting.

PEG calculated the MFP trends of a large sample of U.S. power distributors in its recent study on multiyear rate plans for Berkeley Lab.[23] We reported MFP trends of 0.45% for the full 1980-2014 sample

[23] Lowry, Makos, and Deason, o*p. cit*., p. B.15.

period and of 0.39% for the more recent 1996-2014 sample period. In a fall 2017 presentation funded by LBNL which Dr. Lowry made to the New England Council of Public Utility commissions, Dr. Lowry reported that the MFP trend of sampled power distributors for the more recent 1996-2016 sample period was 0.43% per annum for the full U.S. sample and 0.31% for the Northeast U.S.

### PSE Reliability Benchmarking

We believe that PSE has, with the Company's sponsorship, done a service to Ontario's regulatory community by making progress in the area of reliability benchmarking. Cost benchmarking should ideally be combined with reliability benchmarking, and reliability performance is germane when considering requests for supplemental capex funding. PSE has gathered a respectable sample of publicly available U.S. data that span the years 2010-2016. Major event days have been excluded, if not with fully consistent definitions. The models presented by PSE are a good starting point for further improvements. We present alternative models in Section 3.3. below.

## 3.3. Alternative Benchmarking Results Using PSE's Data

### Alternative Cost Models

We tested the robustness of PSE's results by developing some alternative total cost benchmarking models using its dataset.

- Instead of using the estimated percentage of the total area served which was congested, we used the estimated area congested. We substituted this alternative in all of the variables that PSE constructed. Toronto Hydro's average score during the five years of its proposed plan declined from about 6% using PSE's model to about 52% over.
- We removed all of the translog terms for the non-scale business conditions from the model. The percentage urban variable had a highly significant and positive parameter estimate. However, PSE's average score for the 2020-24 period was about 39% over the model's prediction.
- Consolidated Edison of New York was removed from the sample. Toronto Hydro's average score during the five years of its proposed plan changed from about 6% under using PSE's model to 653% under.

# RESPONSES TO OEB STAFF INTERROGATORIES

**INTERROGATORY 25:**

**Reference(s): Updated Exhibit 1B, Tab 4, Schedule 1, pp. 14-15**

Preamble:

Toronto Hydro provided the methodology it uses for calculating earnings sharing during the 2015-2019 period as follows.

(Actual non-capital revenue requirement) – (Funded non-capital revenue requirement)

Actual equity on a deemed basis

a) Please provide the earnings sharing calculations based on Toronto Hydro's methodology for each year 2015-2017. Please provide and explain in detail all adjustments that are made in the calculation (Exhibit 1B / Tab 4 / Schedule 1 / p. 15 / Footnote 19).

b) Please advise whether actual equity on a deemed basis means the deemed equity portion of actual rate base.

c) Please advise whether Toronto Hydro agrees that the methodology it uses for calculating the earnings sharing amount is essentially a true-up of OM&A costs and revenue offsets between the amounts approved in rates and actual (subject to a ROE-related threshold to determine whether earnings sharing is required). Specifically, please confirm that actual revenues are not considered as part of the earnings sharing calculation.

d) Please provide Toronto Hydro's understanding of the operation of the earnings sharing mechanism in terms of the following:

   i) Is earnings sharing symmetrical (e.g. if Toronto Hydro overspends OM&A on an actual basis relative to the amount approved for recovery in rates, and the earnings sharing threshold is met, does Toronto Hydro collect that amount from ratepayers)?

   ii) Is earnings sharing cumulative (i.e. do the over and under-earning amounts net against each other over the entire 2015-2019 period)?

e) As part of the current proceeding, is it Toronto Hydro's intent to seek final approval of the earning sharing amounts for 2015-2018 (with the 2019 balance subject to review in the 2021 rates proceeding)? Alternatively, does Toronto Hydro believe that it already has final approval of the 2015-2017 earnings sharing amounts? Please discuss what requests Toronto Hydro is making as part of the current proceeding.

f) Please provide alternative earnings sharing calculations for 2015-2017 based on the following methodology and provide Toronto Hydro's position on the suggested approach.

$$\frac{\text{(Actual non-capital revenue) – (Funded non-capital revenue requirement)}}{\text{Actual equity on a deemed basis}}$$

For calculating the actual non-capital revenue amount,

   i) apply the approved $S_{cap}$ in the relevant year to total base distribution revenues (with any adjustments that Toronto Hydro believes are necessary);

ii) subtract the amount from part (i) from the total base distribution revenues;

iii) add the residual amount (which OEB staff believes could be considered a reasonable proxy for the actual non-capital base distribution revenues) from part (ii) to the revenue offset amount.

The remainder of the calculation is unchanged from Toronto Hydro's proposed approach.

g) Please provide alternative earnings sharing calculations for 2015-2017 based on a methodology that compares the utility net income amount to the deemed equity portion of actual rate base. Please make any necessary adjustments to back-out amounts that are non-utility or are otherwise encumbered in deferral and variance accounts (DVAs) (which are subject to separate dispositions) in order to avoid double counting.

**RESPONSE:**

a) Toronto Hydro's calculation of the earnings sharing mechanism ("ESM") for 2015-2017 follows.

**Table 1: 2015-2017 ESM Calculations[1] ($ Millions)**

| | | 2015 | 2016 | 2017 |
|---|---|---|---|---|
| OM&A [a] | *A* | 244.0 | 246.6 | 250.6 |
| Revenue Offsets [a] | *B* | - 39.9 | - 50.2 | - 51.7 |
| **Unadjusted non-capital revenue requirement ("Non-CRRR")** | *C=A+B* | **204.1** | **196.4** | **198.9** |
| RRR Adjustments [b] | | | | |
| Depreciation expense related to non-regulated assets (renewable energy investment) | *D* | - | - | - 0.0 |
| Non-recoverable expenses – donations and meals | *E* | - 0.4 | - 0.4 | - 0.6 |
| **Subtotal** | *F=C+D+E* | **203.7** | **196.1** | **198.2** |
| Adjustments for items not included in rates | | | | |
| Amortization of 2014 balance in DVA account 1575 – IFRS USGAAP Transitional PP&E Amounts [c] | *G* | - | 5.2 | 6.6 |
| Amortization of capital contributions (deferred revenue) [d] | *H* | 2.2 | 3.8 | 4.7 |
| **Actual non-CRRR items for ESM purposes** | *I=F+G+H* | **206.0** | **205.1** | **209.5** |
| **Less: non-CRRR embedded in rates** [e,f] | *J* | **202.7** | **205.7** | **208.3** |
| Non-CRRR difference | *K=I-J* | 3.3 | - 0.6 | 1.2 |
| Deemed equity portion of actual rate base [g] | *L* | 1,285.2 | 1,420.1 | 1,540.4 |
| Non-CRRR difference | *M=K/L* | 0.26% | - 0.04% | 0.08% |
| ESM threshold | *N* | 1.00% | 1.00% | 1.00% |
| ESM test result | *M compared to N* | Within threshold | Within threshold | Within threshold |

*Rounding variances may exist.*

[a] Source: RRR 2.1.7 - trial balance.

[b] Source: RRR 2.1.5.6 - Appendices 1 and 2.

[c] Source: RRR 2.1.7 - trial balance account 4310, reported as revenue offsets.

[d] Source: RRR 2.1.7 - trial balance account 4245, reported as revenue offsets.

[e] EB-2014-0116, Decision and Order (29th Dec, 2015), page 49

[f] 2015 non-CRRR is from EB-2014-0116, Draft Rate Order Update (29th Feb, 2016), Table 2, Page 6. To determine 2016 and 2017 amount, I (2.1% and 1.9%) and X (0.6% and 0.6%) was applied to the previous year amount.

[g] Source: RRR 2.1.5.6 - ROE Summary.

b) Confirmed.

[1] Source: Toronto Hydro's annual RRR submissions.

c) Toronto Hydro's earnings sharing methodology (as described in part a) is essentially a true-up of OM&A costs and revenue offsets between the: (i) amounts approved in base rates; and (ii) comparable actuals. Actual amounts from Toronto Hydro's RRR submissions are adjusted for items which do not form approved base rates. The resulting difference is subject to the ROE-related threshold to determine whether earnings sharing is required.

Actual distribution revenue, as reported in the RRR, is not considered in Toronto Hydro's earnings sharing calculation, although actual reported OM&A and revenue offsets are.

d) Toronto Hydro's understanding of the operation of the ESM follows.
   i) The account is symmetrical.[2]
   ii) The account is not cumulative.[3]

e) In each of Toronto Hydro's annual rate updates during the 2015-2019 rate cycle, the ESM has been a live issue. In each proceeding, Toronto Hydro has produced the annual ESM calculation. It has been Toronto Hydro's expectation that if the ESM threshold had been surpassed in any given year, that the OEB would order the resulting ESM disposition at that time.

In the event that the 2018 ESM threshold is surpassed, those financial results and the resulting disposition are subject to review in this proceeding (following finalization and filing of Toronto Hydro's 2018 financial results). In the event that the 2019 ESM

[2] EB-2014-0116 Decision and Order dated December 29, 2015, section 3.2, page 49.
[3] Handbook to Electricity Distributor and Transmitter Consolidations, Section - Earning Sharing Mechanism (ESM), page 16 of the handbook.

threshold is surpassed (following finalization and filing of Toronto Hydro's 2019 financial results in its first rate updates thereafter, namely the 2021 rate update proceeding), Toronto Hydro expects that the OEB would order disposition in relation to 2019.

f) The 2015-2017 calculations, based on Toronto Hydro's understanding of the alternative approach, are provided below in Table 2.

Toronto Hydro believes that reported distribution revenue should not form part of Toronto Hydro's earning sharing calculation since it (i) results from approved rates which are based on forecasted OM&A and revenue offsets, (ii) includes items not embedded in approved rates for the 2015-2019 CIR term and is not comparable to non-CRRR embedded in rates, and (iii) has errors in logic.

- The approach entails double-counting of revenue offsets;
- The alternative approach uses projected $S_{cap}$ (not actual $S_{cap}$) applied to actual revenues to determine a proxy for actual OM&A and revenue offsets, rather than actual amounts which are available from RRR filings;
- Reported distribution revenue includes accounting recognition of revenues in the CIR term for DVA balances prior to the CIR term (i.e. "out-of-period" amounts) and amounts excluded for determining base distribution rates (e.g. donations); and
- Reported revenue includes effects of unplanned weather and other forecasting differences, which are already considered as part of the ROE threshold test

1 **Table 2: ESM calculation based on the alternative methodology ($ Millions)**

| | | 2015 | 2016 | 2017 |
|---|---|---|---|---|
| | | | | |
| Distribution revenue [a] | *A* | 612.4 | 696.5 | 679.2 |
| Adjustments for rate rider revenues and out of period items (See Table 3) | *B* | - 14.1 | - 38.8 | 12.8 |
| Distribution revenue, adjusted (base revenue) | *C=A+B* | 598.3 | 657.7 | 691.9 |
| Projected $S_{cap}$ [b] | *D* | 68.9% | 70.8% | 72.2% |
| Derived capital related revenue | *E=C*D* | 412.2 | 465.7 | 499.6 |
| | | | | |
| Distribution revenue, adjusted (base revenue) | *F=C* | 598.3 | 657.7 | 691.9 |
| Less: derived capital related revenue | *G=E* | 412.2 | 465.7 | 499.6 |
| Derived non-CRRR | *H=F-G* | 186.1 | 192.0 | 192.4 |
| Add: revenue offsets per RRR | *I* | 39.9 | 50.2 | 51.7 |
| Derived non-CRRR plus revenue offsets | *J=H+I* | 226.0 | 242.2 | 244.1 |
| Less: funded non-CRRR | *K* | 202.7 | 205.7 | 208.3 |
| Non-CRRR approved vs Non-CRRR actual | *L=J-K* | 23.3 | 36.5 | 35.8 |
| Deemed equity portion of actual rate base | *M* | 1,285.2 | 1,420.1 | 1,540.4 |
| Non-CRRR difference | *N=L/M* | -1.82% | -2.57% | -2.32% |
| ESM threshold | *O* | 1.00% | 1.00% | 1.00% |
| ESM test result | *N compared to O* | Not within threshold | Not within threshold | Not within threshold |
| *$ Impact (Recovery/(Credit) from/ to the customers)* | *P=[M*(N-O)]/2* | *5.2* | *11.2* | *10.2* |

*Rounding variances may exist.*

[a] RRR 2.1.7 - trial balance account 4080 (distribution revenue).

[b] EB-2014-0116, Draft Rate Order Update, Filed 2016, Feb 29, Page 6, Table 3. Toronto Hydro notes that these values are based on values projected in 2014, not actual $S_{cap}$.

**Table 3: Adjustments to distribution revenue [a] ($ Millions):**

| | 2015 | 2016 | 2017 |
|---|---|---|---|
| **Rate Rider Revenue** | | | |
| Smart Meter | - 10.9 | - 7.9 | - 2.4 |
| Smart Grid Funding Adder | - | - | - 0.1 |
| OCCP: Operation Centres Consolidation Program | - | 5.2 | 6.6 |
| Amortization of 1575 (IFRS transition cost) (return) | - | - 0.9 | - 1.2 |
| HONI Contribution | - 1.9 | - | - |
| Named Properties | - 5.8 | - | - |
| **Out of Period Items** | | | |
| Incremental Capital Module | - | - 41.2 | - |
| Harmonized Sales Tax | - | 1.1 | - |
| Lost Revenue Adjustment Mechanism | - 9.0 | - 4.5 | - 10.9 |
| **Others** | | | |
| CRRRVA, External Initiated Projects (EIP) and Derecognition | 12.6 | 9.0 | 20.2 |
| Tax on gain on sale of properties (50/60 Eglinton) | - | - | - 1.2 |
| Monthly billing | - | 0.4 | 1.8 |
| POEB tax | 0.9 | - | - |
| Total Adjustments | - 14.1 | - 38.8 | 12.8 |
| A RRR 2.1.7 – Trial balance | | | |

g) There is insufficient information in this question for Toronto Hydro to produce the requested calculation.

## Table 1: Toronto Hydro EDS Performance – 2014-2018

| Performance Outcomes | Performance Categories | Measures | | 2014 | 2015 | 2016 | 2017 | 2018 | Target | | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Industry | Distributor | |
| Customer Focus<br>Services are provided in a manner that responds to identified customer preferences. | Service Quality | New Residential/Small Business Services Connected on Time | | 91.50% | 96.90% | 97.70% | 98.32% | 99.80% | 90.00% | | 96.84% |
| | | Scheduled Appointments Met On Time | | 99.80% | 99.90% | 99.50% | 99.37% | 99.66% | 90.00% | | 99.65% |
| | | Telephone Calls Answered On Time | | 71.90% | 76.80% | 64.70% | 77.92% | 80.15% | 65.00% | | 74.29% |
| | Customer Satisfaction | First Contact Resolution | | 81.00% | 84.00% | 86.00% | 88.00% | 89.00% | | | 85.60% |
| | | Billing Accuracy | | 96.62% | 97.54% | 98.86% | 99.24% | 99.25% | 98.00% | | 98.30% |
| | | Customer Satisfaction Survey Results | | 91.00% | 91.00% | 83.00% | 83.00% | 92.00% | | | 88.00% |
| Operational Effectiveness<br>Continuous improvement in productivity and cost performance is achieved; and distributors deliver on system reliability and quality objectives. | Safety | Level of Public Awareness | | | 71.00% | 71.00% | 69.00% | 69.00% | | | 70.00% |
| | | Level of Compliance with Ontario Regulation 22/04 | | C | C | C | C | C | | C | N/A |
| | | Serious Electrical Incident Index | Number of General Public Incidents | 3 | 0 | 0 | 1 | 6 | | 2 | 2.00 |
| | | | Rate per 10, 100, 1000 km of line | 0.295 | 0 | 0 | 0.035 | 0.209 | | 0.074 | 0.108 |
| | System Reliability | Average Number of Hours that Power to a Customer is Interrupted | | 0.89 | 0.99 | 0.91 | 0.91 | 0.81 | | 1.11 | 0.90 |
| | | Average Number of Times that Power to a Customer is Interrupted | | 1.18 | 1.31 | 1.28 | 1.18 | 1.14 | | 1.36 | 1.22 |
| | Asset Management | Distribution System Plan Implementation Progress | | 147% | 100% | 101% | 99% | 95% | | | 108.40% |
| | Cost Control | Efficiency Assessment | | 5 | 5 | 5 | 5 | | | | |
| | | Total Cost per Customer | | $967 | $1,000 | $1,044 | $1,042 | | | | |
| | | Total Cost per Km of Line | | $70,688 | $73,309 | $27,819 | $27,825 | | | | |
| Public Policy Responsiveness<br>Distributors deliver on obligations mandated by government (e.g., in legislation and in regulatory requirements imposed further to Ministerial directives to the Board). | Conservation & Demand Management | Net Cumulative Energy Savings | | | 12.51% | 34.58% | 63.11% | | | 1,576.05 GWh | |
| | Connection of Renewable Generation | Renewable Generation Connection Impact Assessments Completed On Time | | 97.12% | 100.00% | 100.00% | 81.08% | 100.00% | | | 95.64% |
| | | New Micro-embedded Generation Facilities Connected On Time | | 100.00% | 100.00% | 100.00% | 92.41% | 100.00% | 90.00% | | 98.48% |
| Financial Performance<br>Financial viability is maintained; and savings from operational effectiveness are sustainable. | Financial Ratios | Liquidity: Current Ratio (Current Assets/Current Liabilities) | | 0.68 | 0.67 | 0.61 | 0.64 | 0.53 | | | 0.63 |
| | | Leverage: Total Debt (includes short-term and long-term debt) to Equity Ratio | | 1.65 | 1.57 | 1.45 | 1.34 | 1.2 | | | 1.44 |
| | | Profitability: Regulatory Return on Equity | Deemed (included in rates) | 9.58% | 9.30% | 9.30% | 9.30% | 9.30% | | | N/A |
| | | | Achieved | 7.41% | 10.71% | 12.18% | 9.08% | 9.33% | | | N/A |

# OUTCOMES AND PERFORMANCE MANAGEMENT

In developing its approach to outcomes and performance management, Toronto Hydro considered the policy guidance from the OEB, including the *Renewed Regulatory Framework for Electricity Distributors: A Performance Based Approach* (the "RRF").[1] A key theme of the OEB's guidance is that emphasizing results rather than activities is more responsive to customer preferences, enhanced distributor productivity, and promoting innovation.[2]

Toronto Hydro has a long-standing productivity culture, which has evolved over time while remaining responsive to the utility's operating challenges and regulatory landscape. Since amalgamation in 1998, the utility has been working on streamlining and rationalizing legacy tools, eliminating unnecessary processes, and optimizing assets and workforce. Toronto Hydro's systems and processes are structured around this culture of performance and outcomes, and include a suite of tools to sustain or improve performance as required.

As detailed in the utility's 2015-2019 Application, as the utility has matured, its productivity efforts have resulted in significant savings for customers.[3] This has involved streamlining and rationalizing legacy tools, processes, assets and workforce, as well as enhancing utility capabilities such as the asset management and resourcing practices and tools to plan and deliver a significant and sustained capital plan. This has also included the introduction of efficiency-driving tools such as its outage management

[1] Ontario Energy Board, Renewed Regulatory Framework for Electricity Distributors: A Performance Based Approach (October 18, 2012).
[2] *Ibid* at p. 2.
[3] EB-2014-0116, Toronto Hydro-Electric System Limited Application (filed July 31, 2014, corrected February 6, 2015), Exhibit 1B, Tab 2, Schedule 5, Appendix A.

system, and distribution management system, adoption of reliability-centered maintenance, job harmonization, and performance and attendance management programs.

Toronto Hydro's commitment to performance management is reflected throughout this Application. For instance, the utility relies on performance governance tools to drive performance and continuous improvement. Specifically, the Management Control and Reporting System ("MCRS") and the Plan-Do-Check-Act ("PDCA") management control cycle, consistent with ISO 14001 and OHSAS 18001 standards.[4] Toronto Hydro uses these tools to manage processes, provide timely data, and enable decision-making.

Similarly, Toronto Hydro utilizes another performance governance process, Lean (i.e. Kaizen), an operational efficiency methodology that focuses on eliminating eight types of waste,[5] and streamlining business processes. Collaboration with front line staff, who are most familiar with processes and wastes, results in optimizing how work is completed – thereby saving resources (labour, time, materials, space). By targeting waste reduction in areas such as inventory, waiting time, space, and staff utilization, a direct impact to customer value can be realized as costs to operate are streamlined.

Toronto Hydro has also developed a customer-focused outcomes framework (the "Outcomes Framework") for the 2020-2024 plan period that facilitates continuous improvement and measures the effectiveness of the utility's plans. These outcomes are expressions of the utility's goals and objectives.

[4] Toronto Hydro is registered with ISO 14001:2015 and OHSAS 18001:2007, both internationally recognized standards in environment, health, and safety. Together, they establish a framework that incorporates effective risk management, emphasizes continual improvement, and achieves operational efficiencies.
[5] Defects, Overproduction, Waiting, Non-Utilized Talent, Transportation, Inventory, Motion, Extra-Processing.

Leveraging this foundation, the utility expects its custom measures, reported under the Outcomes Framework, and the OEB reporting measures (Electricity Distributor Scorecard and Electricity Service Quality Requirements) will provide the OEB, stakeholders and most importantly, customers, quantitative assessment tools for the utility's planning and execution activities. This framework and associated measures also provide quantitative insight into Toronto Hydro's strong performance during the last plan period (2015 through 2019), and enables performance measurement during the period of this plan (2020 through 2024).

Lastly, as detailed in Toronto Hydro's rate-setting framework, Exhibit 1B, Tab 4, Schedule 1, the utility has included productivity gains as part of the rate adjustment mechanism, constraining operational funding increases going forward at less than the rate of inflation, and reconciling a price-cap formula with funding requirements to address Toronto Hydro's significant, multi-year investment needs over the 2020 to 2024 period. It has also included, throughout the Application, detailed descriptions of how the utility is managing costs and improving outputs.[6]

This Exhibit is separated into two sections. A discussion of Toronto Hydro's Outcomes Framework, including its development, inputs, and proposed custom measures, is followed by a comprehensive performance management overview incorporating its productivity and cost efficiency initiatives including benchmarking results. Productivity initiatives, such as those discussed in Section 2, are directed to achieve savings, reductions, or efficiencies. Since productivity consists of inputs and outputs, changes to inputs are influenced in an ongoing, continuous improvement cycle. Inputs include cost management, but also more subtle contributors such as increased capacity and process

[6] Please see Exhibit 2B, Section A and Exhibit 4A, Tab 2, Schedules 1-18, specifically the "Cost Control" sections.

improvement. Overall, this Exhibit provides a centralized discussion on how Toronto Hydro ensures customer value by using results from cost trends and assessments, benchmarking studies as well as customer engagement activities to shape its proposed plans.

## 1. TORONTO HYDRO'S OUTCOMES FRAMEWORK

Toronto Hydro has organized its application around outcomes to ensure that value for customers is achieved via a utility's selection of investments and pacing. This outcomes or results-based focus is not new to Toronto Hydro. The utility has a long and established corporate performance framework with a focus on continuous improvement.

Toronto Hydro's 2020-2024 Outcomes Framework was derived from six customer priorities identified through the utility's customer engagement activities, the utility's corporate pillars as well as the OEB's RRF outcomes.

Toronto Hydro's customers identified six categories of priorities related to: Price, Reliability, Safety, Customer Service, Public Policy, and Environment.[7] The OEB RRF outcomes are: Customer Focus, Operational Effectiveness, Public Policy Responsiveness, and Financial Performance.[8] Toronto Hydro's corporate pillars are: Customer Service, Operations, People, and Financial Strength.

[7] See Exhibit 1B, Tab 3, Schedule 1
[8] EB-2010-0379, Ontario Energy Board Report of the Board: Performance Measurement for Electricity Distributors: A Scorecard Approach (March 5, 2014).

The resulting framework, depicted in Figure 1, is informed by the six priorities identified in the Phase I low-volume customer focus groups, in addition to Toronto Hydro's corporate pillars and the OEB's RRF outcomes. The Outcomes Framework is focused on six key outcomes: Customer Service, Reliability, Safety, Environment, Public Policy,[9] and Financial.[10] This Framework transitioned into the lens through which Toronto Hydro articulated and implemented its strategic vision throughout business planning. This vision is reflected in the investment decisions made by the utility.

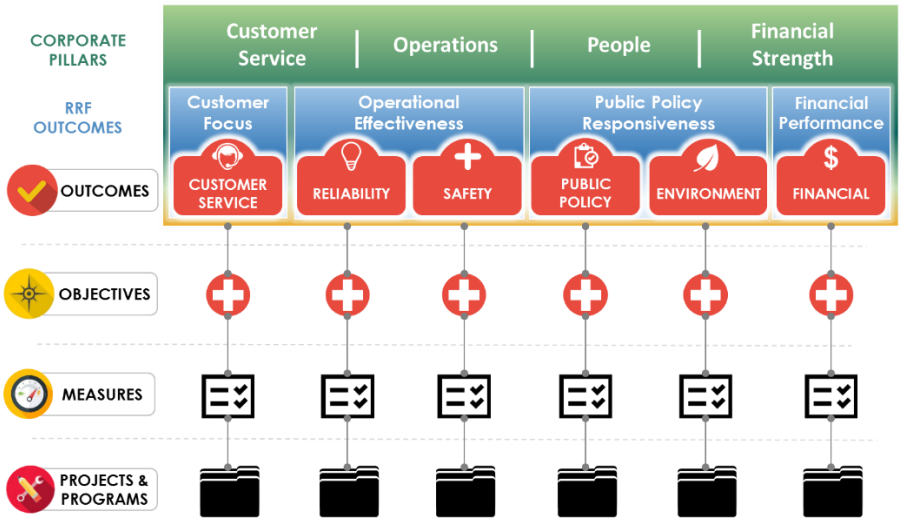



**Figure 1: Toronto Hydro's Customer-Focused Outcomes Framework[11]**

Overall, Toronto Hydro intends to continue using its Outcomes Framework to assess and communicate the effectiveness of its plans in delivering value that aligns with evolving customer preferences over time. Please see Exhibit 2B, Section E2, for a discussion of

[9] Which includes enabling the system to support in the reduction of greenhouse gases.
[10] Which includes delivering reasonable electricity prices.
[11] The RRF Outcomes are aligned alongside Toronto Hydro's Outcomes based on the definitions provided by the OEB in the Utility Rate Handbook. It should be noted that Toronto Hydro's Financial outcome includes cost-related components that the OEB would classify within the Operational Effectiveness outcome.

how the utility has identified specific outcomes valued by its customers and how its plans and proposed expenditures deliver those outcomes.

### 1.1 Toronto Hydro's 2020-2024 Custom Performance Measures

To remain responsive to customer needs and preferences and demonstrate continuous improvement in performance setting and tracking, Toronto Hydro has proposed 15 custom measures within its Outcomes Framework that are incremental to measures tracked and assessed by the OEB, for a total of 44 unique measures to be reported annually.[12] See Appendix A for a full list of measures to be reported annually to the OEB. For a comprehensive discussion of Toronto Hydro's custom measures for the 2020-2024 plan period, please refer to Exhibit 2B, Section C2. Toronto Hydro's proposed custom measures reflect a thorough understanding of customer priorities and provide assurance that value for money will be achieved through the utility's 2020-2024 Distribution System Plan.

**Table 1: 2020-2024 Custom Performance Scorecard Measures**

| Toronto Hydro Outcome | OEB Reporting Category | Toronto Hydro's Custom Measures | Target |
|---|---|---|---|
| Customer Service | Customer Satisfaction | Customers on eBills | Improve |
| Safety | Safety | Total Recorded Injury Frequency | Maintain |
| | | Box Construction Conversion | Improve |
| | | Network Units Modernization | Improve |
| Reliability | System Reliability | SAIDI - Defective Equipment | Maintain |
| | | SAIFI - Defective Equipment | Maintain |
| | | FESI 7 System | Improve |
| | | FESI-6 Large Customers | Maintain |
| | Asset Management | System Capacity | Maintain |
| | | System Health (Asset Condition) – Wood Poles | Monitor |
| | | Direct Buried Cable Replacement | Improve |

[12] These proposed measures will monitor distribution system planning process performance.

| Toronto Hydro Outcome | OEB Reporting Category | Toronto Hydro's Custom Measures | Target |
|---|---|---|---|
| **Financial** | **Cost Control** | Average Wood Pole Replacement Cost | Monitor |
| | | Vegetation Management Cost per km | Monitor |
| **Environment** | **Environment** | Oil Spills Containing PCBs | Improve |
| | | Waste Diversion Rate | Monitor |

Toronto Hydro's custom performance measures, and the targets related to all measures in general (including the Electricity Distributor Scorecard and the Electricity Service Quality Requirements), have been developed on the basis of the proposals, plans, and associated rates contained in this Application. To the extent that Toronto Hydro's approvals differ from those it seeks in this Application, then the utility would need to reforecast and re-assess its forecasted attainable performance for the period. Further, there are risks outside of Toronto Hydro's control which may also affect its ability to achieve performance targets.

## 2. PERFORMANCE MANAGEMENT

Toronto Hydro is an efficient organization that strives to promote its history of productivity and customer cost savings. Inherent in its focus on outputs and value is the emphasis on measuring and tracking performance, using internal and external benchmarking.

This section centralizes the utility's discussion of productivity and includes summaries of benchmarking studies relating to Toronto Hydro's performance relative to its peers. The activities captured within the following discussions are testament to the utility's commitment to ensure continuous improvement in the efficiency of key operational tasks that ultimately contribute to value-for-money for customers.

## Appendix A: Annually Reported Measures

| Outcomes | OEB Reporting Category | Electricity Distributor Scorecard Measures | Electricity Service Quality Requirement Measures | Custom Performance Measures[1] |
|---|---|---|---|---|
| Customer Service | Service Quality | ▪ New Residential/Small Business Services Connected on Time<br>▪ Scheduled Appointments Met on Time<br>▪ Tel. Calls Answered on Time | ▪ Connection of New Services (LV)[2]<br>▪ Connection of New Services (HV)[3]<br>▪ Appointments Met<br>▪ Telephone Accessibility<br>▪ Appointment Scheduling<br>▪ Rescheduling a Missed Appt.<br>▪ Telephone Call Abandon Rate<br>▪ Emergency Response - Urban<br>▪ Reconnection Performance Standards | |
| | Customer Satisfaction | ▪ First Contact Resolution<br>▪ Billing Accuracy<br>▪ Customer Survey Satisfaction Results | ▪ Billing Accuracy<br>▪ Written Responses to Enquiries | ▪ Customers on eBills |
| Safety | Safety | ▪ Level of Public Awareness<br>▪ Compliance with Ontario Reg. 22/04<br>▪ Number of General Public Incidents<br>▪ Rate per 10, 100, 1000 Km of Line | | ▪ Total Recorded Injury Frequency<br>▪ Box Construction Conversion<br>▪ Network Units Modernization |

[1] See Exhibit 2B, Section C2 for a detailed discussion of Toronto Hydro's Custom Performance Measures.
[2] Low Voltage ("LV")
[3] High Voltage ("HV")

| Outcomes | OEB Reporting Category | Electricity Distributor Scorecard Measures | Electricity Service Quality Requirement Measures | Custom Performance Measures[1] |
|---|---|---|---|---|
| Reliability | System Reliability | ▪ Average Number of Hours that Power to a Customer is Interrupted (SAIDI)<br>▪ Average Number of Times that Power to a Customer is Interrupted (SAIFI) | | ▪ SAIDI - Defective Equipment<br>▪ SAIFI - Defective Equipment<br>▪ FESI-7<br>▪ FESI-6 - Large Customers |
| | Asset Management | ▪ DSP Implementation Progress | | ▪ System Capacity<br>▪ System Health (Asset Condition) – Wood Poles<br>▪ Direct Buried Cable Replacement |
| Financial | Cost Control | ▪ Efficiency Assessment<br>▪ Total Cost per Customer<br>▪ Total Cost per Km of Line | | ▪ Average Wood Pole Replacement Cost<br>▪ Vegetation Management Cost per Km |
| | Financial Ratios | ▪ Liquidity: Current Ratio<br>▪ Leverage: Total Debt to Equity Ratio<br>▪ Regulated ROE - Deemed vs. Achieved | | |
| Public Policy | Conservation & Demand Management | ▪ Net Cumulative Energy Savings | | |
| | Connection or Renewable Generation | ▪ Renewable Gen. Connection Impact Assessments Completed on Time<br>▪ Micro-embedded Gen. Fac. Connected on Time | ▪ Micro Gen. Fac. Connected on Time | |
| Environment | Environment | | | ▪ Oil Spills Containing PCBs<br>▪ Waste Diversion Rate |

# TECHNICAL CONFERENCE UNDERTAKING RESPONSES TO ENERGY PROBE RESEARCH FOUNDATION

**UNDERTAKING NO. JTC2.9:**

**Reference(s):** **1B-EP-4 (a)**
**2B-VECC-11**

To clarify on the record what will be used for SAIDI, SAIFI and the other metrics in the scorecard. (Supplemental): to advise whether THESL will use numeric targets for the two categories of performance metrics, that are improve or maintain quarterly

**RESPONSE:**

Table 1 provides a consolidated summary of Toronto Hydro's proposed custom performance measures, associated baselines, and targets. Further details for these measures are provided in Exhibit 2B, Section C. The utility's performance objectives for the OEB's Electricity Distributor Scorecard measures are discussed in Exhibit 1B, Tab 2, Schedule 2. It is not Toronto Hydro's proposal to establish specific numeric targets. The utility is proposing directional targets relative to specific numeric baselines. As summarized in the table below, for the majority of its "improve" targets, the utility has provided estimated forecasts of performance for the 2020-2024 period. Toronto Hydro's ability to deliver on these outcomes is contingent on the OEB's approval of the rates proposed to fund the capital and operational plans detailed throughout the application. Therefore, Toronto Hydro will not be in a position to make any final commitment with respect to its targets until it after it has received the OEB's Decision in this application, and conducted a business planning cycle having regard for that Decision.

1 **Table 1: Summary of Custom Performance Measures & Targets**

| Measure | Baseline | 2020-2024 Target for Proposed Plan |
|---|---|---|
| **Customers on eBills** | 224,420 customers (*2017 year-end)* | • Improve relative to baseline<br>• Forecast performance is discussed in Exhibit 4A, Tab 2, Schedule 14, Table 2 |
| **Total Recordable Injury Frequency** | 1.3 recordable injuries per 100 workers *(2013-2017 average)* | • Maintain relative to baseline |
| **Box Construction Conversion** | 3,151 box construction poles on the system *(2017 year-end)* | • Improve relative to baseline<br>• Forecast performance is discussed in Exhibit 2B, Section E2, pages 26-27 |
| **Network Units Modernization** | 56% of network units on the system have submersible protectors *(2017 year-end)* | • Improve relative to baseline<br>• Forecast performance is discussed in Exhibit 2B, Section C2.2.3 |
| **SAIDI - Defective Equipment** | 0.45 hours of interruption *(2013-2017 average)* | • Maintain relative to baseline<br>• Forecast performance is discussed in Exhibit 2B, Section E2.2.2.3 |
| **SAIFI - Defective Equipment** | 0.52 interruptions *(2013-2017 average)* | • Maintain relative to baseline<br>• Forecast performance is discussed in Exhibit 2B, Section E2.2.2.3 |
| **FESI-7 System** | 26 feeders *(2013-2017 average)* | • Improve relative to baseline |
| **FESI-6 Large Customers** | 18 feeders *(2013-2017 average)* | • Maintain relative to baseline |
| **System Capacity** | 14 stations with capacity constraints *(2013-2017 average)* | • Maintain relative to baseline |
| **System Health (Asset Condition) - Poles** | N/A (% of poles in HI4 and HI5 condition) | • Monitor performance |
| **Direct Buried Cable Replacement** | 809 km of direct-buried cable on the system *(2017 year-end)* | • Improve relative to baseline<br>• Forecast performance is discussed in Exhibit 2B, Section E2, pages 27-28 |
| **Average Wood Pole Replacement Cost** | N/A | • Monitor performance |

| Measure | Baseline | 2020-2024 Target for Proposed Plan |
|---|---|---|
| **Vegetation Management Cost per Km** | N/A | • Monitor performance |
| **Oil Spills Containing PCBs** | 9 spills<br>*(2013-2017 average)* | • Improve relative to baseline<br>• As noted in Exhibit 2B, Section E2, Table 1, Toronto Hydro's objective is to endeavour to eliminate the risk of PCB-contaminated oil spills by 2025. The utility's PCB risk reduction plan is summarized for each system type (e.g. Overhead) in Exhibit 2B, Section D2.2. |
| **Waste Diversion Rate** | N/A (% waste diverted from landfills) | • Monitor performance |

# RESPONSES TO SCHOOL ENERGY COALITION INTERROGATORIES

**INTERROGATORY 17:**

**Reference(s): Exhibit 1B, Tab 2, Schedule 2**

For each of the 12 DSP measures, please provide the 2013 to 2017 results in a tabular instead of a chart format.

**RESPONSE:**

Please see Table 1 below.

**Table 1: 2015-2019 DSP Measures Results (2013-2017)**

| Measure | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|
| **SAIDI (Hours)** | 1.12 | 0.89 | 0.99 | 0.91 | 0.91 |
| **SAIFI (# of times)** | 1.34 | 1.18 | 1.31 | 1.28 | 1.18 |
| **MAIFI (# of times)** | 2.37 | 2.55 | 2.72 | 2.64 | 2.52 |
| **CAIDI (Hours)** | 0.84 | 0.75 | 0.76 | 0.71 | 0.77 |
| **FESI 7 (# of feeders)** | 33 | 36 | 23 | 25 | 12 |
| **Outages Caused by Defective Equipment (# of outages)** | 636 | 711 | 572 | 519 | 484 |
| **Distribution System Plan Implementation Progress (%)** | 105% | 147% | 100% | 101% | 99% |
| **Stations Connection Capacity Availability (# of stations)** | 5 | 0 | 0 | 1 | 1 |
| **Planning Efficiency: Engineering and Support Costs (%)** | 7% | 8% | 8% | 9% | 9% |
| **Supply Chain Efficiency: Materials Handling On-Cost (%)** | 11% | 14% | 11% | 11% | 10% |
| **Construction Efficiency: Internal vs. Contractor Cost (%)*** | [redacted] | | | | |
| **Construction Efficiency: Asset Assembly Labour Input** | NA | | | | |

*Note: This information is being field confidentially, in accordance with the OEB's Decision on Confidentiality in this case, (December 14, 2018) at pages 2 and 3.

# RESPONSES TO ENERGY PROBE RESEARCH FOUNDATION INTERROGATORIES

**INTERROGATORY 14:**

**Reference(s):** **Exhibit 2B**
**No Reference – Distribution System Plan and CIR Plan**
**Metrics and Scorecard**

a) Please provide a consolidated Scorecard for the Distribution System Plan showing without LoS and MED, historic 2009-2013 and forecast 2014-2019 Metrics for SAIDI, SAIFI, CAIDI, MAIFI, CAPEX Implementation Index and ISA Implementation Index per Energy Probe IRs above (#12-13). If full historic Data are not available please so indicate and explain.
b) Please indicate whether THESL would commit to the above Metrics (part a) for assessing the Outcomes of its investments targeted towards service improvements and the Scorecard, based on these Metrics, as a measure of its Performance.
c) If not please provide an alternative set of Metrics and Scorecard.
d) Please provide a copy of THESLs OEB Scorecard for Electricity Distributors for 2013.
e) Please comment whether the OEB Scorecard should be used instead of or in parallel with the THESL Scorecard.

**RESPONSE:**

a) Please see the following table of measures proposed by Toronto Hydro for the purposes of the 2015-2019 CIR application, along with explanations regarding the information that Toronto Hydro is not in a position to provide. The following tables below represent the historical SAIFI, SAIDI, CAIDI and MAIFI metrics. The future

# RESPONSES TO ENERGY PROBE RESEARCH FOUNDATION INTERROGATORIES

projections can also be found in various responses to including Interrogatory 2A-EP-8 and Interrogatory 2A-EP-9. Toronto Hydro submits that the forward-looking projections should not be treated as firm targets for the utility's CIR period, in light of the OEB's and the utility's limited experience with capital-related performance measures.

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|
| SAIFI | 1.49 | 1.53 | 1.48 | 1.28 | 1.34 |
| SAIDI | 1.24 | 1.18 | 1.38 | 0.99 | 1.12 |
| MAIFI | 3.29 | 2.71 | 2.73 | 2.54 | 2.34 |
| CAIDI | 0.84 | 0.77 | 0.93 | 0.77 | 0.83 |

| | 2014 Forecast | 2015 Projection | 2016 Projection | 2017 Projection | 2018 Projection | 2019 Projection |
|---|---|---|---|---|---|---|
| SAIFI | 1.31 | 1.39 | 1.28 | 1.20 | 1.11 | 1.03 |
| SAIDI | 0.97 | 1.16 | 1.10 | 1.05 | 1.01 | 0.95 |
| MAIFI | 2.76 | 2.36 | 2.24 | 2.13 | 2.02 | 1.91 |
| CAIDI | 0.74 | 0.83 | 0.86 | 0.87 | 0.91 | 0.92 |

The historical CAPEX and ISA Implementation Index for total capital expenditures over the 2009 to 2014 is presented in the table below. Toronto Hydro notes that to illustrate the rolling basis of the CAPEX implementation measure proposed in Exhibit 2B Section C, the utility has assumed that its OEB-approved 2009-2014 capital expenditures have been adopted as a part of a single plan. A similar approach has been applied for the past ISA implementation measure requested in the interrogatory

# RESPONSES TO ENERGY PROBE RESEARCH FOUNDATION INTERROGATORIES

(please see response to interrogatory 2B-EP-13 for reasons why Toronto Hydro believes the ISA measure would be less optimal than the proposed CAPEX measure).

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| CAPEX Progress | 13% | 32% | 54% | 68% | 90% | 118% |
| ISA Progress | 12% | 29% | 54% | 66% | 87% | 113% |

As to the 2015-2019 CAPEX Implementation forecast, Toronto Hydro notes that this measure's purpose is to gauge the utility's actual progress at any given point in time relative to the aggregate amount of approved work, rather than to set a specific target. As such, the measure is expected to be an important reference point for Toronto Hydro throughout the plan term, but the utility submits that there is little practical value in forecasting the anticipated progress. Similar considerations apply to the ISA implementation measure proposed by Energy Probe and further discussed by Toronto Hydro in the response to Interrogatory 2B-EP-13.

b) The OEB's policy with respect to performance measurement in the area of capital planning and implementation is in the early stages, and in Toronto Hydro's assessment, establishing firm targets based on projections is premature for the purposes of the 2015-2019 CIR period, given the relative lack of experience in capital-related performance measurement on the part of the OEB and the utilities.

c) Exhibit 2B, Section C describes a set of 12 performance measures that the utility proposes to track for the 2015-2019 timeframe. Toronto Hydro submits that these measures and their proposed application over the 2015-2019 timeframe are consistent

# RESPONSES TO ENERGY PROBE RESEARCH FOUNDATION INTERROGATORIES

with the requirements of Section 5.2.3, Chapter 5 of the Ontario Energy Board's ("OEB") *Filing Requirements for Electricity Transmission and Distribution Applications ("Filing Requirements").*

d) Please see Appendix A to this Schedule for THESL's 2013 OEB Scorecard for Electricity Distributors.

e) Toronto Hydro understands that the OEB's Annual Scorecard of Distributors applies to all distributors irrespective of the rate-making model chosen under the RRFE. Please see Exhibit 2B, Section C for Toronto Hydro's proposal regarding the manner in which the DSP measures advanced in this application are to be used over the 2015-2019 CIR rate period.

# RESPONSES TO SCHOOL ENERGY COALITION INTERROGATORIES

**INTERROGATORY 19:**

**Reference(s): Exhibit 2B, Section C, p. 18**

For each between 2015-2019, please provide the proposed ' Capital Planning, Engineering & Support Spend (Dx Plant)' and 'Total Capital Spend (Dx Plant)'.

**RESPONSE:**

Please see the table below:

| | 2015 TEST | 2016 TEST | 2017 TEST | 2018 TEST | 2019 TEST |
|---|---|---|---|---|---|
| Capital Planning, Engineering & Support Spend (Dx Plant) | $ 28.0 | $ 28.5 | $ 29.3 | $ 30.0 | $ 30.7 |
| Total Capital Spend (Dx Plant) | $ 451.1 | $ 418.7 | $ 453.0 | $ 454.2 | $ 491.9 |
| Planning, Engineering & Support Cost Efficiency % | 6.20% | 6.81% | 6.46% | 6.60% | 6.24% |

As noted in Exhibit 2B, Section C, Toronto Hydro has not previously tracked its Capital Planning, Engineering and Support costs explicitly for the purpose of performance measurement, as proposed in this application. Accordingly, Toronto Hydro submits that given the relative novelty of the OEB's performance measurement requirements in the area of capital planning and implementation, it would be premature to set firm performance targets for the 2015-2019 period.

# TECHNICAL CONFERENCE UNDERTAKING RESPONSE TO VULNERABLE ENERGY CONSUMERS COALITION

**UNDERTAKING NO. J1.1:**

**Reference(s):**

To identify what incentives or penalties are applied with respect to meeting any of the metrics or targets that Toronto Hydro is proposing to report on as part of its plan.

**RESPONSE:**

Toronto Hydro has developed a set of 12 measures to monitor quality and drive continuous improvement in its distribution system planning and implementation work over the 2015-2019 planning horizon. The measures cover several distinct dimensions of the utility's capital planning and implementation processes and/or speak directly to the outcomes of such processes, motivated by customer needs, regulatory compliance, or corporate efficiency objectives. These metrics are intended to provide the OEB and other interested stakeholders a transparent view into what and how the utility conducts capital planning and execution, and monitor the associated activities. Together with reporting under the OEB Scorecard, Toronto Hydro believes that it has proposed a robust reporting and monitoring program for the 2015 – 2019 CIR term.

The measures and metrics underlying the Distribution System Plan are based on the OEB's Chapter 5 Filing Requirements, particularly section 5.2.3. The Filing Requirements do not require utilities to establish specific targets associated with these metrics. As such, the utility has not established specific incentives or penalties associated with its performance in respect of the proposed measures and metrics. Moreover, a number of the proposed metrics are still in early stages of their development and/or

# TECHNICAL CONFERENCE UNDERTAKING RESPONSE TO VULNERABLE ENERGY CONSUMERS COALITION

require further research/pilot studies to confirm viability. Accordingly, Toronto Hydro does not believe it would be appropriate to set targets and associated incentives and penalties for these metrics.

In addition, it is Toronto Hydro's assessment that establishing firm targets based on projections is premature for the purposes of the 2015-2019 CIR period, given the relative lack of experience in capital-related performance measurement on the part of the OEB and utilities. This is Toronto Hydro's position in relation to all 12 proposed measures, including those for which the utility provided the forecasted values.

Toronto Hydro notes, however, that several of the measures advanced, specifically SAIDI, SAIFI, FESI and Supply Chain Efficiency: Materials Handling On Cost, are related in various degrees to Toronto Hydro's internal Key Performance Indicators ("KPIs") as provided in response to the Interrogatory 1B-SIA-2. The utility's performance is measured internally on the basis of these and other KPIs that together form a balanced Corporate Scorecard, and are part of Toronto Hydro's performance management system.

Moreover, the SAIDI, SAIFI and Distribution System Plan Implementation Progress measures also form a part of the utility's OEB Distributor Scorecard, initiated by the OEB in 2013, and reproduced as a part of response to Interrogatory 2B-EP-14 part (d). These metrics include targets.

Following the conclusion of this proceeding, the utility intends to review its Corporate Scorecard for opportunities to further align the scorecard with regulatory reporting and monitoring activities.

## 7. 2018 CORPORATE SCORECARD UPDATE

In response to interrogatories 1B-SEC-8 and 4A-AMPCO-96, Toronto Hydro committed to providing the 2018 Corporate Scorecard. Table 5 below is the 2018 Corporate Scorecard updated to include 2018 results.

**Table 5: 2018 Corporate Scorecard**

| Key Performance Indicator | 2018 Target | | 2018 Result |
|---|---|---|---|
| **New Services Connected on Time** | 96.5% | | 99.8% |
| **Bill Accuracy** | 98.8% | | 99.3% |
| **First Contact Resolution** | 86% | | 89% |
| **Total Recordable Injury Frequency (TRIF)** | 1.45 | | 0.83 |
| **Employee Engagement** | 6.0 | | 7.1 |
| **SAIFI (# - Defective Equipment Only)** | 0.54 | | 0.40 |
| **SAIDI (Minutes - Defective Equipment Only)** | 29.00 | | 21.08 |
| **1-Year Distribution System Plan Investment ($M)** | **Lower Target** | **Upper Target** | 435.8 |
| | 418.0 | 451.0 | |
| **5-Year CIR Distribution System Plan Investment ($M)** | **Lower Target** | **Upper Target** | 1943.8 |
| | 1928.0 | 1957.2 | |
| **Consolidated Net Income ($M)** | 148.0 | | 167.3 |

**Table 4: 2018 Corporate Scorecard**

| Key Performance Indicator | 2018 Target | |
|---|---|---|
| New Services Connected on Time | 96.5% | |
| Bill Accuracy | 98.8% | |
| First Contact Resolution | 86% | |
| Total Recordable Injury Frequency (TRIF) | 1.45 | |
| Employee Engagement | 6.0 | |
| SAIFI (# - Defective Equipment Only) | 0.54 | |
| SAIDI (Minutes - Defective Equipment Only) | 29.00 | |
| 1-Year Distribution System Plan Investment ($M) | Lower Target | Upper Target |
| | 418.0 | 451.0 |
| 5-Year CIR Distribution System Plan Investment ($M) | Lower Target | Upper Target |
| | 1928.0 | 1957.2 |
| Consolidated Net Income ($M) | 148.0 | |

Note 1: 2018 Results not yet available.

**Table 5: 2019 Corporate Scorecard**

| Key Performance Indicator | 2019 Target | |
|---|---|---|
| New Services Connected on Time | 97.7% | |
| Bill Accuracy | 99.0% | |
| First Contact Resolution | 86% | |
| Total Recordable Injury Frequency (TRIF) | 1.4 | |
| Employee Engagement | 6.5 | |
| SAIFI (# - Defective Equipment Only) | 0.52 | |
| SAIDI (Minutes - Defective Equipment Only) | 27.71 | |
| 5-Year CIR Distribution System Plan Investment ($M) | Lower Target | Upper Target. |
| | 2341.2 | 2370.6 |
| Net Income ($M) | 160.6 | |

# TECHNICAL CONFERENCE UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

**UNDERTAKING NO. JTC3.26:**

**Reference(s): 1B-SEC-8**

To confirm whether in 2020 and the CIR plan the corporate scorecard will contain similar metrics or whether there is a plan that they will change materially.

**RESPONSE:**

Toronto Hydro cannot speculate as to the contents of its future corporate scorecards because those scorecards have not yet been determined.

# ORAL HEARING UNDERTAKING RESPONSE TO CONSUMERS COUNCIL OF CANADA

**UNDERTAKING NO. J2.4:**

**Reference(s):**

To review which of the key performance indicators for 2014 have been finalized and in respect of those, to produce the final number, and to provide 2015 numbers if available.

**RESPONSE:**

Toronto Hydro's preliminary 2014 Key Performance Indicator (KPI) results and 2015 KPI targets are reproduced below. The 2014 results for the Net Income, Productivity: OPEX and THESL Regulated Capital measures are not available at this time, as this information has not yet been audited. However, Toronto Hydro expects these results to exceed target. Further, and as discussed on pp. 98-99 of the Day 2 Oral Hearing transcript, all 2014 KPI results are preliminary until they receive approval from the utility's Board of Directors, expected in March of 2015.

**2014 Key Performance Indicator Results: Corporate Scorecard**

| KPI | 2014 Target | 2014 Result |
|---|---|---|
| Enhanced Customer Engagement | 214,000 | [redacted] |
| First Call Resolution | 78% | [redacted] |
| Safety: Total Recordable Injury Frequency | 2.58 | [redacted] |
| Attendance | 5.75 | [redacted] |
| SAIFI | 1.53 | [redacted] |
| SAIDI | 72.50 | [redacted] |
| Key Accounts: Worst Performing Feeders | 49 | [redacted] |
| Productivity: Fleet Utilization (units) | 663 | [redacted] |
| Productivity: Facilities – Occupied Square Footage Reduction | 3,930 | [redacted] |

# ORAL HEARING UNDERTAKING RESPONSE TO CONSUMERS COUNCIL OF CANADA

| KPI | 2014 Target | 2014 Result |
|---|---|---|
| Productivity: Operating Expenses ($M) | $260.2 | [redacted] |
| Net Income ($M) | $103.6 | [redacted] |
| THESL Regulated Capital | $395.0 | [redacted] |

1 **2015 Key Performance Indicator Measures and Targets: Corporate Scorecard**

| KPI | 2015 Target |
|---|---|
| Enhanced Customer Engagement | 245,000 |
| First Call Resolution | 81% |
| Safety: Total Recordable Injury Frequency | 1.80 |
| Attendance | 4.50 |
| SAIFI | 1.50 |
| SAIDI | 68.00 |
| Key Accounts: Worst Performing Feeders[1] | 14.00 |
| Productivity: Operating Expenses ($M) | $275.6 |
| Net Income ($M) | $100.1 |
| THESL Regulated Capital | $436.6 |

[1] Unlike the 2014 Key Accounts Worst Performing Feeders KPI, the 2015 measure includes sustained interruptions only.

# RESPONSES TO SUSTAINABLE INFRASTRUCTURE ALLIANCE OF ONTARIO INTERROGATORIES

**INTERROGATORY 2:**

**Reference(s): Exhibit 1B, Tab 2, Schedule 5, Page 24**

THESL states that it "maintains a comprehensive framework of Key Performance Indicators ("KPIs") that is integrated with the utility's performance pay program and is a part of a Balanced Corporate Scorecard." Please provide THESL's scorecards with targets and results for 2011, 2012, 2013, and 2014YTD.

**RESPONSE:**

Please find the requested information attached as Appendix A to this response.

| Key Performance Indicator (KPI) | 2011 Target | 2011 Results |
|---|---|---|
| Safety - My Goal is Zero | 4.50 | 2.49 |
| Safety Leadership | 95% | 107% |
| Attendance (# days) | 7.75 | 7.09 |
| Operating Expenses ($M) | $259.9 | $243.6 |
| Net Income ($M) | $73.0 | $95.9 |
| Distribution Plant Capital Per Unit ($K) | $1.18 | $0.99 |
| SAIDI | 82 | 86 |
| SAIFI | 1.7 | 1.6 |
| Worst Performing Feeders (WPF) | 37 | 35 |
| Call Centre Service Index | 83% | 83% |

| Key Performance Indicator (KPI) | 2012 Target | 2012 Results |
|---|---|---|
| Safety - Total Recordable Injury Frequency (TRIF) | 3.40 | 2.15 |
| Employee Engagement | 8.00 | 10.70 |
| Net Income ($M) | $89.1 | $113.8 |
| SAIDI | 93.70 | 61.67 |
| SAIFI | 1.76 | 1.40 |
| Worst Performing Feeders (WPF) | 40.00 | 29.00 |
| THESL Regulated Capital ($M) | $240.0 | $261.3 |
| Conservation Demand Management (CDM) | 49.0 | 53.2 |
| Enhanced Customer Engagement (ECE) | 110% | 125% |
| Call Centre Service Response | 70% | 78% |

| Key Performance Indicator (KPI) | 2013 Target | 2013 Results |
|---|---|---|
| Safety - Total Recordable Injury Frequency (TRIF) | 2.98 | 2.26 |
| Employee Engagement | 8.00 | 11.10 |
| Net Income ($M) | $106.6 | $121.2 |
| THESL Regulated Capital ($M) | $335.1 | $393.2 |
| Worst Performing Feeders (WPF) | 38 | 33 |
| SAIDI | 82.54 | 68.64 |
| SAIFI | 1.61 | 1.44 |
| Conservation Demand Management (CDM) | 45.0 | 54.5 |
| Enhanced Customer Engagement (ECE) | 120% | 129% |
| Call Centre Service Response | 76% | 82% |

| Key Performance Indicator (KPI) | 2014 Target | 2014 Results |
|---|---|---|
| Enhanced Customer Engagement (ECE) | 214,000 | N/A |
| First Call Resolution | 78% | N/A |
| Safety - Total Recordable Injury Frequency (TRIF) | 2.58 | N/A |
| Attendance | 5.75 | N/A |
| SAIFI | 1.53 | N/A |
| SAIDI | 72.50 | N/A |
| Key Accounts - Worst Performing Feeders (KAWPF) | 49 | N/A |
| Productivity - Fleet Utilization | 663 | N/A |
| Productivity - Facilities - Occupied SqFt. Reduction | 3,930 | N/A |
| Productivity - Operating Expenses | $260.2 | N/A |

# TECHNICAL CONFERENCE UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

**UNDERTAKING NO. JTC3.27:**

**Reference(s): 1B-SEC-8**

To provide the basis for the distribution system plan investments in 2017 and 2018 and 2019.

**RESPONSE:**

In reviewing the transcript from the Technical Conference, Toronto Hydro interprets this undertaking as a request to provide an explanation of the capital related metrics on the utility's annual corporate scorecards, filed in the response to interrogatory 1B-SEC-8. There are three different capital related metrics on the corporate scorecards: THESL Regulated Capital (2016 and 2017); 1-Year Distribution System Plan Investment (2018); and 5-Year CIR Distribution System Plan Investment (2018 and 2019). Each of these metrics are explained below.

**Table 1: Scorecard Measures Descriptions**

| Year | Scorecard Measure | Description |
|---|---|---|
| **2015** | THESL Regulated Capital | This metric tracked the capital expenditure plan for the 2015 fiscal year, gross of capital contributions received from customers, and excluding major projects (e.g. Operational Centers Consolidation Program), capital contributions to HONI, capital expenditures tracked in deferral and variance accounts (e.g. Externally Driven Capital), and certain grid modernization projects (e.g. Local Demand Response). |

| Year | Scorecard Measure | Description |
|---|---|---|
| **2016 & 2017** | THESL Regulated Capital | This metric tracked the capital expenditure plan for the 2016 and 2017 fiscal year, net of capital contributions received from customers, and excluding major projects (e.g. Copeland), capital contributions to HONI, capital expenditures tracked in deferral and variance accounts (e.g. Externally Driven Capital), and certain grid modernization projects (e.g. Local Demand Response). |
| **2018** | 1 Year Distribution System Plan Investment | This metric tracked the execution of the 2018 capital expenditure plan that flowed from the capital-related revenue requirement approved by the OEB in Toronto Hydro's last rebasing application. It did not include capital expenditures reflected in deferral and variance accounts (e.g. Externally Driven Capital). |
| **2018 & 2019** | 5 Year Distribution System Plan Investment | This metric tracked the execution of the 2015-2019 capital expenditure plan that flowed from the capital related revenue requirement approved by the OEB in Toronto Hydro's last rebasing application. It did not include capital expenditures reflected deferral and variance accounts (e.g. Externally Driven Capital). |