Andrew J. Sasso
Director, Regulatory Affairs
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.7834
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

June 28, 2019

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

Dear Ms. Walli:

Re: Toronto Hydro-Electric System Limited ("Toronto Hydro")
Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Undertaking Response for J1.4 and Request for Corrections to the Oral Hearing Transcript- Day 1
OEB File No. EB-2018-0165

Please find enclosed a copy of Toronto Hydro's response to undertaking J1.4.

Toronto Hydro has reviewed the transcript from Day 1 (June 27, 2019) of the Oral Hearing and requests for the transcript to be corrected for the following errors:

- Page 29, line 6, word "CRV" should read "CIR"
- Page 107, lines 26-27 states "So the Kinectrics ACM methodology does also use H as an input in addition to the condition information." This phrase should be replaced with "So the Kinectrics ACA methodology does also use age as an input in addition to the condition information."
- Page 131, lines 19-20 should read "Toronto Hydro's offer to connect policy is that offers to connect are firm offers."

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

Respectfully,

Andrew J. Sasso
Director, Regulatory Affairs
Toronto Hydro-Electric System Limited

cc: Lawrie Gluck, OEB Case Manager
Michael Miller, OEB Counsel
Parties of Record
Amanda Klein, Toronto Hydro
Daliana Coban, Toronto Hydro
Charles Keizer, Torys

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 2, 2019

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

Dear Ms. Walli:

Re: Toronto Hydro-Electric System Limited ("Toronto Hydro")
Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Undertaking Responses for Day 1 and Request for Corrections to the Oral Hearing Transcript- Day 2
OEB File No. EB-2018-0165

Please find enclosed a copy of Toronto Hydro's response to undertakings provided on Day 1 of the Oral Hearing. The responses to undertaking J1.3 and J.16 will be filed tomorrow.

Toronto Hydro has reviewed the transcript from Day 2 (June 28, 2019) of the Oral Hearing and requests for the transcript to be corrected for the following errors:

- Page 55, line 12, word "convergence" should be "conversion"; and
- Page 56, line 2, word "convergence" should be conversion."

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

cc: Lawrie Gluck, OEB Case Manager
Michael Miller, OEB Counsel
Parties of Record
Amanda Klein, Toronto Hydro
Daliana Coban, Toronto Hydro
Charles Keizer, Torys

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 3, 2019

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

Dear Ms. Walli:

Re: Toronto Hydro-Electric System Limited ("Toronto Hydro")
Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Undertaking Response for J1.3 from Day 1
OEB File No. EB-2018-0165

Please find enclosed a copy of Toronto Hydro's response to undertaking J1.3 provided on Day 1 of the Oral Hearing.

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

cc: Lawrie Gluck, OEB Case Manager
Michael Miller, OEB Counsel
Parties of Record
Amanda Klein, Toronto Hydro
Daliana Coban, Toronto Hydro
Charles Keizer, Torys

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 3, 2019

Via RESS

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

Dear Ms. Walli:

Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro") Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Responses to Undertaking J1.6 and Day 2 Undertakings

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Please find enclosed Toronto Hydro's response to undertaking J1.6 provided on Day 1 of the Oral Hearing, as well as the responses to all the undertakings provided on Day 2.

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 5, 2019

Via RESS

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

Dear Ms. Walli:

Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro")
Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Undertaking Responses for Day 3 of the Oral Hearing and Request for Corrections to the Oral Hearing Transcripts for Day 3 and 4

Please find enclosed Toronto Hydro's responses to undertakings J3.1 and J3.3 provided on Day 3 of the Oral Hearing. Toronto Hydro is filing its confidential responses to undertakings JX3.4 and JX3.5 under separate cover.

In addition, Toronto Hydro has reviewed the transcripts from Day 3 and 4 (July 3rd and 4th, respectively) and requests that the transcripts be corrected for the following errors:

Day 3 (July 3, 2019)

- Page 8, line 16: "133.8" should state "13.8" [Redacted Public Transcript];
- Page 81, lines 9, insert word "in" following "resulted" [Redacted Public Transcript];
- Page 124, line 2, "CEA" should state "ACA" [Redacted Public Transcript]; and
- Page 144, line 26, "H" should be replaced with "age" [Redacted Public Transcript].

Day 4 (July 4, 2019)

- Page 37, line 13, "denomination" should state "combination;"
- Page 65, line 1, "innovative" should state "intrusive;"

- Page 74, line 12, “course” should state “coarse;”
- Page 118, lines 17, 22, 26 and 28: “ACM” should state “ACA;” and
- Page 131, line 6, “have” should state “half.”

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 8, 2019

Via RESS

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

Dear Ms. Walli:

Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro") Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Undertaking Responses for J3.2 and Day 4 of the Oral Hearing and Request for Corrections to the Oral Hearing Transcripts for Day 5

Please find enclosed the response to undertaking J3.2 and responses to all the undertakings provided on Day 4 (July 4, 2019) of the Oral Hearing.

Further, Toronto Hydro has reviewed the public transcript from Day 5 (July 5, 2019) and requests that the transcript be corrected for the following errors:

- Page 2, lines 13-14 states: "consultants used in their FAR 20 analysis for two-20 to two-24 […]" should state "consultants used in their analysis for 2020 to 2024;"
- Page 27, line 24 states: "$18.3" should state "8.3;"
- Page 29, line 14 states: "be under legal regulatory affairs" should state "be under regulatory affairs;"
- Page 31, line 15 states: "incremental filing requirements" should state "and incremental filing requirements;"
- Page 34, line 20 states: "there is a lots workforce" should state "there is a lot of workforce;"
- Page 46, line 18 states: "TPP provider" should state "3PP provider;"
- Page 107, line 2 states: "quarter basis" should state "order basis;"
- Page 122, line 21; page 123, line 28; page 124, lines 1, 6, 8, 12 states: "CCMB" should state "CC&B."

- Page 135, line 3 states: “I think all we can see, Mr. Rubenstein” should state “I think all we can say Mr. Rubenstein;”
- Page 146, line 22 states: “Mr. Paradis” should state “Ms. Page;”
- Page 149, line 21 states: “filing requirements, benchmarking” should state “filing requirements for benchmarking;”
- Page 155, lines 5-9 states: “However, when you lock at our 2018 pole and rentals as part of the revenue offsets component, are you comparing those to the 2018 bridge year versus 2018 actuals, they were not increasing that line of revenue offsets. It is about $2 million” should state “However, when you look at our 2018 pole and duct rentals as part of the revenue offsets component, and you compare the 2018 bridge year versus 2018 actuals, there was an increase in that line of revenue offsets. It is about $2 million;” and
- Page 155, line 26: “extended agreements” should state “externally driven.”

In addition, Toronto Hydro has reviewed the confidential transcript from Day 5 (July 5, 2019) of the Oral Hearing and confirms that only the following references need to be redacted for confidentiality:

- Page 76, lines 4-9;
- Page 86, lines 4-14;
- Page 87, lines 9-21; and
- Page 100, lines 15-21 and 25-26.

Under separate cover, Toronto Hydro is filing a request for two corrections to the confidential version of the transcript.

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 9, 2019

Via RESS

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

Dear Ms. Walli:

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

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Toronto Hydro is filing a correction to Appendix A of its response to Undertaking J4.11, which was originally filed yesterday. The column showing the percentage compound growth rate increase was inadvertently omitted from the original filing.

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 9, 2019

Via RESS

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

Dear Ms. Walli:

Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro") Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Undertaking Responses for Day 5 of the Oral Hearing and Request for Corrections to the Oral Hearing Transcripts for Day 6

Please find enclosed the responses to all the undertakings provided on Day 5 (July 5, 2019) of the Oral Hearing.

Further, Toronto Hydro has reviewed the transcript from Day 6 (July 8, 2019) and requests that the transcript be corrected for the following errors:

- Page 6, line 16 states: "fully buried cost" should state "fully burdened cost;"
- Page 11, line 5 states: "our on-the clock utilization rate" should state "around the clock utilization rate;"
- Page 22, line 5 states: "inclined" should state "in-kind;"
- Page 52, lines 18-19 state: "contact voltage is carrying costs" should state "contact voltage scanning costs;" and
- Page 153, line 13 states "Ms. Chaplin" should state "Ms. Chan."

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

Respectfully,

Daliana Coban

Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 10, 2019

Via RESS

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

Dear Ms. Walli:

Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro") Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Undertaking Responses for Day 6 of the Oral Hearing and Request for Corrections to the Oral Hearing Transcripts for Day 7

Please find enclosed Toronto Hydro's responses to undertakings provided on Day 6 (July 8, 2019) of the Oral Hearing, except undertakings J6.7 and J6.12 which Toronto Hydro expects to file tomorrow. Under separate cover, Toronto Hydro requests that a portion of the response to undertaking J6.6 be treated confidentially, pursuant to the OEB's Rules of Practice and Procedure.

Toronto Hydro has reviewed the transcript from Day 7 (July 9, 2019) and requests that the transcript be corrected for the following errors:

- Page 80, line 23 states: "1.351 million" should state "billion;"
- Page 112, line 20 states: "ways to he gauge customers" should state "ways to engage customers;"
- Page 122, line 15 states: "load support for innovation" should state "low support;"
- Page 122, line 26 states: "investoring and monitoring control equipment" should state "investing in monitoring and control equipment;"
- Page 147, line 11 states: "a multi-growth service" should state "a multi-year cost of service;"
- Page 161, lines 24-25 state: "your of our IR responses" should state "one of our IR responses;"
- Page 189, lines 15-16 state "…a mum of the metrics have continuity" should state "…a number of the metrics have continuity;" and

- Page 193, line 26 states “holing the averages steady” should state “holding.”

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 11, 2019

Via RESS

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

Dear Ms. Walli:

Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro") Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Responses to Day 7 Undertakings

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Please find enclosed Toronto Hydro's responses to all undertakings provided on Day 7 except undertakings J7.5 and J7.6, which will be filed later today along with undertakings J6.7 and J6.12.

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 11, 2019

Via RESS

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

Dear Ms. Walli:

**Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro")
Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Responses to Undertakings J6.7, J6.12, J7.5, J7.6 and Correction to J5.6**

Please find enclosed Toronto Hydro's responses to all remaining undertakings from Day 6 and Day 7, namely J6.7, J6.12, J7.5 and J7.6.

In addition, Toronto Hydro is filing a minor correction to undertaking J5.6, which was originally filed on July 9, 2019. The original response by error referred to Toronto Hydro's performance on 11 of the 12 asset categories evaluated by the UMS Group in its unit cost benchmarking study, whereas the correct reference should be to 10 of 11 asset categories. The correction is marked by /C in the revised response.

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 12, 2019

Via RESS

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

Dear Ms. Walli:

Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro") Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Undertaking Responses for Day 8 of the Oral Hearing and Request for Corrections to the Oral Hearing Transcript for Day 8

Please find enclosed Toronto Hydro's responses to undertakings provided on Day 8 (July 11, 2019) of the Oral Hearing, except undertakings J8.2, J8.6, and J8.8.

Toronto Hydro has reviewed the transcript from Day 8 and requests that the transcript be corrected for the following errors:

- Page 80, line 2 states: "capital count" should state "customer count;"
- Page 80, line 9 states: "efficiency in productivity" should state "efficiency and productivity;"
- Page 89, line 17 states: "group 2 DVs" should state "group 2 DVAs;"
- Page 118, line 11 states: "They're going to be off by magnitudes" should state "They're not going to be off by magnitudes;"
- Page 189, line 25 states: "passed 55" should state "PAS 55;"
- Page 189, line 26 states: "British standard, institute" should state "British Standards Institution;"
- Page 190, line 2 states: "International Standards Organization" should state "International Organization for Standardization;" and
- Page 194, line 16 states: "intelligent tools" should state "intelligence tools."

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 15, 2019

Via RESS

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

Dear Ms. Walli:

Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro") Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Responses to Undertakings Day 8 and Undertakings, Request for Corrections to Day 9 Transcript, Request for Redactions to Day 3 Transcript

---

Please find enclosed Toronto Hydro's responses to all remaining undertakings from Day 8 (July 11, 2019) of the Oral Hearing, namely J8.2, J8.6, J8.8, and J8.10, and all undertakings provided on Day 9 (July 12, 2019).

Toronto Hydro has reviewed the transcript from Day 9 and requests that the transcript be corrected for the following errors:

- Page 15, line 6 states: "confidence" should state "competence;"
- Page 16, lines 25 states: "they'd" should be "they're;"
- Page 19, line 10 states: "title" should state "titled;"
- Page 20, line 19 states: "works" should state "words;" and
- Page 34, line 12 states: "mace" should state "place."

In addition, Toronto Hydro has reviewed the confidential transcript from Day 3 and proposes to redact the following passages for confidentiality, in accordance with section 6.2.4 of the OEB's *Practice Direction on Confidential Filings*:

- Page 101, lines 5-8 after "determine;"
- Page 103, lines 19-22 before "Am I…;"
- Page 104, lines 11-18;

- Page 108, lines 8-9 after “costs” and before “those;”
- Page 108, lines 12-22;
- Page 109, lines 2-6 after “is” and before “That;” and
- Page 109, lines 9-18.

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 15, 2019

Via RESS

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

Dear Ms. Walli:

**Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro")
Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution Rates and Charges – Responses to Day 10 Undertakings**

Please find enclosed Toronto Hydro's responses to all undertakings from Day 10 (July 15, 2019) of the Oral Hearing.

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

Respectfully,

Daliana Coban
Manager, Regulatory Law
Toronto Hydro-Electric System Limited

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

Daliana Coban
Director, Regulatory Applications
and Business Support
Toronto Hydro-Electric System Limited
14 Carlton Street
Toronto, ON M5B 1K5

Telephone: 416.542.2627
Facsimile: 416.542.3024

regulatoryaffairs@torontohydro.com
www.torontohydro.com

July 31, 2019

Via RESS

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

Dear Ms. Walli:

**Re: EB File No. EB-2018-0165, Toronto Hydro-Electric System Limited ("Toronto Hydro")
Custom Incentive Rate-setting ("Custom IR") Application for 2020-2024 Electricity Distribution
Rates and Charges – Updated and Consolidated Responses to Oral Hearing Undertakings**

Please find attached an updated and consolidated package of the undertaking responses filed during the Oral Hearing. This package includes two updates:

- An updated table of evidence concordance filed in response to Undertaking J1.1; and
- A revised response to Undertaking J1.2 to include the revenue requirement impact of the updated regulatory costs in OEB Appendix 2-M, which is being filed today under separate cover.

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

Respectfully,

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

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

ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J1.1:

Reference(s):

a) Update table of concordance with any further changes, once proceedings finished (no later than the argument-in-chief)

b) ADDENDUM: To provide updated information to Undertaking J1.1

RESPONSE:

a) Please refer to Appendix A to this response.

b) Toronto Hydro notes that the OEB Panel requested an update to the utility's regulatory costs with this addendum. Please refer to the updated OEB Appendix 2-M (Regulatory Cost Schedule) table that was filed concurrently with this response.

Appendix A: Table of Concordance (August 2, 2019), Toronto Hydro 2020-2024 Custom IR Application, OEB File No. EB-2018-0165

Pre-Filed Evidence: Exhibits 1A-9 (filed August 15, 2018)

Evidence	Revised Evidence	Numerical Differences
Table of Contents **(Exhibit 1A, Tab 1, Schedule 1)** **Filed: August 15, 2018** **Revised: September 14, 2018**	Updated the Table of Contents to reflect the evidence updates submitted on September 14, 2018.	N/A
Electricity Distributor Scorecard and 2015-2019 Distribution System Plan Performance Measures **(Exhibit 1B, Tab 2, Schedule 2)** **Filed: August 15, 2018** **Revised: April 30, 2019**	Revised the Serious Electrical Incident Index measure of Rate of incidents per 1,000 km of line.	"Toronto Hydro has surpassed the distributor targets, with only one reporting incident in the three years, which results in a ratio of ~~0.070~~ 0.035 incidents per 1,000 km of line for 2017."
Customer Summary **(Exhibit 1B, Tab 3, Schedule 3)** **Filed: August 15, 2018** **Revised: August 22, 2018**	Revised the Customer Summary to clarify under the section "Costs of the Plan" that the average annual increase in distribution rates refers to the average increase *per month*.	N/A
Letters of Comment Responses **(Exhibit 1B, Tab 3, Schedule 5)** **Filed: August 15, 2018** **Revised: April 30, 2019**	Revised to include letters of comment filed with the OEB and Toronto Hydro's responses.	N/A
Rate Framework **(Exhibit 1B, Tab 4, Schedule 1)** **Filed: August 15, 2018** **Revised: September 14, 2018**	Revised the Rate Framework evidence to describe the Earnings Sharing Mechanism that Toronto Hydro proposes to continue in 2020-2024	N/A

<table>
<tr>
<td>Rate Base Overview
(Exhibit 2A, Tab 1, Schedule 1)
Filed: August 15, 2018
Revised: April 30, 2019</td>
<td rowspan="3">Revised the Gross and Net Property, Plant and Equipment (“PP&E”), the Fixed Asset Continuity Schedules, the Gross Assets Breakdown by USoA, and the Summary of Depreciation Expense to show Customer Specific Energy Storage Systems as being recovered under Contributions and Grants, consistent with Toronto Hydro response to undertaking JTC3.1.</td>
<td rowspan="3">The numerical differences cannot be summarized in this table. Please refer to the updated schedules.</td>
</tr>
<tr>
<td>OEB Appendix 2-BA: Fixed Asset Continuity Schedule – MIFRS
(Exhibit 2A, Tab 1, Schedule 2)
Filed: August 15, 2018
Revised: April 30, 2019</td>
</tr>
<tr>
<td>Gross Assets Breakdown by Major Plant Account
(Exhibit 2A, Tab 2, Schedule 1, Appendix A)
Filed: August 15, 2018
Revised: April 30, 2019</td>
</tr>
<tr>
<td>Capital Expenditure Summary
(Exhibit 2B, Section E4)
Filed: August 15, 2018
Revised: April 30, 2019</td>
<td>Revised Table 2, Costs and Gains Associated with the OCCP Program, to correct a drafting error and align with the information in Exhibit 9, Tab 1, Schedule 1.</td>
<td>Table 2: Costs and Gains Associated with the OCCP Program
<table>
<tr><th></th><th>Planned</th><th>Actual</th><th>Variance</th></tr>
<tr><td>Net gain from Sale</td><td>$72.5M</td><td><s>$133.9</s>M
$142.2M</td><td><s>$61.4M</s>
$69.7M</td></tr>
</table>
</td>
</tr>
<tr>
<td>Underground System Renewal – Downtown
(Exhibit 2B, Section E6.3)
Filed: August 15, 2018
Revised: April 30, 2019</td>
<td>Revised the forecast volumes of lead based cables to be replaced over the 2020-2024 period.</td>
<td>Due to the size of the information, the numerical differences cannot be summarized for the purposes of this table. Please refer to the updated schedule.</td>
</tr>
</table>

Stations Expansion **(Exhibit 2B, Section E7.4)** **Filed: August 15, 2018** **Revised: April 30, 2019**	Revised sentence re Toronto Hydro's capital contribution to Hydro One for the Horner TS Expansion to correct a drafting error.	"Toronto Hydro plans to make a capital contribution to Hydro One of ~~$41~~ $34.4 million over the 2020-2024 period for a large-scale expansion project at Horner TS."
Load, Customers, and Revenue **(Exhibit 3, Tab 1, Schedule 1)** **Filed: August 15, 2018** **Revised: July 8, 2019**	Revised Table 8, Forecast versus Actual Purchased Energy, to correct forecast and actual load data for 2015-2017.	Due to the size of the information, the numerical differences cannot be summarized for the purposes of this table. Please refer to the updated schedule.
OEB Appendix 2-M: Regulatory Cost Schedule **(Exhibit 4A, Tab 2, Schedule 18, Appendix A)** **Filed: August 15, 2018** **Revised: January 21, July 3, and July 31, 2019**	January 21: Revised the Regulatory Cost Schedule to correct the drafting errors as noted in the response to interrogatory 4A-Staff-122. July 3: Revised the Regulatory Cost Schedule to update Toronto Hydro's Custom IR application costs. July 31: Revised and refiled the updated Regulatory Cost Schedule concurrently with the response to Undertaking J1.1.	Due to the size of the information, the numerical differences from the July 31 revisions cannot be summarized for the purposes of this table. Please refer to the updated OEB Appendix 2-M (Regulatory Cost Schedule) table that was filed concurrently with the response to Undertaking J1.1.
Depreciation and Amortization **(Exhibit 4B, Tab 1, Schedule 1)** **Filed: August 15, 2018** **Revised: September 14, 2018**	Revised the discussion in Exhibit 4B, Tab 1, Schedule 1 to align with Appendix 2-BB that Toronto Hydro submitted on September 14, 2018.	N/A
Summary of Depreciation Expense **(Exhibit 4B, Tab 1, Schedule 1, Appendix A)** **Filed: August 15, 2018** **Revised: April 30, 2019**	Revised the Gross and Net Property, Plant and Equipment ("PP&E"), the Fixed Asset Continuity Schedules, the Gross Assets Breakdown by USoA, and the Summary of Depreciation Expense to show Customer Specific Energy Storage Systems as being recovered under Contributions and Grants, consistent with Toronto Hydro response to undertaking JTC3.1.	The numerical differences cannot be summarized in this table. Please refer to the updated schedules.

OEB Appendix 2-C: Depreciation and Amortization Expense **(Exhibit 4B, Tab 1, Schedule 1, Appendix B)** **Filed: August 15, 2018** **Revised: April 30, 2019**	Revised the Depreciation and Amortization Expense tables to correct errors related to ICM asset transfers and derecognition.	Due to the size of the Depreciation and Amortization Expense tables, the numerical differences cannot be summarized for the purposes of this table. Please refer to the updated schedule.
2023 Revenue Requirement Workform **(Exhibit 6, Tab 1, Schedule 5)** **Filed: August 15, 2018** **Revised: September 14, 2018**	Revised the workform to correct a summation error.	The numerical differences cannot be summarized in this table. Please refer to the updated workform.
Cost Allocation Model **(Exhibit 7, Tab 1, Schedule 3)** **Filed: August 15, 2018** **Revised: September 14, 2018**	Revised the Cost Allocation Model to correct reference errors in the original filing.	The numerical differences cannot be summarized in this table. Please refer to the updated tables.
Specific Service Charges **(Exhibit 8, Tab 2, Schedule 1)** **Filed: August 15, 2018** **Revised: September 14, 2018**	Revised the discussion in Exhibit 8, Tab 2, Schedule 1 to align with Toronto Hydro's confirmation that it is not required to file a completed Pole Attachment Workform for a utility-specific rate.	N/A
Deferral and Variance Accounts **(Exhibit 9, Tab 1, Schedule 1)** **Filed: August 15, 2018** **Revised: September 14, 2018**	Revised the Deferral and Variance Accounts evidence to include a request and rationale to continue certain Group 2 accounts.	N/A
Rate Riders Development **(Exhibit 9, Tab 3, Schedule 1)** **Filed: August 15, 2018** **Revised: September 14, 2018**	Revised the rate rider table to provide an explanation of the differing amounts presented in other related areas of the Application.	N/A

Interrogatory Responses with respect to Pre-Filed Evidence (filed January 21, 2019)

<table>
<tr><th>Evidence</th><th>Revised Evidence</th><th>Numerical Differences</th></tr>
<tr><td colspan="3">Responses to Association of Major Power Consumers in Ontario Interrogatories</td></tr>
<tr><td>1B-AMPCO-2(a)
Filed: January 21, 2019
Revised: April 30, 2019</td><td>Revised the number of customer outages in 2018.</td><td>Table 1: Number of outages 2006-2018
<table><tr><th>Year</th><th>Customer Interruptions (Excl. LoS, MEDs)</th></tr><tr><td>2018</td><td><s>1,247,848</s> 869,713</td></tr></table></td></tr>
<tr><td>1B-AMPCO-4
Filed: January 21, 2019
Revised: January 30, 2019</td><td>Revised the response due to the erroneous provision of a confidential document in the original filing.</td><td>N/A</td></tr>
<tr><td colspan="3">Responses to School Energy Coalition Interrogatories</td></tr>
<tr><td>1B-SEC-3
Filed: January 21, 2019
Revised: February 1 and July 12, 2019</td><td>February 1, 2019: Updated redacted materials in Appendix D to reflect additional redactions to protect personal information to specific identifiable individuals.
July 12, 2019: Revised the response to correct a minor typographical error in respect of item F and include, as Appendix G, a benchmarking analysis comparing compensation rates for unionized employees across various Canadian utilities, which was inadvertently omitted from the original filing.</td><td>N/A</td></tr>
<tr><td>2B-SEC-56, Table 2
Filed: January 21, 2019
Revised: April 30, 2019</td><td>Revised the number of wholesale meters to be replaced in 2022.</td><td>Updated the number of wholesale meters in 2022 from 70 to 0.</td></tr>
</table>

4A-SEC-87 **Filed: January 21, 2019** **Revised: February 12, 2019**	Revised the response following the discussion at the Issues Conference.	N/A
4A-SEC-90, Appendix A **Filed: January 21, 2019** **Revised: February 1, 2019**	Updated redacted materials to reflect additional redactions to protect personal information to specific identifiable individuals.	N/A

Technical Conference Undertaking Responses (filed March 4, 2019 and March 29, 2019)

Evidence	Revised Evidence	Numerical Differences
JTC4.32.7, Appendix A **Filed: March 13, 2019** **Revised: March 15, 2019**	Revised Appendix A to replace a wrong file that was inadvertently attached to Appendix A with the correct spreadsheet.	N/A

Application Update Evidence: Exhibit U (filed April 30, 2019)

Evidence	Revised Evidence	Numerical Differences
CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones **(Exhibit U, Tab 3, Schedule 1, Appendix B)** **Filed: April 30, 2019** **Revised: June 11, 2019**	**Revised Table 2, Program and Milestone Schedule, to correct the originally provided values in Appendix B, as noted in the response to interrogatory U-VECC-78.**	**Due to the size of the Program and Milestone Schedule, the numerical differences cannot be summarized for the purposes of this table. Please refer to the updated appendix.**

Reconciliation of CDM Verified Results and Cumulative CDM Savings Used in Load Forecast **(Exhibit U, Tab 3, Schedule 1, Appendix C)** **Filed: April 30, 2019** **Revised: June 11, 2019**	**Revised Tables 1-3 regarding IESO verified CDM savings to display the correct persistent savings for 2015 and 2016, as noted in the response to interrogatory U-VECC-79.**	**Due to the size of the relevant tables, the numerical differences cannot be summarized for the purposes of this table. Please refer to the updated appendix.**

Evidence Overview Presentation (delivered May 3, 2019)
There were no updates or corrections made to this evidence.

Responses to Interrogatories pertaining to Application Update Evidence and Evidence Overview Presentation (filed June 11, 2019)

Evidence	Revised Evidence	Numerical Differences
Responses to Ontario Energy Board Staff		
U-Staff-168 **Filed: June 11, 2019** **Revised: June 14, 2019**	Revised language to correct certain dates listed in the response.	N/A
Responses to Association of Major Power Consumers in Ontario		
U-AMPCO-124 **Filed: June 11, 2019** **Revised: June 12, 2019**	Revised response to provide the requested CEA Reports for 2017 and 2018 on a confidential basis.	N/A

Oral Hearing Undertaking Responses (filed June 28 – July 15, 2019)

Evidence	Revised Evidence	Numerical Differences
Responses to School Energy Coalition		
J1.4 **Filed: June 28, 2019**	Revised asset condition tables in certain program evidence that were filed on August 15, 2018 and revised on June 28, 2019, the date undertaking J1.4 was filed. **Exhibit 2B, E6.1 at page 10, Table 6** **Exhibit 2B, E6.2 at page 14, Table 7 and page 22, Table 8** **Exhibit 2B, E6.5 at page 6, Table 5**	The numerical differences cannot be summarized in this table. Please refer to the updated tables.
Responses to Energy Probe		
J4.11 **Filed: July 8, 2019** **Revised: July 9, 2019**	Revised Appendix A to the response to include the column showing percentage compound growth rate increase that was inadvertently omitted from the original filing.	N/A
Responses to Power Workers Union		
J5.6 **Filed: July 9, 2019** **Revised: July 11, 2019**	Revised the response to refer to Toronto Hydro's performance on 10 of the 11 asset categories evaluated by the UMS Group in its unit cost benchmarking study; the original response by error referred to 11 of 12 asset categories.	N/A

TECHNICAL CONFERENCE UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J1.2:

Reference(s): Exhibit U

Provide a table that summarizes all the updates for revenue requirement as part of DRO process.

RESPONSE:

Table 1 below summarizes the updates that Toronto Hydro proposes to flow through the revenue requirement work form and cost allocation models at the time of the Draft Rate Order (DRO) process. This table also provides a summary of the high level 2020 revenue requirement impact of each item, which may be updated at the time of the DRO consistent with the Board's final decision.

Table 1: 2020 Revenue Requirement (RR) Updates to be made during the DRO Process[1]

No.	Updated Request for Approval	2020 RR Impact ($M)[2]	Evidence References
1	Update the 2020-2024 working capital allowance forecasts to align the cost of power expense forecast with the value resulting from the OEB's Appendix 2-Z. Toronto Hydro will use the most up-to-date forecasts of energy prices available at the time of the DRO.	(2.5)[3]	2A-Staff-53; Exhibit U, Tab 2, Schedule 1, page 8, lines 13-20

[1] Please note that Toronto Hydro's responses to undertakings J1.7 and J1.8 include all the items identified in Table 1.
[2] Negative amounts represent reductions to revenue requirement.
[3] This amount has been updated from the previously presented value of $2.2 million.

No.	Updated Request for Approval	2020 RR Impact ($M)[2]	Evidence References
2	Update the 2020-2024 working capital allowance forecasts to reflect the changes to the OEB's Customer Service Rules (EB-2017-0183).	1.6	Exhibit U, Tab 2, Schedule 1, Page 9; U-Staff-169
3	Update the 2020 OM&A forecast for the Customer Driven Work program to reflect updated volumes of work associated with facilitating safe vault entry to customers.	1.0	Exhibit U, Tab 4A, Schedule 1, page 2, lines 3-6
4	Update the 2020 OM&A forecast for the Asset and Program Management program to include costs which were inadvertently omitted from the original evidence.	0.8	Exhibit U, Tab 4A, Schedule 1, page 2, lines 6-8
5	Update the 2020 OM&A forecast for the Charitable Donations and LEAP program to include costs which were inadvertently omitted from the original evidence.	0.2	Exhibit U, Tab 4A, Schedule 1, page 2, lines 8-9
6	Update the 2020 OM&A forecast for the Common Costs and Adjustment program to capture the changes in OPEB obligations resulting from the most recent (i.e. 2018) actuarial valuation.	(1.5)	Exhibit U, Tab 4A, Schedule 1, page 2
7	Update the 2020 Revenue Offsets forecast to reflect changes in Other Income and Deductions as a result of the capitalization of major assets related to accident claims.	(2.0)	Exhibit U, Tab 4A, Schedule 1, page 2
8	Update the 2020 Revenue Offsets forecast to reflect changes to Specific Service Charges resulting from changes to the OEB's Customer Service Rules (EB-2017-0183).	3.0	Exhibit U, Tab 3, Schedule 2, Page 1; lines 12-16; U-Staff-178
9	Update the 2020 Revenue Offsets forecasts to reflect the Retail Service Charges approved by the OEB in EB-2015-0304.	(0.3)	U-VECC-83
10	Update the 2020-2024 rate base forecasts to reflect the revised 2019 and 2020-2024 ISA forecasts as described in Toronto Hydro's application update.	(9.2)	U-Staff-168
11	Update 2020-2024 PILs forecasts to reflect the new CCA rule as a result of Bill C-97.	(16.4)	U-Staff-188

No.	Updated Request for Approval	2020 RR Impact ($M)[2]	Evidence References
12	Update the 2020 OM&A forecast for the Legal and Regulatory program to reflect updated estimates of regulatory application costs as of July 31, 2019.	0.2	Exhibit 4A, Tab 2, Schedule 18, Appendix A (OEB Appendix 2-M) (revised July 31, 2019)

/C

In its application update filed on April 30, 2019, Toronto Hydro updated its request to clear the Deferral and Variance Accounts (DVAs) based on the balances identified in Exhibit U, Tab 9, Schedule 1, Table 2. Further to this request, in its response to interrogatory U-Staff-183, Toronto Hydro identified an update to the amount proposed for disposition over the 2020-2024 period in respect of Deferral Account 1508 – Other Regulatory Assets, Subaccount – Impact for USGAAP Deferral Account. Specifically, Toronto Hydro updated its request for disposition of this account from $48.1 million to $17.2 million based on the EARSL method. Please refer to Toronto Hydro's response to interrogatory U-Staff-183 for more information about this updated request.

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J1.3:

Reference(s):

To advise which assets are being replaced, because of PCBs, that is, would not show up in that original asset condition assessment.

RESPONSE:

Toronto Hydro originally planned to replace 1,667 transformers in the Underground System Renewal Program (Horseshoe) during the 2015-2019 period, and is now on track to complete 2,070 transformer replacements in the same period. The incremental replacements have primarily been the result of the need to address transformers that were not contemplated in the original plan and were identified as being at risk of leaking PCB-contaminated oil. This driver was previously discussed in response to interrogatory 2B-BOMA-88, where it was noted that "in 2015 and 2016, Toronto Hydro observed an increase in the number of oil spills containing PCBs (as shown in Exhibit 2B, Section C2, Figure 12, p. 24) and following analysis, determined that submersible transformers contributed disproportionately to the increase." The annual count of transformers replaced as a result of this incremental driver is shown in Table 1 below.

Table 1: Additional Transformer Replacements for PCB Risk Mitigation in the Underground System Renewal Program (2015-2019)

Year	2015	2016	2017	2018	2019	Total
Number of Transformers	0	477	195	76	0	**748**

The remaining transformers replaced in this program during the 2015-2019 period were prioritized due to their risk of failure. Many of these transformers were also at risk of containing PCBs (i.e. in addition to the 748 noted in Table 1). As noted in Ms. Narisetty's testimony, PCB oil contamination is not reflected in the Asset Condition Assessment.[1]

[1] EB-2018-0165, Oral Hearing Transcript Day 1 (June 27, 2019), page 56, lines 19-22

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J1.4:

Reference(s): Exhibit K1.1

To update and refile the table 7 at page 47 of Exhibit K1.1.

RESPONSE:

Toronto Hydro has updated the evidence below to correct for inconsistencies found between the Asset Condition Assessment ("ACA") data summarized in certain program tables and the final and correct ACA data summarized in Exhibit 2B, Section D, Appendix C, in Tables 2 and 3. These inconsistencies were inadvertently made during the drafting process and have no impact on the proposed investment plans.

Exhibit 2B, E 6.2 - Underground System Renewal, Table 7, Page 14.

Table 7: Asset condition assessment for Underground transformers in 2017 and 2024 without investments.

Condition	UG TX - Padmounted		UG TX - Submersible		UG TX – Vault		Total 2017	Total 2024
	2017	2024	2017	2024	2017	2024		
HI1 - New or Good Condition	4949	4618	7266	6977	6145	4819	**18360**	**16414**
HI2 - Minor Deterioration	617	305	542	282	3895	1286	**5054**	**1873**
HI3 - Moderate Deterioration	256	569	237	510	390	3752	**883**	**4831**
HI4 - Material deterioration	93	206	170	123	195	427	**458**	**756**
HI5 - End-of-serviceable life	16	233	45	368	40	381	**101**	**982**
Total	**5931**	**5931**	**8260**	**8260**	**10665**	**10665**	**24856**	**24856**

Exhibit 2B, E 6.2 - Table 8, Page 22, Underground System Renewal

Table 8: Asset Conditioning for Underground Padmounted Switches – Air and SF6 Type in 2017 and 2024 without Investment

Condition	UG Switch - Padmounted Air		UG Switch - Padmounted SF6		Total 2017	Total 2024
	2017	2024	2017	2024		
HI1 - New or Good Condition	397	364	380	380	**777**	**744**
HI2 - Minor Deterioration	19	29	0	0	**19**	**29**
HI3 - Moderate Deterioration	72	20	2	0	**74**	**20**
HI4 - Material deterioration	30	6	0	0	**30**	**6**
HI5 - End-of-serviceable life	44	143	6	8	**50**	**151**
Total	**562**	**562**	**388**	**388**	**950**	**950**

Exhibit 2B, E 6.5 - Overhead System Renewal, Table 5, Page 6.

Table 5: Condition Data for Wood Poles

Asset Condition Index	Condition of Poles as of 2017	Condition of Poles in 2024 (Without Program)
HI1 - New or Good Condition	68425	59851
HI2 - Minor Deterioration	5777	8767
HI3 - Moderate Deterioration	20915	4177
HI4 - Material deterioration	10877	17449
HI5 - End-of-serviceable life	1074	16824

Exhibit 2B, E6.1 Area Conversion, Table 6, Page 10.

Table 6: ACA Comparison of Poles

Condition	% of Assets per class (2017)
HI1 - Good Condition	27%
HI2 - Minor Deterioration	3%
HI3 - Moderate Deterioration	39%
HI4 - Material deterioration	27%
HI5 - End of Serviceable Life	4%

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J1.5:

Reference(s):

If available, to produce the number showing the cost impact of the Hydro One deficiency.

RESPONSE:

The approximate cost impact of the Hydro One HV GIS installation deficiencies is $1.4 million.

ORAL HEARING UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J1.6:

Reference(s): **U-Staff-166.5**
Exhibit K1.3, page 45

To comment on the staff chart at page 45 of the Staff compendium and to show updated numbers, if possible.

RESPONSE:

Table 1 below updates both the gross expenditures and capital contributions to reflect 2018 actuals.

Table 1: Forecast Customer Connection Segment Costs ($ Millions)

	2020	2021	2022	2023	2024	Total
Gross Expenditures	77.1	78.7	80.2	81.9	83.5	**401.4**
Capital Contributions	(37.0)	(37.8)	(38.5)	(39.3)	(40.1)	**(192.7)**
Net	**40.1**	**40.9**	**41.7**	**42.6**	**43.4**	**208.7**

ORAL HEARING UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J1.7:

Reference(s): Exhibit K1.3, page 90

To review the spreadsheet and confirm whether the Board got the numbers right or wrong and correct this chart.

RESPONSE:

Please see Appendix A for the revised numbers. Toronto Hydro confirms that all the items listed in its response to undertaking J1.2 are incorporated in Appendix A.

Undertaking J1.7

Rate Base	2020	2021	2022	2023	2024
Average PP&E NBV	$ 4,369.7	$ 4,601.9	$ 4,844.4	$ 5,128.5	$ 5,393.2
WCA	$ 222.9	$ 227.2	$ 232.0	$ 237.0	$ 243.1
Rate Base	$ 4,592.6	$ 4,829.1	$ 5,076.4	$ 5,365.5	$ 5,636.3

Revenue Requirement	2020	2021	2022	2023	2024	Total
CRR	$ 540.5	$ 579.3	$ 595.6	$ 648.1	$ 689.4	$ 3,052.8
Non-CRR	$ 230.9	$ 233.0	$ 235.1	$ 237.2	$ 239.4	$ 1,175.6
Base RR	$ 771.4	$ 812.3	$ 830.7	$ 885.3	$ 928.7	$ 4,228.4

CAPEX	2020	2021	2022	2023	2024	Total
U-IRR Net CAPEX Update	$ 521.6	$ 581.8	$ 587.1	$ 565.7	$ 574.4	$ 2,830.6
Pre-Filed Net CAPEX	$ 518.4	$ 581.8	$ 587.1	$ 565.7	$ 574.4	$ 2,827.4
Variance	$ 3.2	$ -	$ -	$ -	$ -	$ 3.2

In-Service Additions	2020	2021	2022	2023	2024	Total
U-IRR ISA Update	$ 539.9	$ 475.0	$ 587.4	$ 590.5	$ 583.6	$ 2,776.4
Pre-Filed ISA	$ 489.8	$ 483.7	$ 590.9	$ 593.0	$ 586.1	$ 2,743.5
Variance	$ 50.1	$ (8.7)	$ (3.5)	$ (2.5)	$ (2.5)	$ 32.9

ORAL HEARING UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J1.8:

Reference(s): Exhibit K1.3, page 92

To review the spreadsheet and confirm whether the Board got the numbers right or wrong and correct this chart.

RESPONSE:

Please refer to Appendix A to this response for the revised values. Toronto Hydro confirms that all the items listed in Table 1 of its response to undertaking J1.2 are incorporated in Appendix A.

Undertaking J1.8

Revenue Requirement	2020	2021	2022	2023	2024	Total
CRR	$ 540.46	$ 579.30	$ 595.57	$ 648.13	$ 689.36	$ 3,052.83
Non-CRR	$ 230.93	$ 233.01	$ 235.10	$ 237.22	$ 239.35	$ 1,175.61
Base RR	$ 771.39	$ 812.31	$ 830.67	$ 885.35	$ 928.72	$ 4,228.44
I		1.20%	1.20%	1.20%	1.20%	
X		0.30%	0.30%	0.30%	0.30%	
Cn		5.03%	2.00%	6.33%	4.66%	
Scap		71.32%	71.70%	73.21%	74.23%	
G		0.20%	0.20%	0.20%	0.20%	
CPCI		4.88%	1.84%	6.15%	4.47%	
Revenue Requirement recovered in rates		$ 809.03	$ 823.93	$ 874.60	$ 913.66	

ORAL HEARING UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J1.9:

Reference(s): Exhibit K1.2, page 105

To update the chart at page 105 of Exhibit K1.2 to reflect the data in U-Staff-168.

RESPONSE:

Please see Appendix A to this response.

Undertaking J1.9

Appendix A: 2020-2024 Rate Base

in $millions	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Rate Base	
Opening NBV[1]	4,233.4	4,240.0	4,249.4	4,267.2	4,275.0	4,284.6	4,297.3	4,308.5	4,317.3	4,332.0	4,349.6	4,385.8	4,233.4	a
In Service Additions[2]	28.1	31.1	39.6	29.8	31.7	34.9	33.5	31.2	37.3	40.3	59.2	143.5	539.9	b
Depreciation (excluding allocated transportaion depreciation)3	(21.5)	(21.6)	(21.8)	(21.9)	(22.1)	(22.2)	(22.3)	(22.4)	(22.5)	(22.7)	(23.0)	(23.3)	(267.3)	c
Closing NBV[1]	4,240.0	4,249.4	4,267.2	4,275.0	4,284.6	4,297.3	4,308.5	4,317.3	4,332.0	4,349.6	4,385.8	4,506.0	4,506.0	d=a+b+c
Average NBV	4,236.7	4,244.7	4,258.3	4,271.1	4,279.8	4,291.0	4,302.9	4,312.9	4,324.6	4,340.8	4,367.7	4,445.9	4,369.7	e=(a+d)/2
WCA[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	235.2	f
Rate Base[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,604.9	g=e+f

in $millions	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Rate Base	
Opening NBV[1]	4,506.0	4,501.6	4,503.9	4,509.5	4,510.6	4,515.7	4,522.7	4,528.4	4,542.8	4,550.3	4,566.5	4,594.5	4,506.0	a
In Service Additions[2]	18.8	25.6	29.1	24.6	28.7	30.7	29.3	38.0	31.2	39.9	51.8	127.4	475.0	b
Depreciation (excluding allocated transportaion depreciation)3	(23.2)	(23.3)	(23.4)	(23.5)	(23.7)	(23.7)	(23.5)	(23.6)	(23.7)	(23.7)	(23.8)	(24.2)	(283.3)	c
Closing NBV[1]	4,501.6	4,503.9	4,509.5	4,510.6	4,515.7	4,522.7	4,528.4	4,542.8	4,550.3	4,566.5	4,594.5	4,697.7	4,697.7	d=a+b+c
Average NBV	4,503.8	4,502.7	4,506.7	4,510.1	4,513.1	4,519.2	4,525.5	4,535.6	4,546.6	4,558.4	4,580.5	4,646.1	4,601.9	e=(a+d)/2
WCA[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	239.1	f
Rate Base[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,841.0	g=e+f

in $millions	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Rate Base	
Opening NBV[1]	4,697.7	4,695.7	4,700.6	4,709.3	4,713.3	4,720.8	4,731.5	4,739.6	4,746.1	4,759.2	4,773.5	4,826.2	4,697.7	a
In Service Additions[2]	21.9	28.9	32.9	28.2	31.7	35.1	32.5	31.0	37.8	39.2	77.7	190.6	587.4	b
Depreciation (excluding allocated transportaion depreciation)3	(23.9)	(24.0)	(24.1)	(24.2)	(24.2)	(24.3)	(24.4)	(24.6)	(24.7)	(24.8)	(25.1)	(25.7)	(294.0)	c
Closing NBV[1]	4,695.7	4,700.6	4,709.3	4,713.3	4,720.8	4,731.5	4,739.6	4,746.1	4,759.2	4,773.5	4,826.2	4,991.1	4,991.1	d=a+b+c
Average NBV	4,696.7	4,698.1	4,704.9	4,711.3	4,717.1	4,726.2	4,735.6	4,742.9	4,752.6	4,766.4	4,799.9	4,908.7	4,844.4	e=(a+d)/2
WCA[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	243.6	f
Rate Base[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5,088.0	g=e+f

in $millions	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Rate Base	
Opening NBV[1]	4,991.1	4,992.7	5,001.6	5,014.8	5,022.4	5,033.1	5,047.6	5,060.1	5,070.4	5,087.7	5,106.4	5,139.9	4,991.1	a
In Service Additions[2]	27.1	34.6	39.0	33.5	36.8	40.6	38.9	36.8	44.0	45.5	60.4	153.3	590.5	b
Depreciation (excluding allocated transportaion depreciation)3	(25.6)	(25.7)	(25.8)	(25.9)	(26.0)	(26.2)	(26.4)	(26.5)	(26.7)	(26.8)	(26.9)	(27.4)	(315.8)	c
Closing NBV[1]	4,992.7	5,001.6	5,014.8	5,022.4	5,033.1	5,047.6	5,060.1	5,070.4	5,087.7	5,106.4	5,139.9	5,265.8	5,265.8	d=a+b+c
Average NBV	4,991.9	4,997.1	5,008.2	5,018.6	5,027.7	5,040.3	5,053.8	5,065.2	5,079.1	5,097.1	5,123.2	5,202.9	5,128.5	e=(a+d)/2
WCA[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	248.2	f
Rate Base[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5,376.7	g=e+f

in $millions	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Rate Base	
Opening NBV[1]	5,265.8	5,265.1	5,271.8	5,282.7	5,288.0	5,296.6	5,309.6	5,319.4	5,328.0	5,343.1	5,359.9	5,391.7	5,265.8	a
In Service Additions[2]	25.8	33.4	37.8	32.3	35.7	40.3	37.3	36.1	42.9	44.7	59.9	157.6	583.6	b
Depreciation (excluding allocated transportaion depreciation)3	(26.5)	(26.7)	(26.8)	(27.0)	(27.1)	(27.3)	(27.5)	(27.6)	(27.7)	(27.9)	(28.1)	(28.8)	(328.9)	c
Closing NBV[1]	5,265.1	5,271.8	5,282.7	5,288.0	5,296.6	5,309.6	5,319.4	5,328.0	5,343.1	5,359.9	5,391.7	5,520.6	5,520.6	d=a+b+c
Average NBV	5,265.5	5,268.4	5,277.3	5,285.4	5,292.3	5,303.1	5,314.5	5,323.7	5,335.6	5,351.5	5,375.8	5,456.2	5,393.2	e=(a+d)/2
WCA[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	254.0	f
Rate Base[4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5,647.2	g=e+f

[1]EB-2018-0165, U-STAFF-168, Appendix A

[2]EB-2018-0165, U-STAFF-168, Appendix A

[3]EB-2018-0165, U-STAFF-168, Appendix A

[4]EB-2018-0165, J1.7

ORAL HEARING UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J1.10:

Reference(s): Exhibit K1.3, page 112

To provide CWIP numbers and CAPEX in the previous cost of service rate case.

RESPONSE:

In the last rate application (EB-2014-0116) Toronto Hydro applied an ISA conversion rate of 62 percent for CWIP and 59 percent for CapEx to forecast the annual n-service additions of distribution capital projects. The previous ISA conversion rates are comparable to the ISA conversion rates that Toronto Hydro used to forecast its in-service addition in this application, as detailed in the response to undertaking JTC1.4. In addition, in the last application Toronto Hydro relied on specific information to forecast the in-service additions for major projects and general plant investments, as it has also done in this application.

ORAL HEARING UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J1.11:

Reference(s): Exhibit K1.3, page 114

To provide the chart data with the caveats as discussed.

RESPONSE:

Please see Appendix A to this response for the requested information.

As noted in the response to undertaking JTC1.4, where there is specific information available about the completion timeline for a particular capital project or program (e.g. major projects like Copeland TS and general plant programs like Fleet, Facilities, and Information Technology), that information is used to forecast the in-service additions associated with that project or program. The approach outlined in Appendix A does not yield an accurate ISA forecast because it does not take this information into consideration. Therefore, Appendix A cannot be used to determine the CAPEX and CWIP conversion rates for the purposes of forecasting in-service additions over the 2020-2024 rate period.

Table: Historical, Bridge and Forecasted Construction Work In Progress ($ Millions)

	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast
	UGAAP	UGAAP	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS
Opening CWIP	336.9	401.3	522.1	577.7	502.9	485.8	396.4	381.1	358.3	462.1	458.6	430.5
Additions (CAPEX)	445.7	585.6	490.6	508.4	496.6	434.9	425.3	517.2	578.8	583.9	562.4	570.9
Total	782.6	986.9	1,012.7	1,086.2	999.6	920.7	821.7	898.3	937.1	1,046.1	1,021.0	1,001.4
Deductions (In Service Additions)	(381.3)	(468.7)	(435.3)	(584.3)	(520.3)	(524.4)	(440.6)	(539.9)	(475.0)	(587.4)	(590.5)	(583.6)
Conversion Factor	(48.7%)	(47.5%)	(43.0%)	(53.8%)	(52.0%)	(57.0%)	(53.6%)	(60.1%)	(50.7%)	(56.2%)	(57.8%)	(58.3%)

ORAL HEARING UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J2.1:

Reference(s): Exhibit K1.3, page 126

To explain the difference between the debt rates of 3.64 percent and 4.2 percent.

RESPONSE:

The 4.2 percent debt rate that Toronto Hydro applied to calculate AFUDC over the 2020-2024 period represents long-term debt, whereas the 3.64 percent rate in Exhibit K1.3 at page 126 represents represented the weighted average of both long and short term debt. Toronto Hydro notes that if the lower rate is applied, AFUDC expense per year would be approximately $1 million lower, resulting in an annual revenue requirement reduction of approximately $0.1 million. Although the annual revenue requirement difference is immaterial, Toronto Hydro agrees that the lower rate should be applied to calculate the forecasted AFUDC for 2020 to 2024.

ORAL HEARING UNDERTAKING RESPONSES TO GREATER TORONTO APARTMENT ASSOCIATION

UNDERTAKING NO. J2.2:

Reference(s): Exhibit K2.1, page 24

To provide what is currently on Toronto Hydro's website under vault access legislation and codes.

RESPONSE:

Vault Access Link to Form with Info on Responsibilities:

https://www.torontohydro.com/for-home/vault-access

Customer Action Form Link for Vault Owners:

https://www.torontohydro.com/contractors-and-developers/customer-action-form

ORAL HEARING UNDERTAKING RESPONSES TO GREATER TORONTO APARTMENT ASSOCIATION

UNDERTAKING NO. J2.3:

Reference(s):

To provide the inspections in 2016, 2017, and 2018 with the number of inspections, and the actual costs of those inspections broken out from the customer equipment line.

RESPONSE:

Table 1 below shows the total number of free Person-in-Attendance (PIA) vault access appointments scheduled for 2017 and 2018, and the total expenditures associated with the provision of this service free of charge to customers.

Table 1: Number of Appointments and Costs

	2017	2018
Free PIA Appointments[1]	2,088	1,966
Expenditures ($M)	1.9	2.1

[1] As indicated in the response to undertaking JTC1.21, some appointments are followed up with additional visits for which the customer pays the cost of the PIA. This is the difference between the 2,264 customers who requested vault access in 2018, shown in JTC1.21, and the number of appointments provided in 2018 free of charge to customers shown in Table 1 above.

Toronto Hydro is unable to provide the requested information for 2016 because its records for that year do not distinguish between the initial visits provided free of charge, and the subsequent visits for which customers paid. The total number of appointments in 2016 was 1,697 (including initial and subsequent visits) and the total cost of providing the free service was $0.6 million.

ORAL HEARING UNDERTAKING RESPONSES TO GREATER TORONTO APARTMENT ASSOCIATION

UNDERTAKING NO. J2.4:

Reference(s):

To clarify whether there has been any impact on the insurance costs that may be reflected in the 2020 test year arising from the matter raised by Mr. Quinn.

RESPONSE:

The matter raised by Mr. Quinn did not have a direct impact on the insurance costs reflected in the 2020 test year.

ORAL HEARING UNDERTAKING RESPONSES TO BUILDING OWNERS AND MANAGERS ASSOCIATION

UNDERTAKING NO. J2.5:

Reference(s):

To advise what the 19 percent would be in light of the new information.

RESPONSE:

Table 1 shows the capital expenditures ("CapEx") variance between the current 2015-2019 rate period and the proposed 2020-2024 rate period, including 2018 actuals. For better comparability, column F shows the variance after the capital expenditures were adjusted for inflation.[1]

Table 1: Capital Expenditures Variance

	A	*B*	*C =(B-A)/A*	*D*	*E*	*F =(E-D)/D*
Category	2015-2019 CapEx	2020-2024 CapEx	Variance %	2015-2019 CapEx Inflation Adjusted[1]	2020-2024 CapEx Inflation Adjusted[1]	Variance %
System Access	402.9	502.4	25%	414.3	483.9	17%
System Renewal	1,310.2	1,620.9	24%	1,356.2	1,562.9	15%
System Service	236.2	238.1	1%	244.3	229.9	(6%)
General Plant	392.7	425.2	8%	407.8	410.2	1%
Other	37.4	44.1	18%	38.9	42.5	9%
Subtotal	**2,379.4**	**2,830.6**	**19%**	**2,461.5**	**2,729.3**	**11%**
Less: Renewable Generation Facility Assets and Other Non-Rate Regulated Utility Assets	(23.5)	(17.4)	(26%)	(23.8)	(16.8)	(29%)
Total	**2,355.9**	**2,813.2**	**19%**	**2,437.7**	**2,712.5**	**11%**

[1] The baseline year for the inflation adjustment is 2019. The annual inflation rates applied are the OEB inflation rates identified in the response to U-SEC-104, Appendix A "2010-2024 Inflation Adjusted Capital Expenditures".

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J3.1:

Reference(s): 2B-Staff-80 (d)

In reference to interrogatory Staff 80 or 81, to make available on the record the excerpt that is relied upon in answer to (d) of the undertaking, as referenced in EB-2012-0064.

RESPONSE:

Appendix A contains the excerpt referred to in Toronto Hydro's response to interrogatory 2B-Staff-80 (d) (EB-2012-0064, Exhibit B, Tab 2, Schedule B6, pages 32-37). In this excerpt, Toronto Hydro explains the various reasons why it is not feasible to replace overhead rear lot distribution assets with overhead front lot distribution assets. These reasons are also summarized in Toronto Hydro's evidence for the Real Lot Conversion segment at pages 27-28 of Section E6.1 in Exhibit 2B.

IV ALTERNATIVES FOR ADDRESSING REAR LOT CONSTRUCTION

1. Alternatives Considered

THESL has considered four alternatives to address the issues associated with rear lot service:

- Option 1, remediation where aged rear lot facilities are repaired/replaced on an as-needed basis;
- Option 2, rebuild rear lot distribution to ensure poles and assets meet current safety regulations;
- Option 3, replace overhead rear lot distribution assets with overhead front lot distribution assets; and
- Option 4, replace overhead rear lot distribution assets with underground front lot distribution assets.

Table 4 provides a summary of each of these four options.

Table 4: Summary of rear lot conversion options considered by THESL

Option	Summary of Procedure
Option 1 Remediation, where only aged assets are repaired/replaced aged assets on an as-needed basis	▪ All poles, transformers and assets remain as is ▪ Repairs are done on an as-needed basis to the defective assets

Option	Summary of Procedure
Option 2 Rebuild rear lot distribution	▪ Trench property owners' backyards to upgrade the underground cables passing through their yards ▪ Remove existing poles and transformers ▪ Perform necessary tree-trimming ▪ Install new poles, cable covers to protect the cables going into the risers ▪ Install new transformers ▪ Backfill the trench, re-sod the yard ▪ Restore power to the customers
Option 3 Replace overhead rear lot distribution assets with overhead front lot distribution assets	▪ Transformers, primary cable, secondary bus installed overhead on poles ▪ Secondary services supplied from poles/mid-span taps
Option 4 Replace overhead rear lot distribution assets with underground front lot distribution assets	▪ Primary and secondary bus installed in concrete-encased ducts within city road allowance ▪ Above grade low-profile or below grade submersible transformers to be installed ▪ Secondary services on private property to be installed in underground direct buried duct to existing meter base locations ▪ Meter bases to be changed from overhead to underground where required

Options 1 and 2 do not address or resolve the underlying safety and reliability issues associated with rear lot service. These Options would perpetuate the safety, cost, reliability and customer service issues described in Section III. They would also require continuing intrusion into the affected backyards, disrupting customers' use and enjoyment. If the remediation or rebuild were to occur in the winter, crew access would become more challenging. If carried out in the

summer, homeowners would lose the use of their backyards, a time when they most want to enjoy them.

Further, these intrusions will provide little lasting benefit. As soon as an animal contact occurs, or a serious storm takes place, resulting in an unplanned outage, homeowners will be inconvenienced, once again, by crews accessing their properties. In the meantime, the safety risks for THESL's crews and customers remain.

With regard to Option 3, replacement of overhead rear lot distribution assets with overhead front lot distribution assets, Table 5 provides an overview developed by THESL's Standard Design Practice Team regarding the challenges involved in installing overhead service.

Table 5: Overview of THESL Standard Design Practice Team's considerations for overhead distribution design

Challenge	Reason
Customer acceptance Customers will be reluctant to accept a new pole line in front of their property for the enumerated reasons	▪ Streetscape aesthetics will be negatively impacted with the installation of poles, pole-mounted transformers, overhead primary and secondary cables, and serviced cables ▪ Customer acceptance of a pole installation in front of their property will be difficult to obtain, in most cases ▪ Customers may view this installation as decreasing the value of their properties
City approval Obtaining City approval will be challenging	▪ Negative impact on streetscape aesthetics ▪ Increased customer complaints ▪ Any 'above ground' utility installation is met with a higher level of City scrutiny. For example, Ward 2 in Etobicoke required a site meeting with the Councillor prior to any new/relocated down guy installation
Tree Trimming	▪ This option will continue all the problems associated with overhead plant ▪ Existing areas have mature trees which will require extensive tree trimming to accommodate clearances for installation of poles, primary and secondary bus, secondary services and transformers. Relative to the undergrounding option, this will increase operating costs due to increased tree trimming required ▪ Negative impact on neighbourhood aesthetics
Toronto Hydro Corporate Communications	▪ Increased resources required to deal with an extensive community outreach initiative ▪ Delays are expected to occur in situations where customers reject the overhead design option and mobilize to oppose it

Challenge	Reason
Scheduling	▪ In the event the overhead option is ultimately rejected due to customers' complaints and THESL is required to install underground service, delays of six months to a year to redesign and obtain approvals can be expected
Foreign Attachments	▪ There may be instances where foreign attachments (Bell, Rogers) remain on the existing rear lot pole line. Customers will be reluctant to accept pole lines in both the rear and the front of their property

Table 6 provides a summary comparison of Option 3 (replacement with overhead front lot distribution assets) and Option 4 (replacement with underground front lot distribution assets), the two options considered for conversion of rear lot plant.

Table 6: Summary of the two rear lot conversion options

Criteria	Option 3 OH	Option 4 UG
Safety	Favourable	Highly Favourable
Customer Service Initiative	Least Favourable	Highly Favourable
Corporate Communications	Least Favourable	Highly Favourable
Customer Acceptance	Least Favourable	Highly Favourable
City Approvals	Least Favourable	Favourable
Reliability	Least Favourable	Highly Favourable
Tree Trimming	Least Favourable	Favourable
Construction Cost (Initial)	Highly Favourable	Least Favourable
Service Connections	Least Favourable	Favourable
Scheduling	Least Favourable	Favourable

As is evident from Table 6, Option 4 (replacement with underground front lot distribution assets) is the more favourable option on every dimension, except initial construction cost. This Option's higher initial construction cost is expected to be overcome, however, by the lower overall cost of ownership including lower maintenance, community engagement, and customer outage cost. When comparing the overhead and underground front lot options, the underground solution provides a cost of ownership that is approximately $47.97M less when compared to the overhead solution. This difference in cost of ownership is due to the reduced risks associated with the underground plant when compared to the overhead plant, when accounting for risks pertaining to asset failure as well as non-asset-related risks associated with weather, animal and human-related events, which are directly associated to the overhead system. As Option 4 is expected to be the most favourable option from the customers' perspective, it is recommended.

ORAL HEARING UNDERTAKING RESPONSES TO CONSUMERS COUNCIL CANADA

UNDERTAKING NO. J3.2:

Reference(s):

To identify the areas of productivity and summarize the evidence related to it.

RESPONSE:

Toronto Hydro has a long-standing history of continuous improvement and productivity that has evolved since amalgamation in the early 2000's leading to achieved productivity embedded in the OM&A and capital program expenditures.[1] The outcome of these achievements is reflected in Toronto Hydro's strong performance in the UMS Unit Cost Benchmarking Study, wherein the utility was identified as being in the second quartile for 10 out of 11 cost categories compared to 17 peer utilities.[2]

Furthermore, both capital and OM&A productivity improvements (including capital investments resulting in sustainable OM&A savings) have contributed to Toronto Hydro's strong results on a Total Cost Benchmarking basis. Specifically, as of 2018, the utility remains better than the predicted benchmark when compared to peer utilities in the U.S. and Ontario.[3] This performance was achieved despite the significant capital investment needs along with other cost pressures faced by the utility, including extreme weather

[1] EB-2018-0165, Evidence Overview Presentation Transcript (May 3, 2019), pages 28-29.
[2] Exhibit 1B, Tab 2, Schedule 1, Appendix B, page 7.
[3] Exhibit 1B, Tab 4, Schedule 2, pages 5-7.

events, technology driven challenges, retiring workforce, increasing customer expectations, and evolving legislative and regulatory requirements.[4] In addition to these broad pressures affecting utility management and operations, Toronto Hydro faces specific cost pressures such as insurance premiums and deductibles, postage, and other costs growing as pace greater than general inflation.

Table 1 summarizes the specific capital productivity achievements identified throughout the record in this application. In addition, further to Toronto Hydro's response to interrogatory 1B-CCC-15, Table 2 summarizes a number of measurable improvements on various performance outcomes.[5]

[4] For example, see 3A-AMPCO-68, Exhibit 2B, Section E2, page 4; Exhibit 2B, Section E4, page 10; Exhibit 4A, Tab 1, Schedule 1, page 5; and Exhibit 4A, Tab 2, Schedule 14, page 13.
[5] Exhibit 2B, Section E5.5.6.

1 **Table 1: Capital Productivity Initiatives and Achievements**

Initiative	Achievements	Reference
Employee Attendance: Between 2011 and 2017, Toronto Hydro's employee attendance improved by 50 percent, with on average 4.74 annual sick days per employee ("absentee rate") over the period. Comparatively, the average absentee rate during this same period was: 9.21 days for all industries in Canada; and 9.06 days for the utility industry in Canada. Toronto Hydro's absentee rate in 2017 of 3.54 days was well below the national, provincial, and municipal averages of 9.6 days, 8.6 days, and 7.2 days, respectively. This translates to more than $2 million in capital and OM&A savings (due to improved staff availability) annually relative to the utility industry benchmark.	Reduced capital costs	Exhibit 1B, Tab 2, Schedule 1, page 11 of 29, lines 1-11
Fleet Rationalization: Toronto Hydro decreased its number of fleet vehicles from 660 in 2013 to 588 in 2017. This reduces OM&A expenditures and avoids future capital investments associated with a larger fleet.	Reduced capital costs	Exhibit 2B, Section E8.3 Exhibit 1B, Tab 2, Schedule 1, page 19, lines 11-15
Fleet and Equipment Program Savings: Since 2015, Toronto Hydro has generated approximately $0.1 million of savings per year from the following initiatives: (i) utilizing GPS data for daily reporting on engine issues to proactively reduce breakdowns and towing; (ii) shifting externally sourced services to internal manpower where it is proven to be more cost effective; and (iii) streamlining of administration labour and processes. These initiatives contribute to reduced costs and efficient delivery of capital programs.	$0.1 million per year	Exhibit 4A, Tab2, Schedule 11, page 7, lines 15-22

Initiative	Achievements	Reference
"Wrench Time" Improvements Through Enhanced Control Centre Work Management: The Control Centre achieved efficiencies resulting in a significant reduction in the average time crews spend waiting for planned Hold Offs, as well as efficiencies associated with preparing Orders To Operate further in advance of execution which improves the likelihood that field work can commence as planned and without delays. This contributes to avoided costs and the efficient delivery of capital programs, which is reflected in Toronto Hydro's unit cost and total cost performance benchmarking referenced above.	Reduced capital costs	Exhibit 4A, Tab2, Schedule 7, pages 14-17
Facilities Optimization: Toronto Hydro has rationalized its operating facilities, including relocating its staff and operations from leased to owned facilities. The net effect of this optimization was a reduction to total square footage by 0.9 million square-feet, and a net benefit to customers of approximately $70 million through the return of net proceeds from the sale of properties. As a result of this initiative, facilities-related costs directly attributable to capital work reduced by $1.7 million. Further, the optimization reduced the need for ongoing capital investments that would have been required to maintain the facilities that were consolidated, namely 28 Underwriters, 5800 Yonge and 60 Eglinton.	$70 million net benefit to customers $1.7 million over 2015-2020 and avoided capital costs.	Exhibit2B, E4.1.3, page 6, Table 6; 20Exhibit 4A, Tab 2, Schedule 12, page 10, Table 5

Initiative	Achievements	Reference
3PL Service Provider: During the current CIR term, Toronto Hydro began to purchase transformer assembly kit components separately and to be assembled into kits by Toronto Hydro's service provider (rather than the manufacturer), resulting in an estimated $1.6 million in savings over the 2015-2019 period.	$1.6 million over 2015-2019	Exhibit 4A, Tab 2, Schedule 13, pages 11-15, lines 22-25
Direct Material Purchases: Toronto Hydro purchased materials directly from the supplier instead of from a distributor, eliminating incremental cost charged by distributors. For example: electric power equipment purchased directly from S&C Electric; insulators purchased directly from K-Line Insulators; and various types of small materials for overhead infrastructure (e.g. fuses, brackets, bolts) purchased from Hubbell Power Systems.	Reduced capital costs	4A-Staff-126
Renegotiated Employee Benefits: Toronto Hydro strives to minimize the cost of its benefit offerings. For example, in 2017, Toronto Hydro conducted a benefits provider market review, which resulted in an estimated annual savings of over $0.25 million in premiums with no coverage impact for employees. Approximately $0.11 million of this can be attributed as capital savings.	$0.11 million per year	Exhibit 4A, Tab 4, Schedule 4, page 12 of 16, lines 10-13
Total Recordable Injury Frequency (TRIF): Due to Toronto Hydro's consistent focus on safety outcomes, TRIF improved by 10% between 2014 and 2017. Reductions in injuries improves productivity by enabling more and healthy staff performing duties, reduced costs resulting from incidents, and other financial benefits such as a decrease in Workplace Safety Insurance Board premiums.	Reduced capital costs	Exhibit 2B, Section C2, pp.8-9; 4A-2-15 and 4A-AMPCO-96

Initiative	Achievements	Reference
Contractor Price Escalations: Toronto Hydro negotiated competitive agreements with its largest capital program contractors. These agreements resulted in price escalations that have consistently outperformed actual construction inflation indices in Toronto and Ontario, as discussed in response to JTC4.30.2. For example, compared to the performance of the Construction Labour Inflation Index, Toronto Hydro's unit price agreements have resulted in relative savings of approximately $16 million on the actual 2015-2019 capital program. Compared to the Municipal Infrastructure Construction Price Index, Toronto Hydro has achieved relative savings of approximately $50 million over the same period.	$16.3M	JTC4.30.2
Work Centre and Stations Management: Starting in 2016, conditions of work centres and stations building assets were assessed and prioritized based on criticality and asset conditions. This new approach avoided replacing assets that were past useful life but in fair or good condition.	Reduced capital costs	Exhibit 2B, Section E8, pages 18-19
Costs & Savings from Repairs and Refurbishments: Toronto Hydro repairs and refurbishes certain major assets (e.g. transformers and switchgear) at a fraction of the cost of replacing them with new assets.	Greater than $4 million savings over 2015-2019	2B-STAFF-67, part b

In addition to the examples highlighted above, investments in the modernization of distribution system assets and operational technology – such as the continuing proliferation of SCADA-enabled control equipment and the ongoing roll-out of next-generation smart meters – are contributing to productivity and cost control by allowing Toronto Hydro to achieve better results with the resources it has. For example,

investments in monitoring and control technology systems have increased efficiency in the completion of connection impact assessments (CIA).[6] Similarly, investments in customer service technology related to transactional systems, customer self-service, and metering infrastructure enables productivity in areas such as increased adoption of electronic bills (eBills)[7] as discussed in Exhibit 2B, Section C2.1.1 and 4A-VECC-33, reduced meter data processing costs as discussed in Exhibit 4A, Tab 2, Schedule 14, page 11, sustained success in billing accuracy reducing manual effort to prepare bills and respond to customer questions, the ability to disconnect and reconnect customers remotely without sending a crew to the customer location, and online customer activities such as use of online forms and payments.

Table 2 provides examples of measurable improvements from past investments related to safety, customer service, and other outcomes.

[6] Exhibit 2B, Section E5.5.6.
[7] Exhibit 2B, Section C2.1.1; 4A-VECC-33

1 **Table 2: Examples of Measurable Improvements**

Measure	% Improvement	2014	2018
1. Box Construction Conversion	49%	5,573	2,869
2. Total Recordable Injury Frequency	30%	1.18	0.83
3. SAIDI - Defective Equipment	13%	0.48	0.35
4. SAIFI - Defective Equipment	25%	0.53	0.40
5. FESI-7 System	53%	36	17
6. FESI-6 Large Customers	62%	26	10
7. Outages Caused by Defective Equipment (# of Outages)	38%	711	441
8. Direct Buried Cable Replacement	26%	1,099	774
9. Number of Customers on eBills	187%	90,990	261,000
10. Telephone Calls Answered On Time	11%	71.9%	80.2%
11. Written Response to Enquires	15%	85.8%	98.3%
12. First Contact Resolution	10%	81%	89%
13. Connection of New Services-Low Voltage	9%	91.5%	99.8%
14. Billing Accuracy	3%	97.5%	99.3%
15. Telephone Call Abandon Rate	18%	1.7%	1.4%
16. Rescheduling a Missed Appointment	6%	94.6%	100.0%
17. SAIDI	9%	0.89	0.92
18. SAIFI	3%	1.18	0.81
19. CAIDI	6%	0.75	0.71
20. Renewable Generation Connection Impact Assessments Completed On Time	3%	97%	100%
21. Network Units Modernization	15%	0.50	0.58

Note 1: Rounding variances may exist.

ORAL HEARING UNDERTAKING RESPONSES TO POWER WORKERS UNION

UNDERTAKING NO. J3.3:

Reference(s): Exhibit K3.2

To review and confirm whether Toronto Hydro is in agreement with the change numbers in the tables at page 3 and page 5 of Exhibit K3.2.

RESPONSE:

Toronto Hydro confirms that the referenced information is accurate and consistent with the utility's calculations.

ORAL HEARING UNDERTAKING RESPONSES TO DISTRIBUTED RESOURCE COALITION

UNDERTAKING NO. J4.1:

Reference(s): Exhibit K3.4, page 154

To provide the reference to the quantification evidence that relates to aspects 9, 10 and 11 of the benefits highlighted.

RESPONSE:

As noted in the program evidence at Exhibit 2B, Section E7.4, pages 2, 20-21, the next phase of local Demand Response ("DR") is expected to reduce peak load by about 10 MW over the 2020-2024 rate period. This reduction in peak load supports the deferral of capital investments of approximately $135 million by five to six years. Tables 26 and 27 of the program evidence provide breakdowns of the deferred costs at Cecil TS ($57 million) and Basin TS ($78 million). The cost-effectiveness of applying local DR at these stations was analyzed using a financial model. For more information about the model and the results of the analysis please refer to pages 39-41 of the program evidence.

ORAL HEARING UNDERTAKING RESPONSES TO DISTRIBUTED RESOURCE COALITION

UNDERTAKING NO. J4.2:

Reference(s): DRC Compendium Panel 1, Tab 30, page 310
Undertaking JTC4.24, Appendix A

To describe what is included in the transit category in the table at tab 30, page 310.

RESPONSE:

Column P (Transit) includes distribution-connected, electrified mass transit projects (e.g. light rail transit, subway). Column P does not include transmission connected mass transit projects as these would not be serviced through Toronto Hydro assets. It also does not include in-service projects as these would already be included in column T. It should also be noted that electrified mass transit does not include personal or commercial electric vehicles.

ORAL HEARING UNDERTAKING RESPONSES TO DISTRIBUTED RESOURCE COALITION

UNDERTAKING NO. J4.3:

Reference(s): Exhibit K3.4

To confirm the definition of WH in the table at tab 30, page 310.

RESPONSE:

Column Q labelled 'WH' is short for 'Water Heating'.

ORAL HEARING UNDERTAKING RESPONSES TO DISTRIBUTED RESOURCE COALITION

UNDERTAKING NO. J4.4:

Reference(s): Exhibit No. K3.4, Pages 310-349
JTC4.24, Appendix A

To undertake and confirm in that in virtually all instances, EV and transit are some of the highest categories of the demand at virtually all of the stations

RESPONSE:

From 2027 to 2030, the EV category or Transit category are the largest contributors. From 2031 to 2041, other categories (e.g. Water Heating, Energy Storage, etc.) are the largest contributors.

ORAL HEARING UNDERTAKING RESPONSES TO N.D. HANN

UNDERTAKING NO. J4.5:

Reference(s):

For 2014 to 2018, to advise how many poles were changed due to the third-party equipment permitting process where the load of pole exceeds design capacity.

RESPONSE:

Please see Table 1 for the number of poles changed through the third-party equipment permitting process from 2014-2018.

Table 1: Number of Poles Changed from 2014-2018

Year	2014	2015	2016	2017	2018	Total
Number of Poles Changed	248	48	1088	312	40	1736

ORAL HEARING UNDERTAKING RESPONSES TO N.D. HANN

UNDERTAKING NO. J4.6:

Reference(s):

To query the Environment Canada data and provide the dates from whatever data is available from Environment Canada that are greater than 25 millimetres of ice and greater than 85 kilometres an hour wind in the City of Toronto, if it is available publicly.

RESPONSE:

Historical weather data from Environment Canada, which includes wind speed data (although not for all stations) is available at the following link: <http://climate.weather.gc.ca/historical_data/search_historic_data_e.html>

Environment Canada does not directly track freezing rain accumulations; therefore, Toronto Hydro cannot determine the number of days exceeding both the freezing rain and wind speed thresholds.

Please see Table 1 for a summary of wind speed data from the above link for 2009-2018 for the station labelled 'Toronto City Centre'. Note that some wind speed data is missing and therefore the actual number of days exceeding the 85 km/h threshold may be higher than the numbers provided in the table. In addition, this data is not necessarily representative of Toronto Hydro's entire service territory as it is from a single geographic location and would not capture days when the threshold was exceeded in other areas within the service territory.

Table 1: Number of Days with Maximum Wind Speed Gusts Greater than 85 km/h

Year	Number of Days
2009	2
2010	0
2011	1
2012	0
2013	1
2014	1
2015	2
2016	0
2017	1
2018	4
Total	12

ORAL HEARING UNDERTAKING RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION

UNDERTAKING NO. J4.7:

Reference(s):

To look back at the programs to determine whether storm-hardening was attributed as a primary driver for any of the programs.

RESPONSE:

Storm-hardening is not a primary driver (i.e. Trigger Driver as defined in Exhibit 2B, Section E1, page 2) for any of the capital programs. However, a number of programs within the System Renewal and System Service investment categories have Trigger Drivers of "Failure Risk" and "Reliability", which contain elements of storm-hardening, or more broadly system resiliency. The table below lists those programs.

Table 1: Capital Programs with "Failure Risk" or "Reliability" as Trigger Driver

Section	Program	Trigger Driver	
		Failure Risk	Reliability
E6.2	Underground System Renewal – Horseshoe	X	
E6.3	Underground System Renewal - Downtown	X	
E6.4	Network System Renewal	X	
E6.5	Overhead System Renewal	X	
E6.6	Stations Renewal	X	
E7.1	System Enhancements		X
E7.2	Energy Storage Systems		X
E7.3	Network Condition Monitoring & Control		X

Exhibit 2B, Section D2 at page 8 provides examples of how these programs enhance system resiliency (or storm-hardening). Additional details may be found in the particular program evidence in Exhibit 2B, Section E. More broadly, capital projects are executed in accordance with the latest Toronto Hydro construction standards, standard design practices, and material specifications. Toronto Hydro regularly reviews and makes adjustments to its standards in response to various considerations, including resiliency, climate change, and prudent "storm-hardening". Toronto Hydro's standards have been independently reviewed by PSE both in this application and in the last rate application (EB-2014-0116). In the latest review, which is filed at Exhibit 2B, Section D, Appendix B, PSE concluded that Toronto Hydro's standards are thorough, well documented, and consistent with what is seen in the industry.

ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J4.8:

Reference(s): Exhibit K3.3, page 40

To update or correct 2B-AMPCO-42 (b).

RESPONSE:

Please see Appendix A to this response for the corrected version of the table on page 40 of Exhibit K3.3.

EB-2018-0165

AMPCO ACA Table - Panel 1 - Toronto Hydro Corrected Version

2B-AMPCO-42 (a) ACA from EB-2014-0116

	Asset	Population	# very poor	# poor	# fair	# good	# very good	Total	# very poor & poor	# very poor, poor & fair
1	Station Power Transformer	268	3	33	120	56	30	242	36	156
2	Station Switchgear	279	12	91	83	23	39	248	103	186
3	Air Blast Circuit Breakers	290	0	7	158	5	10	180	7	165
4	Air Magnetic Circuit Breakers	627	1	22	346	88	9	466	23	369
5	Oil Circuit Breakers	332	1	16	130	10	0	157	17	147
6	Oil KSO Breakers	59	0	1	18	3	0	22	1	19
7	SF6 Circuit Breaker	201	0	0	5	30	30	65	0	5
8	Vacuum Circuit Breakers	675	0	1	15	49	413	478	1	16
9	Submersible Transformers	9554	0	2	608	3177	5308	9094	2	609
10	Vault Transformers	13034	0	26	2700	4577	4198	11502	26	2727
11	Padmounted Transformers	7160	0	1	611	2634	2808	6054	1	612
12	Padmounted Switches	802	0	3	56	281	438	778	3	59
13	3 Phase O/H Gang Manual Switches	1108	0	0	11	233	121	365	0	11
14	3 Phase O/H Gang Remote Switches	15	0	0	2	10	1	13	0	2
15	SCADAMATE Switches	926	1	0	9	453	327	790	1	10
16	Wood Poles	123280	1086	3547	20488	3380	17926	46427	4633	25122
17	Automatic Transfer Switches	58	0	9	17	16	11	53	9	26
18	Network Transformers	1892	0	0	309	781	794	1884	0	309
19	Network Protectors	1615	0	0	59	508	1008	1575	0	59
20	Network Vaults	1062	18	93	765	170	11	1057	111	876
21	Cable Cambers	10902	10	61	411	1915	1420	3817	71	482
	TOTAL	**174139**							**5046**	**31967**
									3%	

2B-AMPCO-42 (b) 2016 ACA

	Asset	Population	# very poor	# poor	# fair	# good	# very good	Total	# very poor & poor	# very poor, poor & fair
1	Station Power Transformer	292	0	1	70	130	61	262	1	71
2	Station Switchgear									
3	Air Blast Circuit Breakers	241	0	8	161	13	1	183	8	169
4	Air Magnetic Circuit Breakers	562	1	31	375	85	12	505	32	407
5	Oil Circuit Breakers	198	0	19	117	11	0	147	19	136
6	Oil KSO Breakers	46	0	3	29	7	0	39	3	32
7	SF6 Circuit Breaker	174	0	0	24	80	19	123	0	24
8	Vacuum Circuit Breakers	661	0	1	26	227	284	538	1	27
9	Submersible Transformers	9244	0	45	778	2996	5240	9059	45	824
10	Vault Transformers	13283	0	122	3452	5105	3488	12166	122	3573
11	Padmounted Transformers	7496	0	0	452	5267	923	6641	0	452
12	Padmounted Switches	643	0	0	26	339	245	611	0	26
13	3 Phase O/H Gang Manual Switches	1071	0	1	6	407	164	578	1	7
14	3 Phase O/H Gang Remote Switches									
15	SCADAMATE Switches	1114	0	0	9	436	599	1045	0	9
16	Wood Poles	125899	1271	1186	13218	16607	52448	84730	2457	15675
17	Automatic Transfer Switches	39	0	0	4	20	2	26	0	4
18	Network Transformers	1821	0	2	127	755	905	1788	2	129
19	Network Protectors	1683	0	2	454	207	988	1651	2	456
20	Network Vaults	1055	0	9	342	700	0	1051	9	351
21	Cable Cambers	11132	14	188	702	4335	1709	6946	201	903
	TOTAL	**176654**							**2904**	**23275**
									2%	

ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J4.9:

Reference(s): Exhibit 1B, Tab 5, Schedule 1, Table 7

To advise whether Exhibit 1B, Tab 5, Schedule 1, Table 7 is correct and, if not, to update it.

RESPONSE:

The totals in Exhibit 1B, Tab 5, Schedule 1, Table 7 and in Exhibit 2A, Tab 6, Schedule 1, Table 1 should be 18.6 million rather than 13.6 million. Toronto Hydro also noticed an error in the 2022 amount in Table 7 for the Generation Protection, Monitoring, and Control (GPMC) program. The correct REI investment amount is $2.4 million rather than $2.0 million. This aligns with the investments included in the OEB Appendix 2-FA Renewable Generation Connection Investment Summary (GPMC) in Exhibit 2A, Tab 6, Schedule 4. Please see the updated tables below.

Exhibit 1B, Tab 5, Schedule 1, Table 7, Page 10

Table 7 [CORRECTED]: Renewable Enabling Improvements from 2020-2024 ($ Millions)

REI Investment	2020	2021	2022	2023	2024	Total
Generation Protection, Monitoring, and Control (Exhibit 2B, Section E5.5)	3.7	2.3	2.4	2.5	2.7	13.6
Energy Storage Systems (Exhibit 2B, Section E7.2)	1.0	1.0	1.0	1.0	1.0	5.0
Totals	4.7	3.3	3.4	3.5	3.7	18.6

Exhibit 2A, Tab 6, Schedule 1, Table 1, Page 4

Table 1 [CORRECTED]: Renewable Enabling Improvements ("REI") from 2020-2024

($ Millions)

Capital Program	2020	2021	2022	2023	2024	Total
Generation, Protection, Monitoring, and Control	3.7	2.3	2.4	2.5	2.7	13.6
Energy Storage	1.0	1.0	1.0	1.0	1.0	5.0
Totals	4.7	3.3	3.4	3.5	3.7	18.6

Additionally, the interrogatory that outlines the relationship between the $5.0 million in Renewable-Enabling Energy Storage investments at the above references and the $10.5 million identified at Exhibit 2B, Section A6, Table 10 is 2B-Staff-87 part (c).[1]

[1] EB-2018-0165, Oral Hearing Transcript Day 4 pp. 153-154.

ORAL HEARING UNDERTAKING RESPONSES TO ENERGY PROBE

UNDERTAKING NO. J4.10:

Reference(s): Exhibit K4.7, page 4

To correct the calculations at page 4 of Exhibit K4.7

RESPONSE:

The change in Total Compensation (Salary, Wages & Benefits) from 2018 to 2024 shown on page 4 of the EP compendium is confirmed to be $56.9 million. This translates to a compound annual growth rate (CAGR) increase of 3.9 percent. However, Toronto Hydro notes that the CAGR for total compensation over the 2018 to 2020 period, which is the basis for this application, is 3.4 percent.

ORAL HEARING UNDERTAKING RESPONSES TO ENERGY PROBE

UNDERTAKING NO. J4.11:

Reference(s):

To provide the percentage increases between 2018 and 2020 for all categories.

RESPONSE:

The percentage compound growth rate increases for all employee categories for 2018 to 2020 are shown in Appendix A of this response.

OEB Appendix 2-K
EMPLOYEE COSTS /COMPENSATION TABLE

	2015 Actual	2016 Actual	2017 Actual	2018 Bridge	2019 Bridge	2020 Test	2021 Projection	2022 Projection	2023 Projection	2024 Projection	Compound Growth 2018 to 2020
Number of Employees (FTEs including Part-Time)											
Executive	6	6	7	5	5	5	5	5	5	5	0.0%
Managerial	55	63	63	63	63	62	63	63	63	63	-0.8%
Non Management, Non-Union	495	521	549	595	607	603	610	610	610	610	0.7%
Society	53	56	60	67	68	69	69	69	69	69	1.5%
PWU	874	837	794	769	779	778	797	797	797	797	0.6%
Total	**1483**	**1484**	**1473**	**1499**	**1523**	**1517**	**1544**	**1544**	**1544**	**1544**	**0.6%**
Total Salary and Wages (including ovetime and incentive pay)											
Executive	$ 2,486,891	$ 2,397,404	$ 2,704,552	$ 2,302,886	$ 2,369,718	$ 2,447,034	$ 2,510,069	$ 2,583,737	$ 2,659,837	$ 2,738,448	3.1%
Managerial	$ 9,805,887	$ 11,755,405	$ 12,267,327	$ 12,713,083	$ 13,109,022	$ 13,272,778	$ 13,844,190	$ 14,277,271	$ 14,724,649	$ 15,186,974	2.2%
Non Management, Non-Union	$ 52,575,387	$ 55,121,586	$ 58,799,211	$ 65,583,986	$ 69,086,145	$ 70,786,074	$ 73,543,113	$ 75,917,742	$ 78,368,180	$ 80,899,710	3.9%
Society	$ 6,273,163	$ 6,387,993	$ 7,345,852	$ 8,581,559	$ 8,730,321	$ 9,026,473	$ 9,135,492	$ 9,276,139	$ 9,410,531	$ 9,546,705	2.6%
PWU	$ 87,126,813	$ 84,638,474	$ 81,994,788	$ 80,993,153	$ 82,701,776	$ 83,908,086	$ 87,750,357	$ 90,205,825	$ 92,639,490	$ 95,107,337	1.8%
Total	**$ 158,268,141**	**$ 160,300,862**	**$ 163,111,731**	**$ 170,174,668**	**$ 175,996,982**	**$ 179,440,444**	**$ 186,783,221**	**$ 192,260,714**	**$ 197,802,688**	**$ 203,479,175**	**2.7%**
Total Benefits (Current + Accrued)											
Executive	$ 598,384	$ 566,562	$ 632,406	$ 629,508	$ 639,810	$ 706,901	$ 728,164	$ 751,670	$ 775,851	$ 800,022	6.0%
Managerial	$ 2,974,938	$ 3,352,572	$ 3,570,450	$ 3,946,868	$ 4,006,639	$ 4,344,315	$ 4,554,021	$ 4,707,312	$ 4,864,976	$ 5,017,854	4.9%
Non Management, Non-Union	$ 16,711,133	$ 17,268,194	$ 18,482,452	$ 21,757,738	$ 22,685,770	$ 24,854,001	$ 25,902,470	$ 26,803,377	$ 27,726,571	$ 28,589,965	6.9%
Society	$ 2,186,586	$ 2,147,661	$ 2,485,728	$ 2,700,414	$ 2,702,876	$ 2,981,200	$ 3,041,149	$ 3,100,646	$ 3,160,919	$ 3,211,829	5.1%
PWU	$ 30,356,391	$ 28,722,633	$ 28,143,352	$ 26,704,284	$ 26,864,459	$ 29,136,946	$ 30,623,764	$ 31,612,859	$ 32,620,296	$ 33,530,859	4.5%
Total	**$ 52,827,432**	**$ 52,057,622**	**$ 53,314,387**	**$ 55,738,811**	**$ 56,899,553**	**$ 62,023,363**	**$ 64,849,569**	**$ 66,975,864**	**$ 69,148,612**	**$ 71,150,529**	**5.5%**
Total Compensation (Salary, Wages, & Benefits)											
Executive	$ 3,085,275	$ 2,963,967	$ 3,336,959	$ 2,932,394	$ 3,009,528	$ 3,153,935	$ 3,238,233	$ 3,335,406	$ 3,435,688	$ 3,538,470	3.7%
Managerial	$ 12,780,825	$ 15,107,977	$ 15,837,777	$ 16,659,950	$ 17,115,660	$ 17,617,093	$ 18,398,211	$ 18,984,583	$ 19,589,625	$ 20,204,828	2.8%
Non Management, Non-Union	$ 69,286,521	$ 72,389,780	$ 77,281,663	$ 87,341,724	$ 91,771,915	$ 95,640,075	$ 99,445,583	$ 102,721,119	$ 106,094,752	$ 109,489,675	4.6%
Society	$ 8,459,748	$ 8,535,654	$ 9,831,580	$ 11,281,974	$ 11,433,197	$ 12,007,672	$ 12,176,641	$ 12,376,785	$ 12,571,449	$ 12,758,534	3.2%
PWU	$ 117,483,204	$ 113,361,107	$ 110,138,140	$ 107,697,438	$ 109,566,235	$ 113,045,032	$ 118,374,121	$ 121,818,684	$ 125,259,786	$ 128,638,197	2.5%
Total	**$ 211,095,573**	**$ 212,358,484**	**$ 216,426,119**	**$ 225,913,479**	**$ 232,896,535**	**$ 241,463,807**	**$ 251,632,790**	**$ 259,236,578**	**$ 266,951,300**	**$ 274,629,704**	**3.4%**

Notes:
Please see Toronto Hydro's response to interrogatory 4A-SEC-87 part b) for the assumptions and limitations associated with the 2021-2024 information.

ORAL HEARING UNDERTAKING RESPONSES TO ENERGY PROBE RESEARCH FOUNDATION

UNDERTAKING NO. J5.1:

Reference(s): Exhibit 2B, Section 8.3

If possible, to confirm the number of vehicles to be replaced.

RESPONSE:

Toronto Hydro has reviewed the transcript and believes the undertaking to be twofold: (i) confirm the number of vehicles recommended for replacement in the 2017 LCA Report; and (ii) provide the number of vehicles Toronto Hydro is proposing to replace over the 2020-2024 period.

The Life Cycle Analysis Report (the "Report")[1] states that 270 vehicles are eligible to be replaced over the 2020-2024 period. This number is based on the assumption that 43 vehicles are replaced over the 2018 and 2019 period, as indicated in Figure 1 of the Report.[2] However, as shown in Tables 6 and 7, in Exhibit 2B, Section E8.3 at page 12, under the managed fleet option, Toronto Hydro's plan is to replace 262 vehicles over the 2020-2024 based on consideration of both lifecycle analysis and asset condition assessment.

[1] This report was submitted as part of 1B-SEC-3, Appendix E, page 9.
[2] In 2018, Toronto Hydro commissioned 24 new vehicles, with an additional 24 expected in 2019.

ORAL HEARING UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J5.2:

Reference(s): Exhibit K5.1, page 8

To provide an update to the chart at page 8 of Exhibit K5.1 with data to 2020.

RESPONSE:

Please see Appendix A for updated 2019 and 2020 information.

Toronto Hydro's resourcing strategy uses a mix of internal and external resources to complete work. The ability to rely on external resources provides the utility with the flexibility required to serve customers and successfully execute its plans in light of various operational challenges such as delays in hiring, peak demands, and emergency events.

Despite the decreases in headcount and compensation identified in this undertaking, the utility is committed to delivering the proposed programs in 2019 and 2020, and therefore requires the requested level of OM&A funding to complete the work. To the extent that Toronto Hydro doesn't have sufficient internal resources to deliver its operations and maintenance programs, the utility plans to rely on external service providers to get the work done. This approach is consistent with the recent historical experience. Specifically, in 2018, Toronto Hydro increased its reliance on external service providers (U-Staff-166.12). A major driver for this increase was the fact that staffing levels were lower than

forecast in 2018 due to delays in hiring certified and skilled trades and designated technical professionals as a result of labour negotiations issues (U-VECC-87).

Appendix A
OEB Appendix 2-K
EMPLOYEE COSTS /COMPENSATION TABLE

	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
Number of Employees (FTEs including Part-Time)						
Executive	6	6	7	5	5	5
Managerial	55	63	63	67	63	62
Non Management, Non-Union	495	521	549	564	607	603
Society	53	56	60	65	68	69
PWU	874	837	794	724	765	752
Total	**1483**	**1484**	**1473**	**1425**	**1509**	**1491**
Total Salary and Wages (including ovetime and incentive pay)						
Executive	$ 2,486,891	$ 2,397,404	$ 2,704,552	$ 2,378,602	$ 2,369,718	$ 2,447,034
Managerial	$ 9,805,887	$ 11,755,405	$ 12,267,327	$ 13,340,028	$ 13,109,022	$ 13,272,778
Non Management, Non-Union	$ 52,575,387	$ 55,121,586	$ 58,799,211	$ 63,677,023	$ 69,086,145	$ 70,786,074
Society	$ 6,273,163	$ 6,387,993	$ 7,345,852	$ 7,857,253	$ 8,730,321	$ 9,026,473
PWU	$ 87,126,813	$ 84,638,474	$ 81,994,788	$ 79,475,009	$ 81,449,851	$ 81,534,574
Total	**$ 158,268,141**	**$ 160,300,862**	**$ 163,111,731**	**$ 166,727,914**	**$ 174,745,057**	**$ 177,066,932**
Total Benefits (Current + Accrued)						
Executive	$ 598,384	$ 566,562	$ 632,406	$ 539,960	$ 639,810	$ 706,901
Managerial	$ 2,974,938	$ 3,352,572	$ 3,570,450	$ 3,766,985	$ 4,006,639	$ 4,344,315
Non Management, Non-Union	$ 16,711,133	$ 17,268,194	$ 18,482,452	$ 18,694,608	$ 22,685,770	$ 24,854,001
Society	$ 2,186,586	$ 2,147,661	$ 2,485,728	$ 2,558,950	$ 2,702,876	$ 2,981,200
PWU	$ 30,356,391	$ 28,722,633	$ 28,143,352	$ 25,433,165	$ 26,464,414	$ 28,357,719
Total	**$ 52,827,432**	**$ 52,057,622**	**$ 53,314,387**	**$ 50,993,668**	**$ 56,499,509**	**$ 61,244,135**
Total Compensation (Salary, Wages, & Benefits)						
Executive	$ 3,085,275	$ 2,963,967	$ 3,336,959	$ 2,918,562	$ 3,009,528	$ 3,153,935
Managerial	$ 12,780,825	$ 15,107,977	$ 15,837,777	$ 17,107,012	$ 17,115,660	$ 17,617,093
Non Management, Non-Union	$ 69,286,521	$ 72,389,780	$ 77,281,663	$ 82,371,631	$ 91,771,915	$ 95,640,075
Society	$ 8,459,748	$ 8,535,654	$ 9,831,580	$ 10,416,204	$ 11,433,197	$ 12,007,672
PWU	$ 117,483,204	$ 113,361,107	$ 110,138,140	$ 104,908,173	$ 107,914,265	$ 109,892,293
Total	**$ 211,095,573**	**$ 212,358,484**	**$ 216,426,119**	**$ 217,721,582**	**$ 231,244,565**	**$ 238,311,068**

ORAL HEARING UNDERTAKING RESPONSES TO OEB STAFF

UNDERTAKING NO. J5.3:

Reference(s):

To review the analysis and summarize the basis of the analysis.

RESPONSE:

Toronto Hydro has reviewed the transcript and believes the undertaking requests a summary of the cost benefit analysis undertaken for the third-party procurement provider ("3PP") in the Supply Chain Program (4A, Tab 2, Schedule 13).

The decision to outsource the acquisition and demand functions in the Supply Chain program was supported by a preliminary assessment to determine the feasibility and cost of outsourcing these functions. Through this preliminary assessment, Toronto Hydro determined that these services are widely available in the market and that there were potential savings associated with outsourcing this work.

In 2015, Toronto Hydro undertook a formal Request for Proposal (RFP) to issue a competitive bid to the market for these services.[1] The RFP produced results which were consistent with the preliminary assessment, and confirmed that the 3PP option would yield cost reductions and savings while maintaining service levels and increase operational flexibility (4A-CCC-38). More specifically, the cost comparison showed that a

[1] This was done in accordance with the utility's procurement process described in Exhibit 4A, Tab 3, Schedule 1.

fully contracted 3PP agent costs the company approximately $100,000 per year all-in, whereas an internal buyer costs approximately $145,000 per year. In addition to the cost savings identified, a key consideration in proceeding with the outsourced model was that this model provides Toronto Hydro the necessary flexibility to scale its resources in this area with relative expediency, consistent with the requirements of the capital work program which can vary from year to year.

ORAL HEARING UNDERTAKING RESPONSES TO POWER WORKERS UNION

UNDERTAKING NO. J5.4:

Reference(s): Exhibit K5.2

To confirm or not confirm the numbers in Exhibit K5.2.

RESPONSE:

Please see Appendix A for the updated information. The compensation table and calculations in the PWU compendium have been updated in accordance with the most recent information, which was provided in Toronto Hydro's response to U-SEC-102.

OEB Appendix 2-K
EMPLOYEE COSTS /COMPENSATION TABLE

	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals	2019 Bridge	2020 Test	Compound Growth 2015 to 2020
Number of Employees (FTEs including Part-Time)							
EXECUTIVE	6	6	7	5	5	5	-3.58%
MANAGERIAL	55	63	63	67	63	62	2.42%
NON-MANAGEMENT, NON-UNION	433	467	487	498	575	571	5.69%
CONTRACT FOR A DEFINED TERM	62	54	62	66	32	32	-12.39%
SOCIETY	53	56	60	65	68	69	5.42%
PWU	874	837	794	724	779	778	-2.30%
TOTAL	**1483**	**1484**	**1473**	**1425**	**1523**	**1517**	**0.45%**
Total Salary and Wages (including overtime and incentive pay)							
EXECUTIVE	2,486,891	2,397,404	2,704,552	2,378,602	2,369,718	2,447,034	-0.32%
MANAGERIAL	9,805,887	11,755,405	12,267,327	13,340,028	13,109,022	13,272,778	6.24%
NON-MANAGEMENT, NON-UNION	48,506,203	52,019,203	55,078,497	59,303,319	67,065,064	68,706,809	7.21%
CONTRACT FOR A DEFINED TERM	4,069,184	3,102,383	3,720,714	4,373,705	2,021,081	2,079,265	-12.57%
SOCIETY	6,273,163	6,387,993	7,345,852	7,857,253	8,730,321	9,026,473	7.55%
PWU	87,126,813	84,638,474	81,994,788	79,475,009	82,701,776	83,908,086	-0.75%
TOTAL	**158,268,141**	**160,300,862**	**163,111,731**	**166,727,914**	**175,996,982**	**179,440,444**	**2.54%**
Total Benefits (Current + Accrued)							
EXECUTIVE	598,384	566,562	632,406	539,960	639,810	706,901	3.39%
MANAGERIAL	2,974,938	3,352,572	3,570,450	3,766,985	4,006,639	4,344,315	7.87%
NON-MANAGEMENT, NON-UNION	16,385,374	17,012,868	18,183,579	18,346,608	22,531,620	24,696,462	8.55%
CONTRACT FOR A DEFINED TERM	325,760	255,326	298,873	347,999	154,150	157,539	-13.52%
SOCIETY	2,186,586	2,147,661	2,485,728	2,558,950	2,702,876	2,981,200	6.40%
PWU	30,356,391	28,722,633	28,143,352	25,433,165	26,864,459	29,136,946	-0.82%
TOTAL	**52,827,432**	**52,057,622**	**53,314,387**	**50,993,668**	**56,899,553**	**62,023,363**	**3.26%**
Total Compensation (Salary, Wages, & Benefits)							
EXECUTIVE	3,085,275	2,963,967	3,336,959	2,918,562	3,009,528	3,153,935	0.44%
MANAGERIAL	12,780,825	15,107,977	15,837,777	17,107,012	17,115,660	17,617,093	6.63%
NON-MANAGEMENT, NON-UNION	64,891,577	69,032,071	73,262,076	77,649,927	89,596,684	93,403,271	7.56%
CONTRACT FOR A DEFINED TERM	4,394,944	3,357,709	4,019,587	4,721,704	2,175,231	2,236,804	-12.64%
SOCIETY	8,459,748	8,535,654	9,831,580	10,416,204	11,433,197	12,007,672	7.26%
PWU	117,483,204	113,361,107	110,138,140	104,908,173	109,566,235	113,045,032	-0.77%
TOTAL	**211,095,573**	**212,358,484**	**216,426,119**	**217,721,582**	**232,896,535**	**241,463,807**	**2.72%**
Total Compensation per FTE							
EXECUTIVE	514,213	493,994	476,708	583,712	601,906	630,787	4.17%
MANAGERIAL	232,379	239,809	251,393	255,329	271,677	284,147	4.10%
NON-MANAGEMENT, NON-UNION	149,865	147,820	150,435	155,924	155,820	163,578	1.77%
CONTRACT FOR A DEFINED TERM	70,886	62,180	64,832	71,541	67,976	69,900	-0.28%
SOCIETY	159,618	152,422	163,860	160,249	168,135	174,024	1.74%
PWU	134,420	135,437	138,713	144,901	140,650	145,302	1.57%
TOTAL	**142,344**	**143,099**	**146,929**	**152,787**	**152,920**	**159,172**	**2.26%**

ORAL HEARING UNDERTAKING RESPONSES TO POWER WORKERS UNION

UNDERTAKING NO. J5.5:

Reference(s):

To confirm whether the 60 percent figure for internal costs on capital projects includes materials cost.

RESPONSE:

The 60 percent figure relates to external (i.e. contractor) costs on capital projects, provided in Appendix A to Toronto Hydro's response to interrogatory 2B-SEC-73. Toronto Hydro confirms that this figure does not include the cost of materials issued to contractors by Toronto Hydro.

ORAL HEARING UNDERTAKING RESPONSES TO POWER WORKERS UNION

UNDERTAKING NO. J5.6:

Reference(s):

a) To advise whether it undertakes any benchmarking activities to determine the cost-effectiveness of its third-party service provider, costs in either the OM&A side of the business or the capital side of the business;

b) If there is, to provide it, subject to confidentiality restrictions.

RESPONSE:

Toronto Hydro undertakes a rigorous procurement process for all OM&A and Capital services contracted out as detailed in the Procurement Policy (Exhibit 4A, Tab 3, Schedule 1, Appendix A). Through the competitive procurement process, all bid submissions are assessed using a comprehensive evaluation matrix which is set prior to the Request for Proposal (RFP) or Request for Quote (RFQ) going out to market and includes a detailed cost analysis. The results of the assessment are benchmarked between participants to the procurement process and against any existing contracts to ensure a favourable acquisition cost and the successful respondent's ability to meet or exceed Toronto Hydro's quality, safety and environmental requirements.

Through the application of its procurement strategy, Toronto Hydro has successfully negotiated OM&A and capital contracts which provide an average annual rate increase over the 2015-2018 period that are lower than the average annual increases under the

Construction Labour Inflation and Municipal Infrastructure Construction Price benchmark indices shown in Table 1 to the response to undertaking JTC4.30.2, which is reproduced below for ease of reference.

Table 1: Average Escalation in Third-Party Contractor Unit Prices vs. Inflation

Average Annual Contractor Unit Price Escalation (2015-2018 Actuals)	Average Annual Increase in Construction Labour Inflation Index[1]	Average Annual Increase in Municipal Infrastructure Construction Price Index[2]
1.52%	**2.14%**	**3.21%**

Since 2013, Toronto Hydro has also performed annual benchmarking of internal versus external costs for capital construction projects through the Construction Efficiency metric referenced in Exhibit 1B, Tab 2, Schedule 2. Please refer to Toronto Hydro's responses to undertakings JTC4.18 and JX3.5 for detailed information about the methodology that underpins this metric.

In addition, Toronto Hydro engaged UMS Group to conduct a unit cost benchmarking study which compared average unit costs for major asset classes and maintenance activities. As further detailed in Exhibit 1B, Tab 2, Schedule 1, Section 2.3.2, the results of this study showed that Toronto Hydro is a better than average cost performer on 10 of the 11 asset categories evaluated. /C

[1] 2014-2017 average growth, calculated using data from Statistics Canada, Table 18-10-0051-01 "Construction union wage rates index, monthly, inactive."
[2] 2014-2017 average growth, calculated using data from Statistics Canada, Table 18-10-0022-01, "Infrastructure construction price index, annual."

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J5.7:

Reference(s):

To consider whether external capital cost numbers reflect dollars paid to external contractors for their work, or the value of work executed by contractors, even if it includes Toronto Hydro costs.

RESPONSE:

The external capital costs referenced in Appendix A of Toronto Hydro's response to interrogatory 2B-SEC-73 only include amounts paid to contractors for the value of the work performed; the referenced costs do not include any Toronto Hydro costs.

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J5.8:

Reference(s):

To complete the table showing benefits 2020-2026.

RESPONSE:

Please see Appendix A for an updated table of the benefits for ERP Phase 1, originally filed in the response to undertaking JTC3.5.

Appendix A

Table 1: Updated Table of ERP Phase 1 Benefits

		Expected Spending ($M)										
Year	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan
CAPEX	1.0	5.8	25.1	25.7	5.3	0.0	0.0	0.0	8.6	11.0	tbd	tbd
Hardware (equip only)	0.0	1.1	0.0	0.0	0.0	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Software & Implementation	1.0	4.7	25.1	25.7	5.3	tbd	tbd	tbd	tbd	tbd	tbd	tbd
OPEX (Note 2)	0.0	0.1	0.1	1.8	5.0	4.7	tbd	tbd	tbd	tbd	tbd	tbd
TOTAL EXPENDITURE	1.0	5.9	25.2	27.4	10.3	4.7	tbd	tbd	tbd	tbd	tbd	tbd
		Expected Benefits ($M)										
Year	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Forecast	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan
Monetary	0.0	0.0	0.0	0.0	15.3	1.7	1.8	1.8	10.8	1.8	1.8	1.8
Cost Savings	0.0	0.0	0.0	0.0	0.8	1.6	1.7	1.7	1.7	1.7	1.7	1.7
Cost Avoidance	0.0	0.0	0.0	0.0	14.5	0.1	0.1	0.1	9.1	0.1	0.1	0.1
Process Improvements	0.0	0.0	0.0	0.0	1.9	2.4	2.9	2.9	2.9	2.9	2.9	2.9
TOTAL BENEFIT	0.0	0.0	0.0	0.0	17.1	4.1	4.6	4.6	13.7	4.6	4.6	4.6

Total may not add due to rounding.

Notes

1) ERP project Go-live was on Oct 1, 2018. HyperCare from Oct 1, 2018 to Apr 30, 2019.
2) Amounts 2015-2019 are Project Opex, while amounts 2019-2020 are On-going Opex.
3) Only Expected Benefits rows updated on Jul 6, 2019.

ORAL HEARING UNDERTAKING RESPONSES TO DISTRIBUTED RESOURCE COALITION

UNDERTAKING NO. J5.9:

Reference(s):

To advise whether the Toronto Hydro fleet would qualify for fleet incentives.

RESPONSE:

The 2019 Federal Budget provides for financial incentives of up to $5,000 for qualified zero emission vehicles purchased (maximum of 10 per calendar year) or enhanced capital cost allowance deductions. Closer to the time of procurement, and based on a number of factors such as availability, cost and business needs, the utility may consider zero emission vehicles. Therefore, at this time, Toronto Hydro does not have the information to determine whether or not it qualifies for these incentives.

ORAL HEARING UNDERTAKING RESPONSES TO DISTRIBUTED RESOURCE COALITION

UNDERTAKING NO. J5.10:

Reference(s):

To provide a breakdown of electric vehicles versus combustion engine vehicles in each category.

RESPONSE:

Table 1 below provide the requested information. Toronto Hydro notes that there are currently very few zero emission vehicle options available (outside of the car category) that would meet the business needs of the utility.

Table 1: Breakdown of Vehicle Type by Heavy and Light Duty Vehicles

	Fully Electric	Hybrid	Non-EV/Non-Hybrid
Heavy Duty	0	3	226
Light Duty	9	41	153

ORAL HEARING UNDERTAKING RESPONSES TO DISTRIBUTED RESOURCE COALITION

UNDERTAKING NO. J5.11:

Reference(s): Exhibit K4.8

To provide the breakdown on the age of EVs versus the age of light-duty, medium-duty, and heavy-duty non-EVs.

RESPONSE:

The table below provide the average age associated with EV and non-EV vehicles:

Vehicle Categories	Electric	Hybrid	Non-EV
Heavy Duty		8.7	7.6
CABLE TRUCK			9.5
CRANE TRUCK			9.4
CUBE VAN			6.1
DIGGER DERRICK			8.7
DOUBLE BUCKET			9.8
DUMP TRUCK			10.0
FULLSIZE VAN			6.9
LINE TRUCK			9.0
SINGLE BUCKET		8.7	5.7
SINGLE BUCKET-VAN MOUNT			9.2
Light Duty	1.8	9.2	5.9
CAR	1.8	8.1	
CARGO MINIVAN			4.3
PASSENGER MINIVAN			3.9
PICK-UP		9.1	7.6
SUV		9.7	4.5
Total	9.5	9.2	7.4

ORAL HEARING UNDERTAKING RESPONSES TO DISTRIBUTED RESOURCE COALITION

UNDERTAKING NO. J5.12:

Reference(s): Exhibit K4.8

To determine the cost difference between the fuel costs for EVs versus non-EVs.

RESPONSE:

Toronto Hydro is unable to provide the requested comparison as EV fuel costs are not tracked separately from non-EV vehicle fuel costs.

ORAL HEARING UNDERTAKING RESPONSES TO ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO

UNDERTAKING NO. J6.1:

Reference(s):

To provide the external costs for OM&A.

RESPONSE:

Please refer to Table 1 below for OM&A costs attributable to the use of external resources during the current rate period.

Table 1: External OM&A Costs ($ Millions)

2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
84.8	94.1	105.2	115.9	104.6	107.3

The external costs presented in Table 1 above reflect the costs forecasted in the pre-filed evidence submitted in August 2018. However, as noted in the response to undertaking J5.2, Toronto Hydro increased its reliance on external service providers (U-Staff-166.12) in 2018 in order to complete the work required. This was necessary because of delays in hiring certified and skilled trades and designated technical professionals due to labour negotiations issues (U-VECC-87). As the effect of these delays will likely continue in 2019 and 2020 until the hiring is completed, Toronto Hydro expects that it will continue to supplement its resource capacity through third-party service providers. Therefore, the utility notes that the 2019 bridge and 2020 test year external OM&A costs are likely to be higher than the forecasted amounts above. Based on its 2018 results, Toronto Hydro

expects that the OM&A shortfall due to compensation as a result of hiring delays will be entirely offset by an increase in external services costs. Therefore, as noted in the response to undertaking J5.2, the utility needs the requested level of OM&A funding to complete the work planned for 2020 and beyond.

ORAL HEARING UNDERTAKING RESPONSES TO ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO

UNDERTAKING NO. J6.2:

Reference(s):

To confirm whether the resource utilization figure excludes overtime; if not, to provide the breakdown; to provide a forecast figure for 2019 and 2020.

RESPONSE:

Toronto Hydro confirms that the resource utilization rates presented in the response to part (h) of interrogatory 4A-AMPCO-101 exclude overtime. Please refer to Table 1 below for the forecasted resource utilization rate for the 2019 Bridge and 2020 Test years.

Table 1: 2019-2020 Resource Utilization Rate

2019 Bridge	2020 Test
83.2%	83.3%

ORAL HEARING UNDERTAKING RESPONSES TO ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO

UNDERTAKING NO. J6.3:

Reference(s):

To advise if there are any further human-resource metrics THESL would consider.

RESPONSE:

The table below summarizes key measures that the utility uses to manage employee performance throughout different levels and parts of the organization.

Table 1: Key Measures to Manage Employee Performance

Measures	Description	Evidence Reference
Service Quality	Multiple electricity service quality requirements (ESQRS) in accordance with the OEB's Reporting and Record- keeping Requirements ("RRR").	Exhibit 1B, Tab 2, Schedule 3, pages 2-3.
Planned Capital Project Completion	This measures the completion of planned capital projects that are being delivered under the 2015-2019 CIR capital programs.	JTC2.23
Order to Operate / Hold Off Execution	This measures field execution productivity as it relates to the Control Center's preparation of Hold Offs and Orders To Operate in an efficient manner to allow crews in the field to proceed with their work.	Exhibit 1B, Tab 2, Schedule 1, pp. 13-15 of 29
Design Readiness	Design progress for the planned capital projects in next year's Execution Work Plan.	JTC2.23

Measures	Description	Evidence Reference
Attendance	Average days of absenteeism per employee	Exhibit 1B, Tab 2, Schedule 1, p. 11 of 29; 4A-AMPCO-96
TRIF	Total Recordable Injury Frequency	Exhibit 1B, Tab 2, Schedule 1, pp. 9-10; Exhibit 2B, Section C2.2.1, pp. 8-9.
Restricted Work Days	The number of calendar days to a maximum of 180 days during which an employee is subject to restricted work.	Exhibit 1B, Tab 2, Schedule 1, pp. 9-10
Resource Utilization Rate	Labour utilization measures the efficiency of the use of available labour hours. It is calculated as Total Time Charged by Employee to Projects divided by Total Payroll costs.	4A-AMPCO-101(h); JTC3.24

The measures above show that Toronto Hydro manages employee productivity through various lenses, including the attainment of specific outcomes (e.g. Service Quality), work execution efficiency (e.g. Planned Capital Project Completion, Design Readiness, Order to Operate), and resource effectiveness (e.g. Labour Utilization Rate, Attendance, TRIF, Restricted Work Days). The utility relies on its Management Control and Reporting System (MCRS) to monitor and drive continuous improvement in performance on these key measures.

ORAL HEARING UNDERTAKING RESPONSES TO ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO

UNDERTAKING NO. J6.4:

Reference(s): Exhibit K6.1, page 46

To provide the percentage of work orders assigned priority level P1 that have been attained within the targeted timeline of 15 days for 2018 and to the end of 2019.

RESPONSE:

For 2018 year-end and 2019 year-to-date, 33 percent and 48 percent, respectively of work requests assigned a priority level of P1 were attained within the suggested timeline of 15 days. The work requests that were not attained within the suggested timeline were attained within an average of 57 days for 2018 and 41 days for 2019.

There are a number of external and operational factors that can result in longer timelines to attain work requests. These include lead times to procure or arrange for the installation of specialized equipment (including work protection methods), arranging outages or isolations with customers to complete the work, coordination with third parties (e.g. the City of Toronto or Toronto Police), and weather, environmental, and site-specific constraints.

In circumstances where the suggested timeline is not attainable, Toronto Hydro undertakes necessary risk mitigation activities to ensure risks appropriately managed. Examples of such activities include condition monitoring, enhanced communications, additional maintenance, and deployment of barriers (e.g. oil absorbent pads).

In recent years, Toronto Hydro has been managing an increasing number of work requests as noted in 4A-AMPCO-82 (for Corrective Maintenance) and Exhibit 2B, Section E6.7, page 9 (for Reactive Capital). The volume of work has placed considerable pressure on Toronto Hydro's ability to meet suggested timelines for attaining work requests. In response to these operational pressures, Toronto Hydro has placed additional emphasis on work request attainment, through its resources, management processes, measures, reporting, and short-interval controls. The result of these incremental efforts is shown in the relative improvements for 2018 to 2019 to the percentage of P1 work requests that were attained within 15 days, as presented above.

ORAL HEARING UNDERTAKING RESPONSES TO ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO

UNDERTAKING NO. J6.5:

Reference(s):

To file the SAP implementation review.

RESPONSE:

The SAP Implementation Review was an internal monitoring activity for the ERP Phase 1 project. The review, which was performed in four phases, did not culminate in an Internal Audit report. Rather, the results were presented to the Audit Committee in two stages. For Phases 1 and 2 of the review, the results were presented in November 2018, as shown on page 4 of Toronto Hydro's response to interrogatory 1B-SEC-9, Appendix O. For Phases 3 & 4 of the review, the results were presented to the Audit Committee in May 2019, as shown in Appendix A to this response.

Toronto Hydro-Electric System Limited
EB-2018-0165
Oral Hearing
Schedule J6.5
Appendix A
FILED: July 10, 2019
(1 page)

Business Support Activities

During the Q1 2019 Internal Audit continued to support the business through four activities described below.

SAP Implementation Support – Phase 3 & 4

Project Aurora is a strategic initiative to implement SAP ERP that will replace Ellipse and 29 other legacy systems.

- Phase 3 (Data Migration) and Phase 4 (Security) fieldwork is complete and the memo to management has been finalized. The issues noted are summarized below.
- SAP Basis Administrator access: Access to certain sensitive transaction codes were not immediately removed from non-administrators following the ERP go-live. This access was not used and was detected through the existing controls and has been removed.
- Monitoring SAP Security Logs: Management has not yet implemented an application for monitoring SAP security logs. Management has committed to implement an application to monitor SAP security logs by May 31, 2019 to ensure that access threats in SAP are identified and resolved on a timely basis.
- Review of role changes: SAP role changes are not formally reviewed for potential segregation of duty conflicts, however, Management has committed to have this performed by May 30, 2019 using a third party application. In addition, this will be monitored internally on an ongoing basis by December 31, 2019.

Auditor General Information Requests

- Internal Audit supported the business in responding to a request from the Auditor General. The request involved determining which City of Toronto properties had customer owned transformers and ensuring that related transformer billing credits were being applied to the appropriate City of Toronto Hydro accounts.

SAP Process Narratives Documentation – Phase 2

- During Phase 1 in late 2018, Internal Audit, in a joint effort with PwC, documented the process narratives and Risk and Control Matrices for more than 15 financial processes following the implementation of SAP.
- Internal Audit is supporting management explore the costs and benefits of Phase 2, which would be focused on documenting operational processes (e.g. Capital Projects, Master Data – Enterprise Asset Management, IT General Controls, Facilities Management, Work Force Planning, Personnel Performance, Fleet Management, etc.) in the post-SAP environment.
- Phase 2 would also include revising some of the financial processes covered in phase 1 that had not yet stabilized at the time they were first audited (e.g. Fixed Assets and IT General Controls).

KPMG Support Activities

- Internal Audit supports the external audit process (during Q4-Q2 period) by obtaining the information requested by KPMG from the applicable stakeholders within the business.
- Information obtained and provided to the external auditors by Internal Audit pertains primarily to Information Technology (e.g. Information Technology General Controls, System Access, System Automated Controls, System Change Management, etc.).

ORAL HEARING UNDERTAKING RESPONSES TO

ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO

UNDERTAKING NO. J6.6:

Reference(s):

To refile undertaking J6.6 from the previous proceeding.

RESPONSE:

Toronto Hydro confirms that the contingency amount for the ERP Phase I project was [redacted] as the utility noted in its response to undertaking J6.6 for the last rate application (EB-2014-0116).

ORAL HEARING UNDERTAKING RESPONSES TO N.D. HANN

UNDERTAKING NO. J6.7:

Reference(s):

To advise of the years that the requirements have changed, in terms of lift capacity of the derrick trucks and the height capacity of the derrick and the bucket trucks. Also to advise if the capacities have increased, would that be because the size of the poles has increased.

RESPONSE:

Over the last 10 years, neither derrick trucks nor bucket trucks have changed significantly in terms of specification, height or capacity. As part of Toronto Hydro's Fleet and Equipment Services capital program (Exhibit 2B, Section E8.3), vehicle specifications are reviewed prior to the vehicle procurement process to ensure alignment with work execution requirements.

ORAL HEARING UNDERTAKING RESPONSES TO N.D. HANN

UNDERTAKING NO. J6.8:

Reference(s): Exhibit No. K6.2, Page 33
4B-Hann-128, Table 1

To provide any guidance documents that go to how things get categorized.

RESPONSE:

This undertaking was taken in the context of the Root Cause definition table provided at the above references as well as staff training.

The root cause for failed equipment is determined by Toronto Hydro engineers. When equipment fails and is brought in from the field for assessment, engineers carry out a failure analysis that may include, but is not limited to, visual assessment of the failed equipment, visiting the site of the failure, gathering of information from field personnel, and mechanical, electrical, or chemical testing. Engineers work with internal stakeholders as well as manufacturers, as required, to determine the root cause. This failure analysis process is documented in the Equipment Failure Analysis Program procedure provided as Appendix A to this response. The results of the analyses described above and in the appendix are logged in Toronto Hydro's Equipment Failure Database, which is where the root cause definitions are centralized.

Engineers involved in Equipment Failure Analysis undergo specific training that enables them to handle equipment in a safe manner, conduct equipment teardowns, and use

various testing tools. In some cases, equipment manufacturers or equipment testing facilities are engaged to provide training. One example of this is the 'Distribution System Failure Investigations and Root Cause Analysis' training that was provided by Kinectrics for Toronto Hydro engineers. Moreover, job shadowing plays a critical role in training related to Equipment Failure Analysis. A new engineer with little to no experience with Equipment Failure Analysis would shadow an experienced engineer to learn and understand the application of procedures, tools and training in the analysis of failed equipment and determination of a root cause of failure.

Quality procedure QSP-QA-84001 supersedes SP-013 Revision 3

Toronto Hydro-Electric System Limited
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Appendix A
FILED: July 10, 2019
(16 pages)

EQUIPMENT FAILURE ANALYSIS PROGRAM

QSP-QA-84001

REVISION LOG

Revision Number	Revision Date	Pages Affected	Description of Changes	Approved by
00	March 2016	-	-	Manager of Standards & Policy Planning

TABLE OF CONTENTS

1 PURPOSE

The Equipment Failure Analysis Program is a standardized process for investigating equipment failures and addressing related quality issues. Equipment failures occur on a regular basis and it is important to track them systematically to avoid an overload or mismanagement of data. Successful capture of the data will allow the Quality department to thoroughly analyze quality issues and their impact on the reliability of the distribution system. The end goal is to determine and carry out corrective and/or preventative actions for each issue in order to mitigate the possibility of a reoccurrence.

2 SCOPE

The Equipment Failure Analysis Program sets out to investigate equipment that fails prematurely, fails abnormally, or does not function as intended; determine a root cause; and to implement corrective and/or preventative actions in order to mitigate reoccurrence.

The Program receives input data from different sources, including, but not limited to: Tagged equipment returned from the field, emails and existing Toronto Hydro maintained databases, including but not limited to: Interruption Tracking Information System (ITIS) and System Response Report (SRR). Upon completion of the investigation, the root cause and recommended corrective actions are communicated to the affected stakeholders.

Issues relating to the following are documented, but no root cause analysis or reporting is completed:

- Equipment that has reached the end of its reported “Life Expectancy” (refer to “Toronto Hydro Electric System useful Life of Assets” report prepared by Kinectrics; report # K-418021-RA-0001-R002) and has not failed in an abnormal manner.
- Equipment containing asbestos and/or PCB.

3 TERMS AND DEFINITIONS

TERMS	DEFINITIONS
Failure Mode	The manner by which a failure is observed.

Criticality	A relative measure of the consequences of a failure mode.
Root Cause	The most basic cause that can reasonably be identified that, when fixed, will mitigate the problem's reoccurrence.
Non-Conformance	The nonfulfillment of a specified requirement.
Corrective Action	Corrects a non-conformance that has already occurred.
Preventative Action	Measures put in place to address the potential for a non-conformance to occur.
Originator	The person that raised the issue or returned the defective equipment to the attention of the Quality department.

4 ACRONYMS

EFA	Equipment Failure Analysis
EFD	Equipment Failure Database
DRP	Directly Responsible Person
WIP	Work In Progress
RCA	Root Cause Analysis
S/N	Serial Number
ITIS	Interruption Tracking Information System
SRR	System Response Report
DETS	Defective Equipment Tracking System
WO	Work Order
NCR	Non-Conformance Report
COPQ	Cost of Poor Quality
FLIS	Feeder Loading Information System

5 ROLES & RESPONSIBILITIES

5.1 Management

Management is responsible for the approval of this procedure.

5.2 Quality Supervisor

The Quality Supervisor is responsible for the following:

- Approval of this procedure;
- Implementation and execution of this procedure;
- Overseeing resolution strategies for any escalation of issues and/or inquiries.

5.3 Field Crews

The Field Crews are responsible for the following:

- Identifying equipment failures in the field.
- Filling out the Equipment Return Tag (refer to Appendix A) with removal details, affixing it to the equipment.
- Returning the tagged equipment to the designated Equipment Failure Areas (refer to Appendix B) at one of the Toronto Hydro warehouses. Notifying the Quality department for large equipment that cannot be returned.
- Providing assistance and additional information as requested by the Quality Representative.

5.4 Quality Representative

The Quality Representative is responsible for the following:

- Logging failed equipment returned to each of the Toronto Hydro warehouses into the EFD on a weekly basis.
- Notifying the Field Crew by standardized email that the failed equipment has been logged into the EFD.
- Leading the equipment failure investigation by obtaining detailed information relevant to the equipment failure and determining the equipment failure mode.
- Prioritizing investigations based on the severity of the issue.
- Documenting all relevant information in the EFD as it is gathered.
- Working with the Originator and affected stakeholders within Toronto Hydro to obtain additional information.
- Conducting a site visit, if required.
- Performing a root cause analysis and establishing corrective and preventative actions, as required.

- Preparation, review and closure of Non-Conformance Reports per the Non-Conformance Reporting Procedure, as required.
- Communicating the results of the investigation with affected stakeholders.

5.5 Supply Chain Representative

The Supply Chain Representative is responsible for the following:

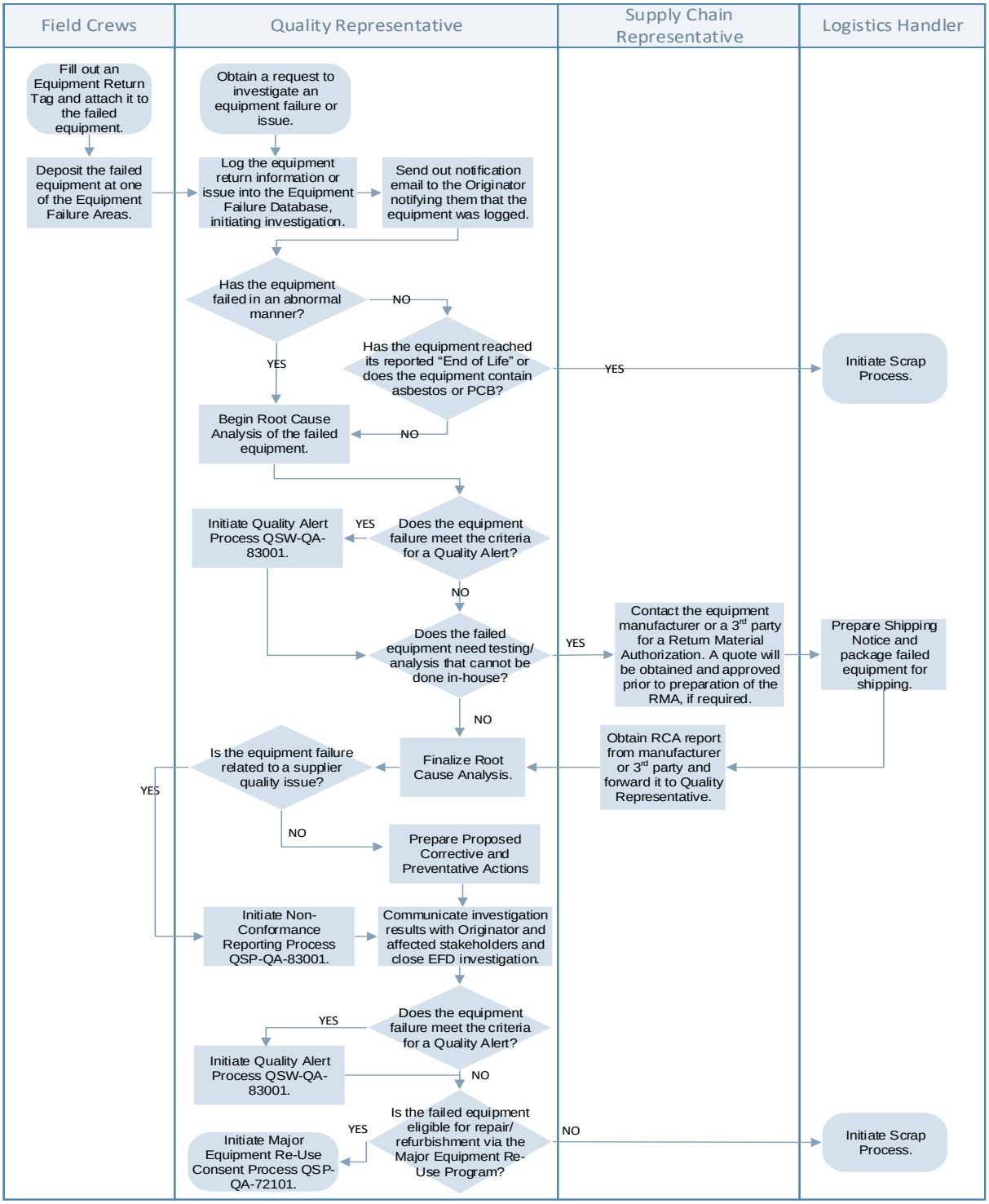
- Coordinating with the Supplier of defective material and the warehousing Logistics Handler in order to obtain a Return Material Authorization (RMA) and a Shipping Notice required to ship the defective material back to the Supplier for root cause analysis and repair.
- Participate in communications between the Quality Representative and the manufacturer of defective material.

5.6 Logistics Handler

The Logistics Handler is responsible for the following:

- Placing defective equipment into quarantine, as required by the Quality Representative.
- Issuance of Shipping Notices when a defective material is to be returned to Supplier's facility for root cause analysis.
- Scrapping equipment when equipment failure investigation is complete or is not required.

6 EQUIPMENT FAILURE ANALYSIS PROCESS FLOWCHART



7 EQUIPMENT FAILURE ANALYSIS PROCESS

7.1 Return of Defective Equipment and Logging

The Originator of the issue will fill out an Equipment Return Tag (refer to Appendix A) for each piece of failed equipment and then securely attach the tag to the equipment. The Originator will return the equipment to one of the Toronto Hydro warehouses and place it in the designated Equipment Return Area.

Alternatively, for equipment that cannot be removed, a notification can be sent to the Quality department to initiate an investigation.

A representative from the Quality department will visit each Toronto Hydro warehouse on a weekly basis in order to document and photograph each piece of returned equipment and log them into the Equipment Failure Database (EFD). The investigation will be assigned to a Quality Representative.

The Equipment Failure Analysis Program may also receive input data from various other sources, including, but not limited to:

- Emails – Formal and informal notifications of equipment failures and/or quality issues.
- Existing Databases – Searches through Interruption Information Tracking System (ITIS), System Response Reports (SRR) and Defective Equipment Tracking System (DETS) to look for useful equipment failure data.
- Toronto Hydro Legal & Claims Departments – Request for root cause analysis as part of their case file.
- Environment, Health and Safety (EHS) – Request for assistance with root cause analysis as part of their EHS investigation.
- Suppliers/Manufacturers – Product recalls and non-conformances.
- Quality Hotline

7.2 Gather Information and Prioritize

The Quality Representative assigned to the investigation will review the Equipment Return Tag information, the photographs, along with any relevant information derived from other Toronto Hydro sources in order to determine an action plan for the investigation and to prioritize. The other sources of information include, but not limited to: Ellipse, GEAR, ITIS, SRR, DETS, FLIS, As Constructed Drawings, and Maintenance History.

If the Quality Representative determines that the equipment failure may relate to a systematic issue or a safety concern, a Quality Alert may be issued to alert any

stakeholders that would be affected. In this case, the Quality Alert Process (refer to QSW-QA-83001) will be followed.

7.3 Analysis of Equipment Failure

The Quality Representative will carry out their analysis by observing the returned equipment; speaking with any witnesses, Grid Response crews, and Reactive crews; and/or coordinating a site visit in order to obtain as much information as possible.

The Quality Representative may require mechanical, electrical, or chemical testing in order to determine the failure mode. If the tests cannot be performed by Toronto Hydro staff or if the required equipment is not available, testing may be commissioned by the equipment manufacturer or a 3rd party at the request of the Quality Representative.

When the equipment failure mode has been identified, the Quality Representative will work with other groups in order to determine the probable root cause. These groups can be internal departments to Toronto Hydro as well as Suppliers, manufacturers, contractors, or other.

When the probable root cause identified is a process issue that is not a supplier quality issue, a list of corrective and preventative actions will be proposed in order to mitigate the reoccurrence of the issue. For supplier quality issues, the Non-Conformance Procedure (refer to QSP-QA-83001) will be followed.

Examples of Actions for a Process Issue:

- Request the assistance of the Originator or other crews in order to correct the issue in the field.
- Issue a Quality Alert to inform crews of the issue and of any required actions.
- Review training procedures and recommend refresher training for Toronto Hydro staff and approved contractors, if necessary.
- Initiate process improvement or change (I.e Construction Standards, Technical Specifications, Standard Design Practice, etc.)

7.4 Investigation Results and Closure

Upon completion of the investigation, the root cause and recommended corrective and preventative actions are communicated via one or more of the following:

- Notification Email – Addressed to the Originator and their Supervisor.

- Equipment Failure Analysis Report – Addressed to the Originator, their Supervisor and other affected stakeholder, as required.
- Quality Alert Process (refer to QSW-QA-83001).

If the Quality Representative determines through root cause analysis that the equipment failure was caused by the Supplier or manufacturer, an NCR will be completed and the Non-Conformance Procedure (refer to QSP-QA-83001) will be followed.

If the Quality Representative determines that the equipment may be repaired or refurbished, the Major Equipment Re-Use Process (refer to QSP-QA-72101) will be followed.

8 MONITOR AND MEASURE

The Quality Representative will monitor the results entered in the EFD to identify any trends. Examples of some grouping for trends are:

- By Equipment Type
- By Equipment Rating
- By Geographical Zone
- By Station, Bus or Feeder

Recommendations may arise as trends are discovered and will be reported to affected stakeholders as they are identified.

9 REPORTING

An Equipment Failure Database report will be generated bi-annually in Powerpoint format and uploaded to the Quality section on Toronto Hydro's intranet, Plugged In. The report will summarize the findings within the Equipment Failure Analysis program and to illustrate potential trends. Key stakeholders may be engaged in regards to specific issues, as required, in order to share information and trending information to drive continuous improvement.

EFD information will be made available in order to compile the Supplier/Manufacturer Quality Scorecards bi-annually as per the Supplier Assessment and Scorecard Work Instruction (refer to QSW-QA-84001).

10 REFERENCES

Non Conformance Reporting procedure; QSP-QA-83001

Supplier Assessment and Scorecard Work Instruction; QSW-QA-84001

Major Equipment Re-Use Consent Process; QSP-QA-72101

Quality Alert Process; QSW-QA-83001

APPENDIX A – EQUIPMENT RETURN TAG

Figure 2: Front of Equipment Return Tag

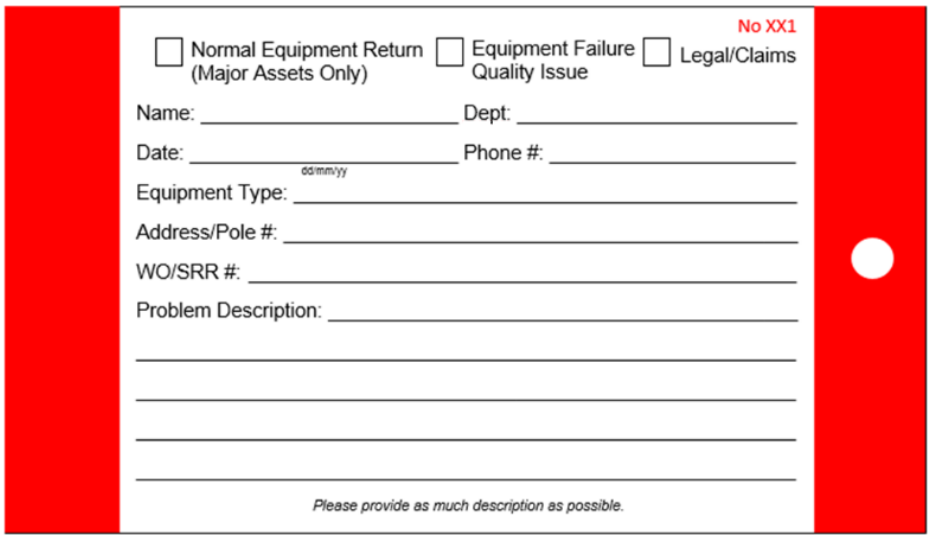


Figure 3: Back of Equipment Return Tag

APPENDIX B – EQUIPMENT RETURN AREAS

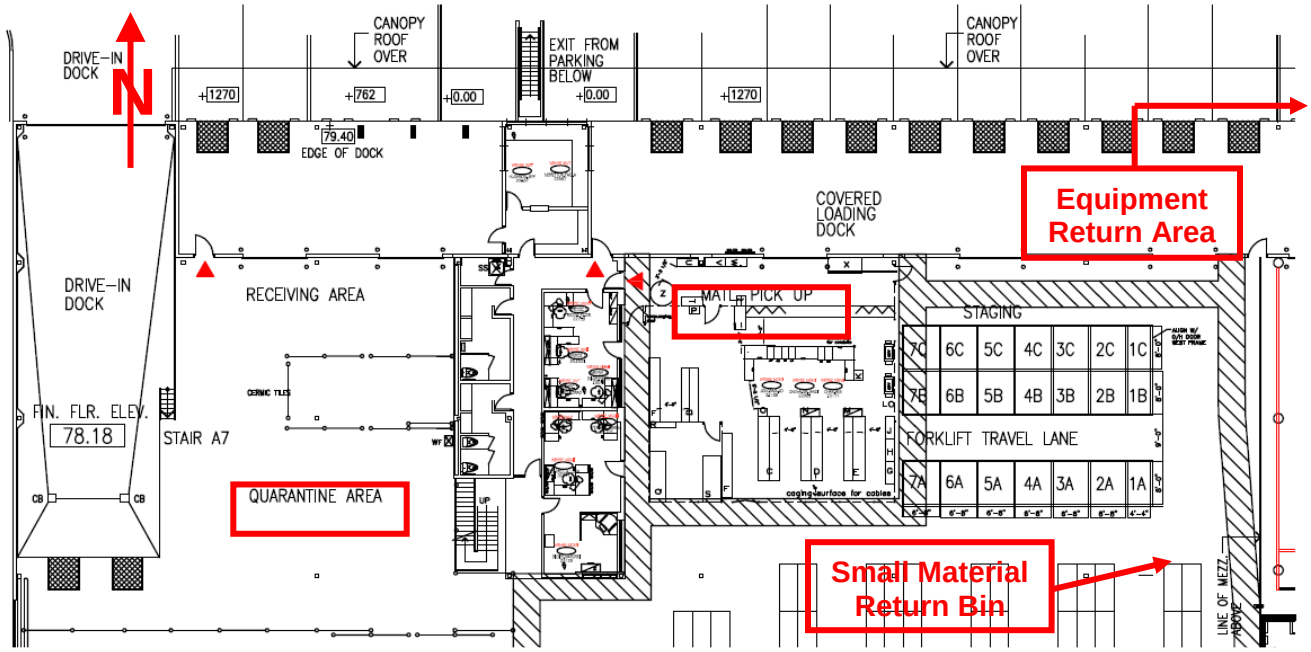


Figure 4: 500 Commissioners Street (Toronto) Warehouse

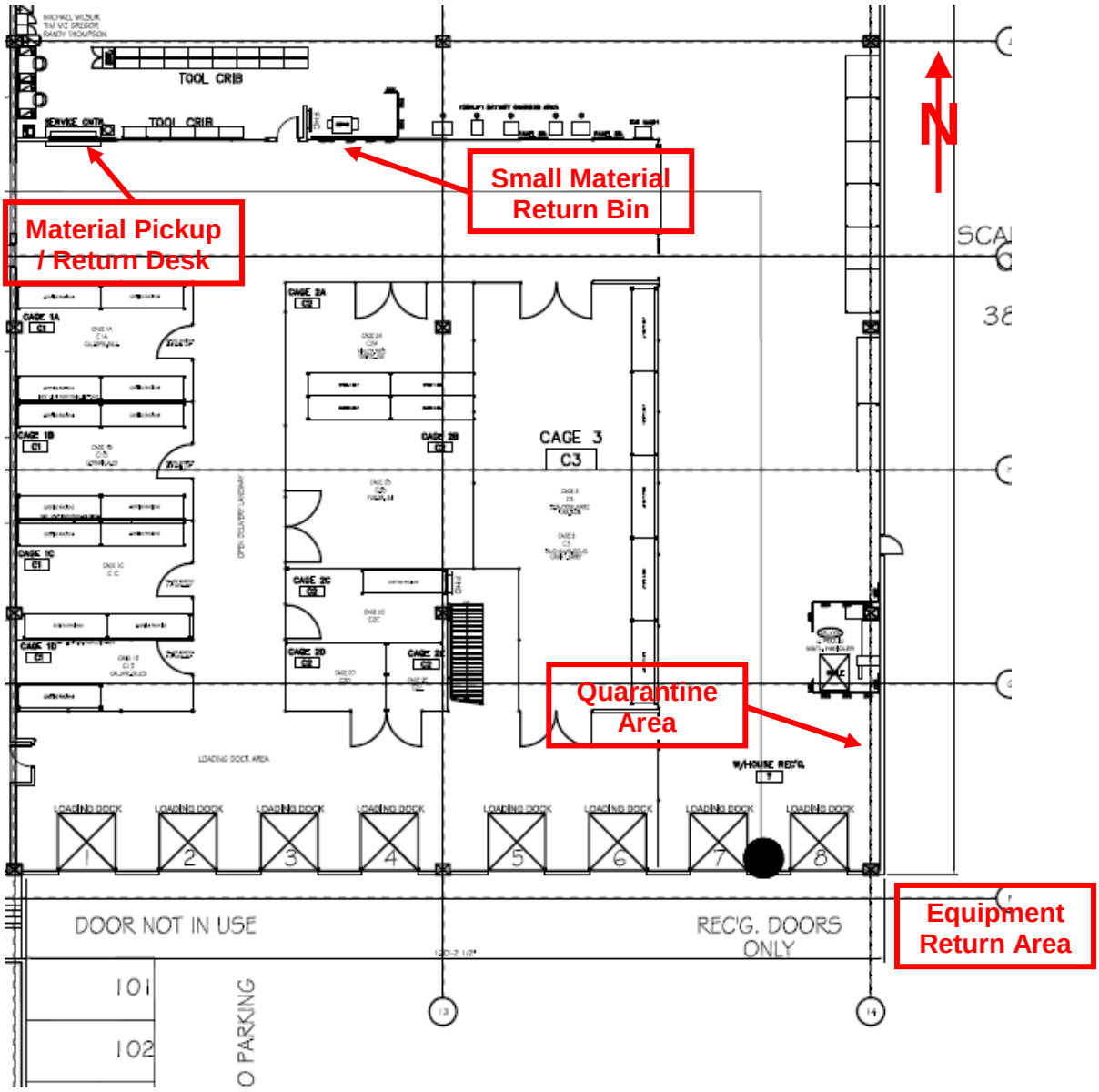


Figure 5: 601 Milner (Scarborough) Warehouse

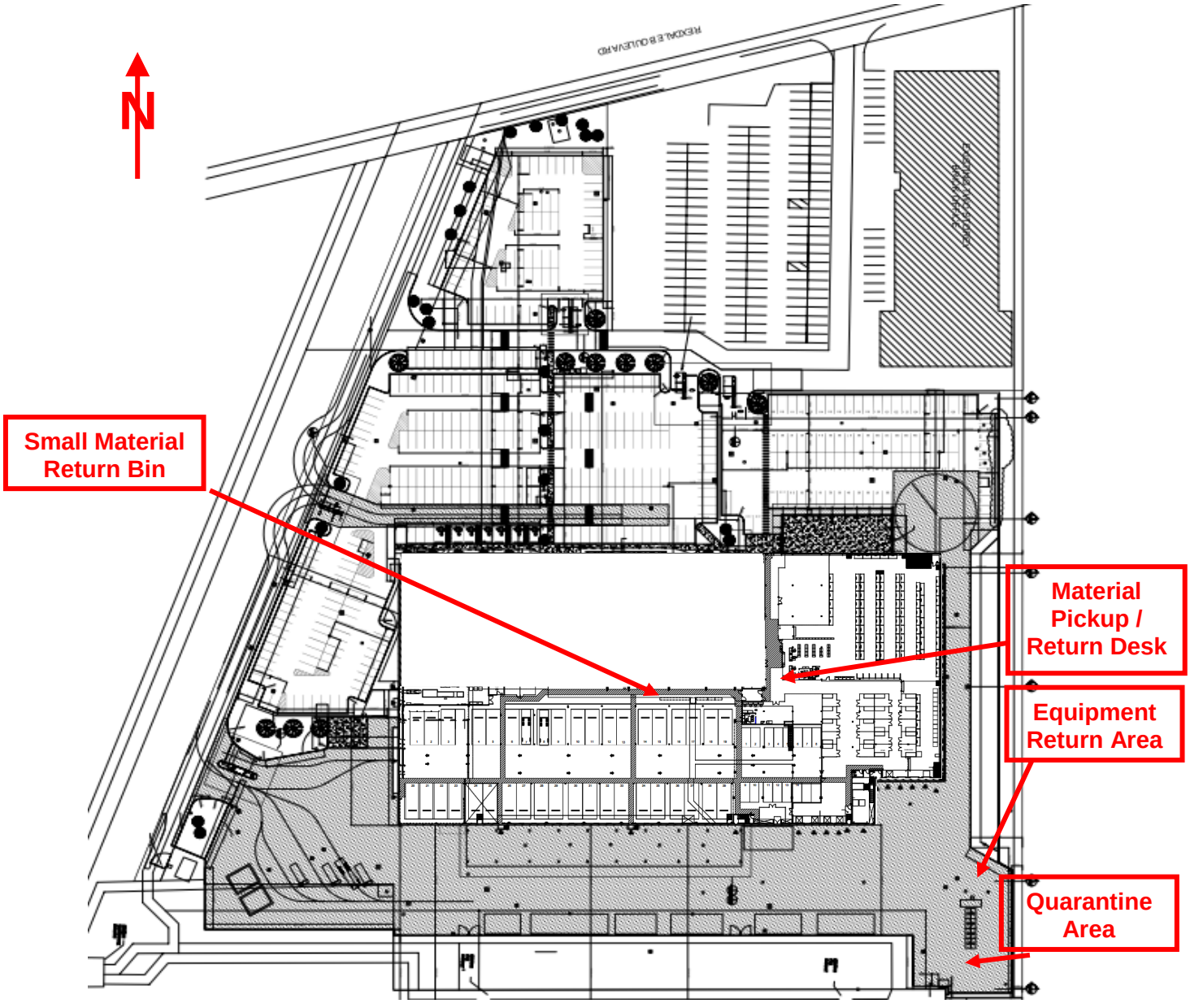


Figure 6: 71 Rexdale (Etobicoke) Warehouse

ORAL HEARING UNDERTAKING RESPONSES TO N.D. HANN

UNDERTAKING NO. J6.9:

Reference(s):

To provide the criteria for invoking mutual assistance.

RESPONSE:

When deciding whether or not to request mutual assistance in order to prepare for a pending event or respond to an ongoing event, Toronto Hydro would consider the factors outlined below.

Pre-event:

- Potential risk to public safety;
- Type of anticipated event;
- Weather forecast (magnitude of sustained wind speeds, wind gusts, precipitation, impact area, ice accumulation, confidence, duration of extreme weather event, etc.);
- Seasonal factors (e.g. foliage, groundwater saturation, etc.);
- Likelihood of damage to Toronto Hydro plant;
- Anticipated availability, capability and proximity of mutual assistance resources;
- Known Toronto Hydro resource limitations; and
- Anticipated cost of pre-staging mutual assistance resources and anticipated customer benefit.

Post-event:

- Risk to public safety;
- Type of event;
- Number of customers interrupted;
- Resource capacity and type vs estimated amount and complexity of damage;
- Estimated amount of time needed to restore all customers;
- Availability, capability and proximity of mutual assistance resources; and
- Anticipated cost of utilizing mutual assistance resources and anticipated customer benefits.

ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J6.10:

Reference(s):

To advise what undertaking would show the cost per customer changes, the drivers that are associated with costs per customer.

RESPONSE:

Please refer to Appendix A to this response for the total and per-customer OM&A costs for the 2015 to 2020 period. In order to facilitate year-over-year comparability, the OM&A costs have been normalized for the following accounting changes:

- The inclusion of contact voltage scanning costs in OM&A as of 2018;
- The inclusion of monthly billing costs in OM&A as of 2020; and
- The implementation of the accrual method of accounting for OPEB as of 2020.

Toronto Hydro notes that on a normalized view, the average annual increase in OM&A cost per customer over from the 2015 test year to the 2020 test year is less than 1 percent. The utility has achieved this result by finding efficiencies and productivity in its OM&A programs, as detailed throughout the evidence filed in this proceeding.

J6.10-Appendix A
Normalized Recoverable OM&A Cost per Customer

	Last Rebasing Year (2015 Board-Approved)	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals	2019 Bridge Year	2020 Test Year	Variance (2020 Test Year vs 2015 Actuals)	Compounded Growth over 2015 Actuals[6]
Reporting Basis									
OM&A Costs									
O&M	-	$ 115.7	$ 120.0	$ 119.3	$ 131.7	$ 127.3	$ 127.1	$ 11.5	1.9%
Admin Expenses	-	$ 128.3	$ 129.9	$ 135.9	$ 136.6	$ 140.9	$ 150.4	$ 22.1	3.2%
Total Recoverable OM&A from Appendix 2-JB	**$ 243.9**	**$ 244.0**	**$ 249.8**	**$ 255.3**	**$ 268.3**	**$ 268.2**	**$ 277.5**	**$ 33.5**	**2.6%**
Normalization of OM&A Expenses									
Monthly Billing[1]	-	-	-	-	-	-	$ 5.0	$ 5.0	-
Cash vs Accrual OPEB[2]	-	-	-	-	-	-	$ 2.3	$ 2.3	-
Contact Voltage[3]	-	-	-	-	$ 1.6	$ 2.0	$ 1.9	$ 1.9	-
Total Normalized OM&A	**$ 243.9**	**$ 244.0**	**$ 249.8**	**$ 255.3**	**$ 266.7**	**$ 266.2**	**$ 268.3**	**$ 24.4**	**1.9%**
Number of Customers [4,5]	**747,812**	**747,812**	**759,032**	**765,560**	**769,691**	**776,787**	**784,331**	**36,519**	**1.0%**
Normalized OM&A per customer	**326.2**	**326.3**	**329.1**	**333.4**	**346.6**	**342.6**	**342.1**	**15.8**	**1.0%**

Notes:

1 Toronto Hydro recorded the incremental costs and savings from the mandatory transition to monthly billing for non-seasonal residential and all GS<50 kW customers in the Monthly Billing Deferral Account costs pursuant to the OEB's decision and order (EB 2014-0116) dated December 29, 2015. Starting 2020, monthly billing costs are included as part of OM&A. For further information, refer to Exhibit 9, Tab 1, Schedule 1 and Exhibit 4A, Tab 2, Schedule 14.

2 In the 2015-2019 plan period, Toronto Hydro accounts for OPEBs on a cash rather than on an accrual basis for rate making purposes as directed by the OEB in its decision and order (EB 2014-0116) dated December 29, 2015. On September 14, 2017, the OEB issued its final report on the regulatory treatment of pension and OPEB costs and established the use of accrual accounting for OPEB as the default method on which to set rates for pension and OPEB amounts in cost-based applications. Therefore, Toronto Hydro proposes to account for OPEBs on an accrual basis for rate making purposes for the 2020 test year. For further information, refer to Exhibit 4A, Tab 2, Schedule 20.

3 As a result of the implementation of the new accounting standard for leases (IFRS16) in 2018, the costs associated with contact voltage scanning over 2018 to 2020 are presented as part of OM&A. Prior to the implementation of the new standard, these costs were capitalized and amortized over the life of the contract and included as part of the depreciation expense for revenue purposes. This change in presentation does not have a significant impact on the revenue requirement. For further information, refer to Exhibit 4A, Tab 2, Schedule 2.

4 The method of calculating the number of customers is the year end method

5 The number of customers and the number of FTEs should correspond to mid-year or average of January 1 and December 31 figures.

6 Please refer to interrogatory response 4A-AMPCO-69 on the formula for calculating the compounded growth.

ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J6.11:

Reference(s):

To provide the technical conference transcript reference about vault maintenance and the number of inspections.

RESPONSE:

Toronto Hydro believes that this undertaking asks for a reference to the technical conference transcript where Toronto Hydro communicated that it is not proceeding with the proposed revision to the Condition of Service regarding the Person-in-Attendance vault entry charge.

Appendix A in this response includes the requested reference from Day 2 of the Technical Conference. In addition, Appendix B provides a copy of the letter that was sent to affected customers notifying them of Toronto Hydro's decision not to proceed with the proposed change in Conditions of Service.

The interrogatory reference requested is 4A-GTAA-7.

comes to specific inspection programs, employs a consistent resource group such that we get consistent results in the inspection forms. And if we were to begin using persons in attendance to also do that work, that might begin to change the quality of the specific observations that are coming out of the inspection.

So there is a number of reasons why trying to piggyback inspections on what you are talking about won't necessarily be a more efficient approach.

MR. QUINN: Thank you for your detailed answer. I think, Mr. Millar, I will reserve the rest for a later date. So thank you very much, panel. That is the end of our questions for this panel.

MR. MILLAR: Thank you, Mr. Quinn.

Mr. Rubenstein, did you still have some follow-up questions?

CONTINUED EXAMINATION BY MR. RUBENSTEIN:

MR. RUBENSTEIN: Yes, I do. First, can I just ask, has the revisions to section 1.7.5 of the Conditions of Service gone into effect, the ones proposed to be effective February 1st?

MR. TAKI: No, they have not.

MR. RUBENSTEIN: Is there a plan for them to go into service at some point? Or is it, you are waiting for the Board decision? Or what is the status?

MR. TAKI: At this point, and based on the feedback we've received from customers, we will not be proceeding with the proposed changes.

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FILED: July 10, 2019
(1 page)

March 26, 2019

Dear Vault Owner,

Re: Proposed changes to Section 1.7.5 of our Conditions of Service (COS) relating to vault access

In January, we indicated that as of February 1, 2019, Toronto Hydro would provide one Person in Attendance (PIA) onsite – free of charge – for a maximum of two hours, once every 12 months, for customers who are accessing vaults containing Toronto Hydro equipment solely for the purpose of mandatory fire equipment inspections. Any other inspections that require a PIA would be subject to charges to cover the cost of the PIA.

After careful consideration, Toronto Hydro has decided to defer any change to the COS regarding vault access fees to 2020. **We are therefore maintaining the status quo of one free vault access every 12 months.**

While we believe the concept of limiting free access to vaults solely for the purposes of fire inspections is prudent and strikes a balance of fairness between different customers, upon further reflection we want to better understand our customer feedback around this issue.

We apologize for any confusion this has caused. If you have any questions or comments, please email us at ConditionsofService@torontohydro.com with reference to Section 1.7.5.

Best Regards,

Toronto Hydro

ORAL HEARING UNDERTAKING RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION

UNDERTAKING NO. J6.12:

Reference(s):

a) How does the PILs get calculated?

b) Then the second question is, is that how is the tax implications of the capital program actually calculated?

RESPONSE:

The PILs expense that forms part of the capital related revenue requirement calculation underlying the C-Factor in the Custom Price Cap Index is calculated using the methodology consistent with the principles set out in Chapter 2 of the OEB's Filing Requirements, as noted in Exhibit 4B, Tab 2, Schedule 1. Specifically, Toronto Hydro analyzes the nature of the assets resulting from the forecasted capital expenditures (i.e. the forecasted in service assets) to determine the appropriate capital cost allowance classes for tax purposes. Toronto Hydro's response to interrogatory U-Staff-188, Table 1 provides the updated PILs amounts that form part of the capital related revenue requirement calculation underlying the C-Factor. Appendices A and B to that response outline the detailed calculations underlying the PILs, including the capital cost allowance applied.

ORAL HEARING UNDERTAKING RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION

UNDERTAKING NO. J7.1:

Reference(s):

To confirm whether THESL's CDM assessment only included programs IESO has now indicated it will be continuing to fund for 2019 and 2020.

RESPONSE:

Toronto Hydro confirms that for the purposes of the assessment of the impact of the IESO's CDM announcement, savings from programs outside of those listed in the Interim Framework were removed from the CDM Forecast. However, savings from settled projects (closed by April 1st 2019 deadline) and from projects with legally binding agreements (signed by the April 1st 2019 deadline, to be completed by 2020) remain in the CDM Forecast.

ORAL HEARING UNDERTAKING RESPONSES TO VULNERABLE ENERGY CONSUMERS COALITION

UNDERTAKING NO. J7.2:

Reference(s): **Exhibit K7.1, Tab 14, Page 52**

To make best efforts to review the data in the CRRRVA calculation and reconcile plan and actual.

RESPONSE:

Figure 1 illustrates how Toronto Hydro calculates the capital related revenue requirement which flows from capital expenditures and in-service additions in a given year.

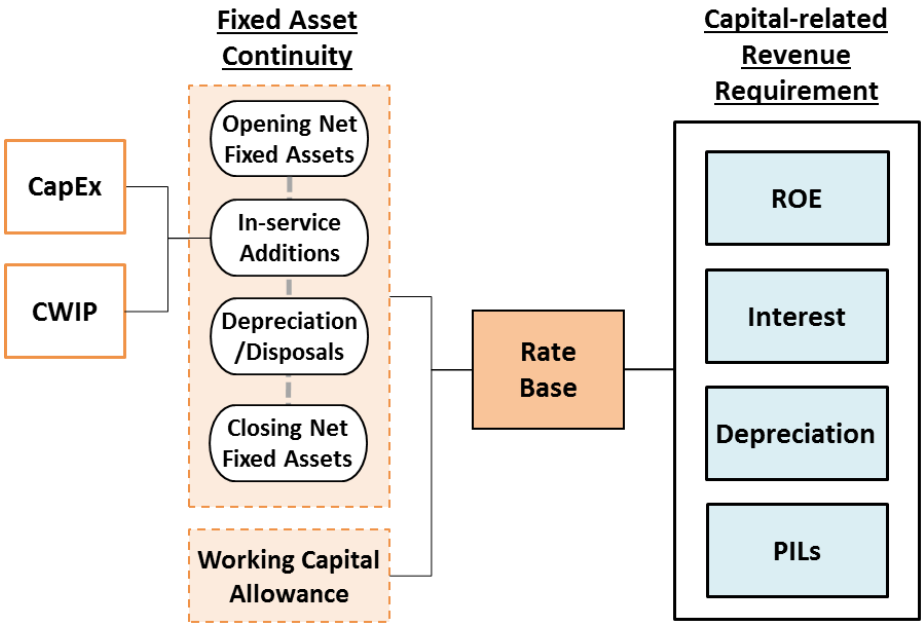


Figure 1: Capital Related Revenue Requirement

Toronto Hydro calculates the balance in the CRRRVA by comparing the capital related revenue requirement ("CRR")[1] resulting from the amounts approved in rates, with the CRR for actual in-service additions based on the execution of the utility's capital plan over the 2015-2019 rate period. Toronto Hydro excludes variances that are captured in other capital related variance accounts (i.e. derecognition and externally driven capital).

Appendix A to this response shows the calculation of the CRRRVA balance for 2015 in accordance with the information above. In addition, the table in Part B of Appendix A provides a reconciliation of approved and achieved earnings for 2015 to demonstrate that Toronto Hydro's achieved earnings excludes the differences ROE to be returned to customers thorough the CRRRVA. For more information, please refer to Toronto Hydro's response to undertaking J7.7.

[1] CRR includes depreciation, ROE, interest expense, and PILs.

J7.2 Appendix A

Part A: 2015 Capital-Related RR Calculation for CRRRVA

	2015 Approved in Rates		2015 Actual	
CWIP Balance	516.1	a	522.1	o
Capital Expenditures Approved: EB-2014-0116, Draft Rate Order Update, Page 4, Table 1† Actual: Exhibit U, Tab 2, Schedule 2, Appendix A (2-AA)	477.6	b	490.6	p
Opening Net Fixed Assets	2,849.0	c	2,844.5	q
In-Service Additions				
Exhibit U, Tab 2, Schedule 1, App A	512.5	d	435.3	r
Accumulated Depreciation and others*	(226.8)	e	(193.7)	s
Closing Net Fixed Assets	**3,134.7**	f=c+d+e	**3,086.2**	t=q+r+s
Average Net Fixed Assets	2,991.9	g=(c+f)/2	2,965.3	u=(q+t)/2
Working Capital Allowance	240.0	h	240.0	v
Rate Base^	**3,231.9**	i=g+h	**3,205.3**	w=u+v
Return on Equity	120.2	j=i*40%*9.3%	119.2	x=w*40%*9.3%
Deemed Interest	79.3	k=i*60%*4.09%	78.6	y=w*60%*4.09%
Depreciation	206.0	l	190.5	z
PILS	25.0	m	25.2	aa
Capital-Related RR	**430.5**	n=∑j:m	**413.6**	ab=∑x:aa
Total Capital-Related RR Variance	(16.9)	ac=ab-n		
2015 CRRRVA Balance Exhibit U, Tab 9, Schedule 1, pg. 5	**(2.7)**	ag=ac-ad-ae-af		
2015 CRRRVA Balance including Carrying Charges Exhibit U, Tab 9, Schedule 1, pg. 5	**(2.7)**	*ai=ag+ah*		

Exclude variances recorded in other capital variance accounts and other: Exhibit U, Tab 9, Schedule 1, pg. 5		
Derecognition Variance Account	(12.9)	ad
External Demand Projects Variance Account	(0.2)	ae
Other Adjustments	(1.2)	af
Total	**(14.2)**	

Carrying Charges[x]	(0.0)	ah

** Includes asset derecognition/disposals.*
† Excludes $0.4 million related to Renewable Energy Investments that are not in rate base.
[x] Carrying charges are applicable and is an immaterial amount of $17k in 2015
^Difference between funded and actual rate base is $26.6M

J7.2 Appendix A

Part B - 2015 Deemed versus Actual Earnings Reconciliation

	Earnings ($M)	*Notes*
Earnings in rates ("funded")	120.2	*EB-2014-0116, Draft Rate Order Update, page 5, Table 2*
Earnings for capital not placed in service	(1.0)	*Change in rate base (Part A of J7.2, App. A): $26.6M*40%*9.30%*
Adjusted Earnings in Rates	**119.2**	
Out-of-Period and other adjustments	20.9	*Exh. U-Staff-166.17, Table 2, "Total Adjustments" line*
Actual NCRR in excess of funded	(3.3)	*Exh. U-Tab 9-Schedule 1, page 14, Table 18, item K*
Other variances	0.9	*Weather and rounding variances*
Earnings as per RRR 2.1.5.6	**137.7**	***U-Staff-166.17, Table 1, item A***

ORAL HEARING UNDERTAKING RESPONSES TO ASSOCIATION OF MAJOR POWER CONSUMERS ONTARIO

UNDERTAKING NO. J7.3:

Reference(s): JTC4.6, Appendix A

To calculate bill increases without rate riders for large users.

RESPONSE:

Please see Table 1 which shows the Large User Sub-Total A monthly bill estimate excluding Rate Riders annual bill percent and cumulative total percent changes. The table includes bill amounts based on 2019 OEB-approved distribution rates and the most recent proposed 2020-2024 distribution rates submitted to the OEB as part of the Exhibit U. Note that these bills do not reflect the updates reflected in Undertaking J1.2.

Table 1: Large User Sub-Total A excluding Rate Riders Bill Change

	ii Sub-Total A excluding Rate Riders ($)	Annual Change (%)	Cumulative Total Change (%)	2020-2024 Average Annual increase (%)
2019	70,697.02			
2020	73,266.36	3.6%	3.6%	
2021	75,654.55	3.3%	7.0%	
2022	77,515.35	2.5%	9.6%	
2023	80,802.04	4.2%	14.3%	
2024	83,977.69	3.9%	18.8%	3.5%

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J7.4:

Reference(s): JTC4.6, Appendix A

To provide an updated version of JTC4.6, Appendix A including the latest, best information.

RESPONSE:

Please find attached updated Appendix A table with 2019 Board-approved distribution related rates and most recent proposed 2020-2024 distribution rates submitted to the OEB as part of Exhibit U. Note that these rates do not reflect the updates noted in Undertaking J1.2.

APPENDIX A: 2010-2024 Sub-total A Amounts

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 Proposed	2021 Proposed	2022 Proposed	2023 Proposed	2024 Proposed	Average Annual Increase 2010-14	2015-19	2020-24
Residential - 750 kWh																		
i Sub-Total A including Rate Riders	31.26	30.60	30.57	31.74	32.18	30.25	36.81	39.23	40.98	44.37	40.79	42.16	43.23	45.12	46.95			
annual change - $	3.31	-0.66	-0.03	1.17	0.44	-1.93	6.56	2.42	1.75	3.39	-3.58	1.37	1.07	1.89	1.83	0.85	2.44	0.52
annual change - %	11.8%	-2.1%	-0.1%	3.8%	1.4%	-6.0%	21.7%	6.6%	4.5%	8.3%	-8.1%	3.4%	2.5%	4.4%	4.1%	2.9%	6.6%	1.1%
ii Sub-Total A excluding Rate Riders	30.04	29.65	29.65	29.84	30.17	30.17	36.88	39.03	40.60	41.63	42.17	43.54	44.61	46.50	48.33			
annual change - $	2.45	-0.39	0.00	0.19	0.33	0.00	6.71	2.15	1.57	1.03	0.54	1.37	1.07	1.89	1.83	0.52	2.29	1.34
annual change - %	8.9%	-1.3%	0.0%	0.6%	1.1%	0.0%	22.2%	5.8%	4.0%	2.5%	1.3%	3.2%	2.5%	4.2%	3.9%	1.8%	6.7%	3.0%
Competitive Sector Multi-Unit Residential - 300 kWh[1]																		
i Sub-Total A including Rate Riders	-	-	-	26.63	26.26	25.20	27.36	29.63	31.62	34.01	32.30	33.39	34.24	35.74	37.18			
annual change - $					-0.37	-1.06	2.16	2.27	1.99	2.39	-1.71	1.09	0.85	1.50	1.44	-0.37	1.55	0.63
annual change - %					-1.4%	-4.0%	8.6%	8.3%	6.7%	7.5%	-5.0%	3.4%	2.5%	4.4%	4.0%	#VALUE!	5.3%	1.8%
ii Sub-Total A excluding Rate Riders	-	-	-	24.93	25.20	25.20	27.70	29.89	31.68	33.12	33.32	34.41	35.26	36.76	38.20			
annual change - $					0.27	0.00	2.50	2.19	1.79	1.44	0.20	1.09	0.85	1.50	1.44	0.27	1.58	1.02
annual change - %					1.1%	0.0%	9.9%	7.9%	6.0%	4.5%	0.6%	3.3%	2.5%	4.3%	3.9%	#VALUE!	5.6%	2.9%
General Service < 50 kW - 2,000 kWh																		
i Sub-Total A including Rate Riders	70.78	70.61	70.61	73.45	82.90	76.26	94.64	101.93	99.56	108.33	102.51	105.96	108.65	113.40	117.99			
annual change - $	9.50	-0.17	0.00	2.84	9.45	-6.64	18.38	7.29	-2.37	8.77	-5.82	3.45	2.69	4.75	4.59	4.32	5.09	1.93
annual change - %	15.5%	-0.2%	0.0%	4.0%	12.9%	-8.0%	24.1%	7.7%	-2.3%	8.8%	-5.4%	3.4%	2.5%	4.4%	4.0%	6.2%	5.5%	1.7%
ii Sub-Total A excluding Rate Riders	69.70	69.24	69.24	69.89	70.66	70.66	86.83	93.14	98.19	102.04	106.11	109.56	112.25	117.00	121.59			
annual change - $	8.76	-0.46	0.00	0.65	0.77	0.00	16.17	6.31	5.05	3.85	4.07	3.45	2.69	4.75	4.59	1.94	6.28	3.91
annual change - %	14.4%	-0.7%	0.0%	0.9%	1.1%	0.0%	22.9%	7.3%	5.4%	3.9%	4.0%	3.3%	2.5%	4.2%	3.9%	3.0%	7.6%	3.6%
General Service 50-999 kW - 200 kVA																		
i Sub-Total A including Rate Riders	1,156.75	1,164.63	1,163.73	1,213.89	1,257.53	1,197.40	1,453.46	1,564.60	1,628.94	1,779.43	1,655.34	1,711.62	1,755.49	1,832.95	1,907.79			
annual change - $	93.37	7.88	-0.90	50.16	43.64	-60.13	256.06	111.14	64.34	150.49	-124.09	56.28	43.87	77.46	74.84	38.83	104.38	25.67
annual change - %	8.8%	0.7%	-0.1%	4.3%	3.6%	-4.8%	21.4%	7.6%	4.1%	9.2%	-7.0%	3.4%	2.6%	4.4%	4.1%	3.4%	7.2%	1.4%
ii Sub-Total A excluding Rate Riders	1,152.29	1,154.68	1,154.68	1,165.80	1,178.61	1,178.61	1,423.22	1,526.54	1,609.29	1,672.54	1,726.67	1,782.95	1,826.82	1,904.28	1,979.12			
annual change - $	89.42	2.39	0.00	11.12	12.81	0.00	244.61	103.32	82.75	63.25	54.13	56.28	43.87	77.46	74.84	23.15	98.79	61.32
annual change - %	8.4%	0.2%	0.0%	1.0%	1.1%	0.0%	20.8%	7.3%	5.4%	3.9%	3.2%	3.3%	2.5%	4.2%	3.9%	2.1%	7.3%	3.4%
General Service 1,000-4,999 kW - 2,000 kVA																		
i Sub-Total A including Rate Riders	8,789.08	9,963.73	9,656.35	10,072.37	10,191.31	9,784.48	11,483.66	12,555.43	13,378.69	14,472.09	13,688.07	14,151.65	14,512.83	15,150.78	15,767.10			
annual change - $	-466.75	1,174.65	-307.38	416.02	118.94	-406.83	1,699.18	1,071.77	823.26	1,093.40	-784.02	463.58	361.18	637.95	616.32	187.10	856.16	259.00
annual change - %	-5.0%	13.4%	-3.1%	4.3%	1.2%	-4.0%	17.4%	9.3%	6.6%	8.2%	-5.4%	3.4%	2.6%	4.4%	4.1%	1.9%	7.3%	1.7%
ii Sub-Total A excluding Rate Riders	8,747.40	9,585.86	9,585.86	9,678.06	9,784.48	9,784.48	11,689.49	12,538.06	13,217.52	13,736.92	14,222.07	14,685.65	15,046.83	15,684.78	16,301.10			
annual change - $	-603.95	838.46	0.00	92.20	106.42	0.00	1,905.01	848.57	679.46	519.40	485.15	463.58	361.18	637.95	616.32	86.63	790.49	512.84
annual change - %	-6.5%	9.6%	0.0%	1.0%	1.1%	0.0%	19.5%	7.3%	5.4%	3.9%	3.5%	3.3%	2.5%	4.2%	3.9%	0.9%	7.0%	3.5%
Large Use - 9,700 kVA																		
i Sub-Total A including Rate Riders	44,687.52	50,904.48	49,298.23	51,478.37	52,088.26	50,007.83	59,065.92	65,062.02	70,581.76	75,465.01	70,211.83	72,600.02	74,460.82	77,747.51	80,923.16			
annual change - $	4,258.54	6,216.96	-1,606.25	2,180.14	609.89	-2,080.43	9,058.09	5,996.10	5,519.74	4,883.25	-5,253.18	2,388.19	1,860.80	3,286.69	3,175.65	2,331.86	4,675.35	1,091.63
annual change - %	10.5%	13.9%	-3.2%	4.4%	1.2%	-4.0%	18.1%	10.2%	8.5%	6.9%	-7.0%	3.4%	2.6%	4.4%	4.1%	5.2%	7.7%	1.4%
ii Sub-Total A excluding Rate Riders	44,440.46	48,992.93	48,992.93	49,464.19	50,007.83	50,007.83	60,158.67	64,526.14	68,023.43	70,697.02	73,266.36	75,654.55	77,515.35	80,802.04	83,977.69			
annual change - $	3,633.86	4,552.47	0.00	471.26	543.64	0.00	10,150.84	4,367.47	3,497.29	2,673.59	2,569.34	2,388.19	1,860.80	3,286.69	3,175.65	1,840.25	4,137.84	2,656.13
annual change - %	8.9%	10.2%	0.0%	1.0%	1.1%	0.0%	20.3%	7.3%	5.4%	3.9%	3.6%	3.3%	2.5%	4.2%	3.9%	4.2%	7.2%	3.5%
Street lighting - 2,700 kVA																		
i Sub-Total A including Rate Riders	114,725.63	113,109.30	98,996.96	103,202.80	104,358.29	100,284.27	99,151.07	107,582.88	113,641.34	124,154.21	120,971.44	125,024.40	128,199.16	133,795.22	139,240.08			
annual change - $	47,138.76	-1,616.33	-14,112.34	4,205.84	1,155.49	-4,074.02	-1,133.20	8,431.81	6,058.46	10,512.87	-3,182.77	4,052.96	3,174.76	5,596.06	5,444.86	7,354.28	3,959.18	3,017.17
annual change - %	69.7%	-1.4%	-12.5%	4.2%	1.1%	-3.9%	-1.1%	8.5%	5.6%	9.3%	-2.6%	3.4%	2.5%	4.4%	4.1%	9.1%	3.5%	2.3%
ii Sub-Total A excluding Rate Riders	100,005.63	98,356.96	98,356.96	99,262.97	100,284.27	100,284.27	104,116.37	111,683.91	117,742.37	122,354.93	126,341.20	130,394.16	133,568.92	139,164.98	144,609.84			
annual change - $	32,418.76	-1,648.67	0.00	906.01	1,021.30	0.00	3,832.10	7,567.54	6,058.46	4,612.56	3,986.27	4,052.96	3,174.76	5,596.06	5,444.86	6,539.48	4,414.13	4,450.98
annual change - %	48.0%	-1.6%	0.0%	0.9%	1.0%	0.0%	3.8%	7.3%	5.4%	3.9%	3.3%	3.2%	2.4%	4.2%	3.9%	8.2%	4.1%	3.4%
USL - 285 kWh																		
i Sub-Total A including Rate Riders	24.00	23.50	22.72	23.79	24.07	23.1	28.55	30.77	32.42	34.80	28.92	29.90	30.66	32.01	33.32			
annual change - $	8.82	-0.50	-0.78	1.07	0.28	-0.97	5.45	2.22	1.65	2.38	-5.89	0.98	0.76	1.35	1.31	1.78	2.15	-0.30
annual change - %	58.1%	-2.1%	-3.3%	4.7%	1.2%	-4.0%	23.6%	7.8%	5.4%	7.4%	-16.9%	3.4%	2.6%	4.4%	4.1%	9.7%	7.7%	-0.9%
ii Sub-Total A excluding Rate Riders	22.78	22.63	22.63	22.84	23.10	23.10	28.46	30.53	32.18	33.45	30.11	31.09	31.85	33.20	34.51			
annual change - $	7.11	-0.15	0.00	0.21	0.26	0.00	5.36	2.07	1.65	1.27	-3.34	0.98	0.76	1.35	1.31	1.49	2.07	0.21
annual change - %	45.4%	-0.7%	0.0%	0.9%	1.1%	0.0%	23.2%	7.3%	5.4%	3.9%	-10.0%	3.3%	2.5%	4.2%	3.9%	8.1%	7.7%	0.6%

Note 1: Competitive Sector Multi-Unit Residential rates were first approved as part of 2013 Toronto Hydro Decision and Order (EB-2012-0064)

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J7.5:

Reference(s):

To provide the satisfaction survey results or its location in the evidence.

RESPONSE:

Toronto Hydro reports on Customer Satisfaction Survey results as part of its Electricity Distributor Scorecard, in accordance with the OEB's Report on Performance Measurement for Electricity Distributors dated March 5, 2014 (EB-2010-0379).

Toronto Hydro first reported its customer satisfaction survey result on the Scorecard in 2014 through a composite index of individual satisfaction scores from multiple categories including price, service quality and reliability. For 2016, Toronto Hydro adopted a survey methodology used by Innovative Research Group and the Electricity Distributors Association. Based on the survey activities undertaken in December 2016, Toronto Hydro achieved a residential customer satisfaction ("CSAT") score of 85 percent and an overall score of 83 percent. Both these results surpassed the provincial average at the time of 79 percent. The 2016 result cannot be compared to the 2014 results because the two surveys are based on different methodologies including differences in scoring scales, structure of questions and overall scoring index versus a single score.

Please refer to Exhibit 1B, Tab 2, Schedule 2, Section 1.6 for more information regarding this measure and to Exhibit U, Tab 1B, Schedule 1, Table 1 for the most recent results.

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J7.6:

Reference(s):

To explain the derivation of the productivity analysis.

RESPONSE:

Toronto Hydro reviewed the transcript and believes this undertaking is intended to address why the utility did not undertake a study to determine a custom productivity factor for Toronto Hydro.

In its previous rate application (EB-2014-0116), Toronto Hydro adopted the principles of the RRF and proposed a custom rate-setting index that included a capital factor. Toronto Hydro also filed a total cost benchmarking study by Power System Engineering ("PSE") that included targeted modifications to the variables within the OEB expert's benchmarking model while adhering to the expert's general approach. This study was filed in support of a proposed stretch factor. Toronto Hydro did not propose an alternative productivity factor. This approach was consistent with the OEB's policy for rate-setting under the RRF, which established that benefits sharing in respect of the productivity factor would be set on an industry-wide basis for all rate-setting options

using the Board's methodology, while the other components of benefits sharing would be evaluated on a case-by-case basis for Custom IR filers.[1]

In its decision in EB-2014-0116, the OEB concluded that "Toronto Hydro's rate framework is structured in such a way as to support the achievement of RRFE objectives."[2] Toronto Hydro's approach to its current and previous[3] application has been to adopt the OEB's policy and standard approaches wherever possible, and to only depart – i.e. customize – where required to reconcile the utility's needs and unique business conditions within the existing incentive framework. Toronto Hydro continues to believe that the OEB's total factor productivity approach would not benefit from utility-specific customization.

[1] Ontario Energy Board, Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach, (October 18, 2012), Table 1 at page 13.
[2] EB-2014-0116, Toronto Hydro-Electric System Limited Decision and Order (December 29, 2015) at page 2.
[3] EB-2014-0116, Toronto Hydro-Electric System Limited Argument in Chief (March 19, 2015), Tab 4 – RRFE Compliance at page 1.

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J7.7:

Reference(s):

To explain the interplay of the ROE and the CRRRVA.

RESPONSE:

Toronto Hydro reviewed the transcript and believes the undertaking is intended to confirm: (i) whether Toronto Hydro's achieved ROE includes earnings related to capital funded in approved rates which was not brought into service; and (ii) what caused the achieved earnings in 2015 and 2016 to be in excess of approved.

The CRRRVA is a ratepayer protection mechanism approved by the OEB in the utility's last rate application. This account tracks the capital related revenue requirement ("CRR")[1] differences resulting from variances between the approved and actual in-service additions over the 2015-2019 rate period. For more information, please refer to Toronto Hydro's response to undertaking J7.2 and Exhibit 9, Tab 1, Schedule 1, pages 10-11.

Toronto Hydro confirms that achieved ROE does not include earnings related to capital funded in approved rates which was not brought into service. Please refer to the response to J7.2, Appendix A, Part B for the demonstration of this fact.

[1] CRR includes depreciation, ROE, interest expense, and PILs.

As stated in Toronto Hydro's response to interrogatory 1B-CCC-22, achieved ROE for 2016 (12.18 percent) was greater than approved (9.30 percent) primarily due to the accounting recognition of out of period items for: (i) 2012-2014 ICM results, following OEB approval in July 2016; and (ii) 2008-2010 Smart Meter results. The accounting of these two items followed the OEB's accounting guidelines and were not reflected in Toronto Hydro's achieved 2008-2014 earnings.

Annually-reported achieved earnings (i.e. ROE) are affected by the timing of OEB decisions and related accounting from the natural course of reviewing and approving regulatory account balances. Table 1 presents the average utility earnings over the 2008-2018 period which normalizes for the identified timing differences. This table shows that over the ten-year period, Toronto Hydro's achieved earnings are slightly lower than approved (0.23%).

Table 1 – Approved and Achieved ROE[2]

Year	Approved	Achieved	Difference
2008	8.57%	10.90%	2.33%
2009	8.01%	7.23%	(0.78%
2010	9.85%	8.14%	(1.71%)
2011	9.58%	9.73%	0.15%
2012	9.58%	7.62%	(1.96%)
2013	9.58%	7.10%	(2.48%)
2014	9.58%	7.41%	(2.17%)
2015	9.30%	10.71%	1.41%
2016	9.30%	12.18%	2.88%
2017	9.30%	9.08%	(0.22%)
2018	9.30%	9.33%	0.03%
10 Year Average	**9.27%**	**9.04%**	**(0.23%)**

[2] Approved and achieved ROE are provided in: the response to 1B-Staff-29, for 2008-2017; and Exhibit U, Tab 1B, Schedule 1, Table, Page 2 for 2018.

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J8.1:

Reference(s):

To provide the calculation for the G factor.

RESPONSE:

The table below demonstrates the calculation of the G-Factor, which is shown in Table 4 of Exhibit 1B, Tab 4, Schedule 1, page 11 in a summarized form.

Table 1: Forecast Revenue at 2020 Proposed Rates ($ Millions)

Rate Year	Revenue at 2020 Rates ($)	Annual Growth Rate
2020	796,881,545	
2021	797,842,292	0.1%
2022	799,833,529	0.2%
2023	801,575,863	0.2%
2024	804,823,006	0.4%
G-Factor Formula =((804,823,006/796,881,545)^(1/4))-1 = 0.2%		**0.2%**

ORAL HEARING UNDERTAKING RESPONSES TO DISTRIBUTED RESOURCE COALITION

UNDERTAKING NO. J8.2:

Reference(s):

To provide the number of the list of small and residential customers provided by Toronto Hydro to Mr. Lyle for the randomization sample.

RESPONSE (PREPARED BY INNOVATIVE RESEARCH GROUP):

Toronto Hydro provided Innovative Research Group with randomly selected sample lists, including 90,000 residential customers and 30,000 small business (GS < 50kW) customers. Innovative used these customer sample lists for customer engagement activities, including randomized telephone surveys. This was in addition to a sample list of 6,000 mid-market (GS > 50kW) customers provided by Toronto Hydro.

ORAL HEARING UNDERTAKING RESPONSES TO ENERGY PROBE RESEARCH FOUNDATION

UNDERTAKING NO. J8.3:

Reference(s): Exhibit K7.1, page 39

To provide a summary of any data equivalent to the parameters left incomplete on the scorecard (page 39 of Exhibit K7.1, VECC Compendium for Panel 3).

RESPONSE:

The results for the items on the OEB's Electricity Distributor Scorecard, as highlighted in the referenced compendium, are typically issued by the OEB to all regulated utilities in Ontario by mid-August following the reporting year end.[1]

The three Cost Control items are derived annually from OEB's benchmarking activity conducted by PEG and the related results and report[2] are issued after the completion of PEG's update to its econometric modelling. For this reason, Toronto Hydro does not have the 2018 results for these items. Please see the following for related information:

- For the efficiency assessment result, please see Exhibit 1B, Tab 4, Schedule 3; and
- For the remaining two results, please see Toronto Hydro's response to 1B-CCC-21.

[1] Please refer to the OEB's Activities Schedule for the Publication of the 2018 Scorecard of Electricity Distributors. (link)
[2] Empirical Research in Support of Incentive Rate-Setting Benchmarking Update.

ORAL HEARING UNDERTAKING RESPONSES TO ENERGY PROBE RESEARCH FOUNDATION

UNDERTAKING NO. J8.4:

Reference(s):

To show the amount of over-collection, assuming the ratio of 103.2 versus 100 percent for the residential.

RESPONSE:

If the residential class revenue for 2020 is set at 100 percent revenue to cost ratio, the revenue for this class would be $10.4 million less than what Toronto Hydro has proposed. However, Toronto Hydro notes that a reduction to the residential revenue cost ratio would increase the revenue to cost ratios, and therefore the revenue, for the other classes.

ORAL HEARING UNDERTAKING RESPONSES TO N.D. HANN

UNDERTAKING NO. J8.5:

Reference(s):

To split out the components of revenue requirement from 2020 to 2024.

RESPONSE:

The table below shows the capital-related and other components of Revenue Requirement from 2020-2024, as presented in undertaking J1.7. Toronto Hydro notes that distribution rates for 2021 to 2024 are determined based on the proposed Custom Price Cap Index (CPCI), which includes components (i.e. productivity, stretch, growth) which are not reflected in the table below.

Table 1: 2020-2024 Base Revenue Requirement

Revenue Requirement (RR)	2020	2021	2022	2023	2024	Total
Return On Equity	$ 162.0	$ 170.4	$ 179.1	$ 189.3	$ 198.9	$ 899.7
Deemed Interest Expense	$ 100.2	$ 105.4	$ 110.8	$ 117.1	$ 123.0	$ 556.4
Depreciation Expense	$ 265.5	$ 281.5	$ 292.3	$ 314.0	$ 327.1	$ 1,480.5
PILS	$ 12.7	$ 22.0	$ 13.4	$ 27.8	$ 40.4	$ 116.3
Capital Related RR	$ 540.5	$ 579.3	$ 595.6	$ 648.1	$ 689.4	$ 3,052.8
OM&A	$ 278.0	$ 280.5	$ 283.0	$ 285.6	$ 288.1	$ 1,415.2
Revenue Offsets	$ (47.1)	$ (47.5)	$ (47.9)	$ (48.4)	$ (48.8)	$ (239.6)
Non-Capital RR	$ 230.9	$ 233.0	$ 235.1	$ 237.2	$ 239.4	$ 1,175.6
Base RR	$ 771.4	$ 812.3	$ 830.7	$ 885.3	$ 928.7	$ 4,228.4

ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J8.6:

Reference(s): Exhibit K7.1, GDP and Customer Count Forecasts

To provide specific information on the monthly data and the trend and how it resulted in the forecast of customers that was provided.

RESPONSE:

Toronto Hydro understands that the intent of this undertaking was to assist the Board in understanding how the updated historical data for the GS<50kW and GS 50-999kW classes resulted in the updated forecast of customers for those classes.

Figures 1 and 2 below show the historical monthly data and the estimated trend equations for both the original forecast and for the updated forecast. In the case of the GS <50kW class, the additional year of actual data resulted in an increase in the trend line forecast despite the slight decrease of the updated actual number of customers relative to forecast. In the case of the GS 50-999kW class, the additional year of data resulted in a decrease in the trend line forecast, despite the slight increase of the updated actual number of customers relative to forecast.

The updated trendlines are applied to the last actual data to determine the forecast of customers for each class.

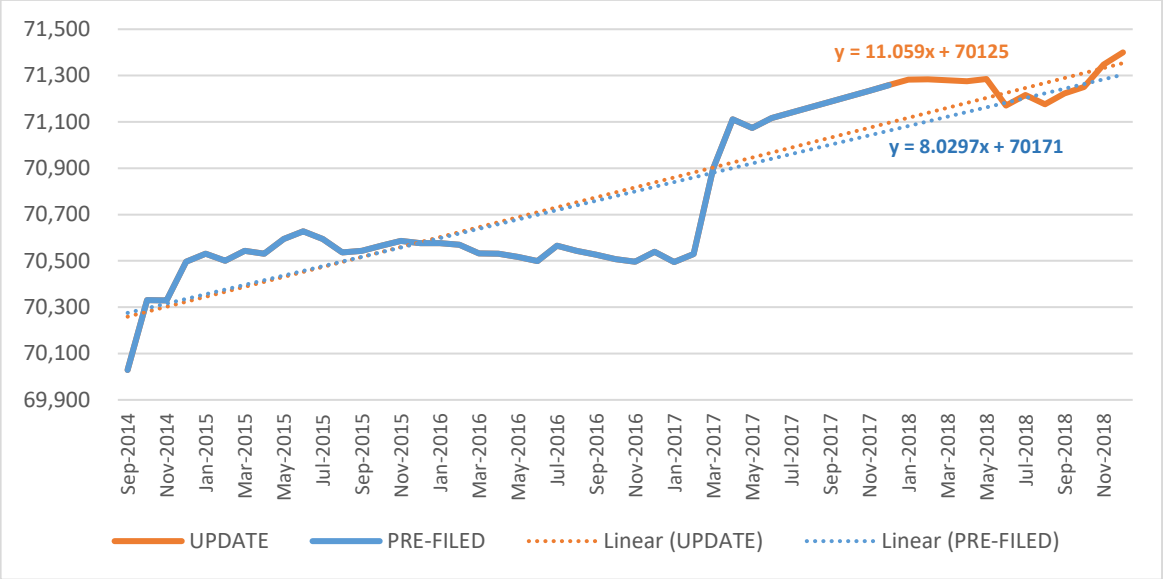


Figure 1: GS < 50kW Customers

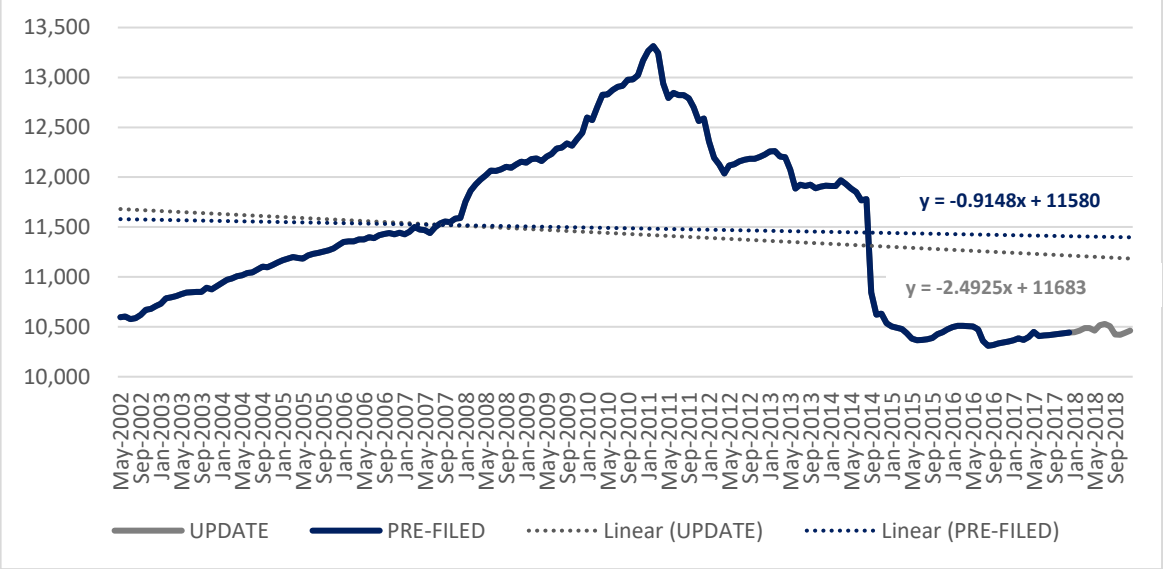


Figure 2: GS 50-999 kW Customers

ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J8.7:

Reference(s): Exhibit U, Tab 3, Schedule 1, Appendix A

To provide a forecast of volumetric versus customer using the customer data subset shown at Exhibit U, Tab 3, Schedule 1, Appendix A.

RESPONSE:

Table 1 below shows the variances between the Board-approved forecast versus the actual customers and energy.

Table 1: Forecast versus Actual Customers and Energy

Year	Board-Approved Customer Forecast	Actual Customers	Customer Variance	Board-Approved Load Forecast (GWh)	Weather Normalized Actual (GWh)	Energy Variance
2015	749,679	747,811	-0.25%	24,993.28	25,031.07	0.15%
2016	763,091	759,031	-0.53%	25,027.38	24,909.27	-0.47%
2017	773,850	765,559	-1.07%	24,841.64	24,427.62	-1.67%
2018	785,107	769,690	-1.96%	24,696.94	24,620.32	-0.31%

ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J8.8:

Reference(s):

To provide a scenario showing 2019 balances deferred for recovery and used in smoothing bill impacts for future years, to be recovered when audited balances were available.

RESPONSE:

The table below demonstrates estimated total bill impacts based on the scenario where projected 2019-only Group 2 DVA balances are recovered starting in 2021 through to the 2024 period (4-year clearance). Please refer to Exhibit U, Tab 1A, Schedule 2, Table 3 for the original table.

Table 1: Bill Impacts – Change In Monthly Bill

	Change in bill	Proposed				
		2020	2021	2022	2023	2024
Residential	***$/30 days***	-2.97	0.30	1.12	1.40	1.92
	%	*-2.3*	*0.2*	*0.9*	*1.1*	*1.5*
Competitive Sector Multi-Unit Residential	***$/30 days***	-1.34	0.50	0.89	0.99	1.51
	%	*-1.9*	*0.7*	*1.3*	*1.4*	*2.1*
General Service <50 kW	***$/30 days***	-3.78	0.29	2.82	4.40	4.82
	%	*-1.1*	*0.1*	*0.9*	*1.3*	*1.4*
General Service 50-999 kW	***$/30 days***	-414.06	226.43	49.57	87.53	84.57
	%	*-2.9*	*1.6*	*0.4*	*0.6*	*0.6*

	Change in bill	Proposed				
		2020	2021	2022	2023	2024
General Service 1,000-4,999 kW	***$/30 days***	-4,124.35	2,517.39	408.13	720.88	696.44
	%	*- 2.7*	*1.7*	*0.3*	*0.5*	*0.5*
Large Use	***$/30 days***	795.46	-2,591.12	2,102.70	3,713.96	3,588.48
	%	*0.1*	*-0.4*	*0.3*	*0.5*	*0.5*
Street Lighting	***$/30 days***	-5,202.63	4,314.53	3,587.48	6,323.55	6,152.69
	%	*-1.8*	*1.5*	*1.2*	*2.2*	*2.1*
Unmetered Scattered Load	***$/30 days***	-5.61	0.27	0.80	1.42	1.37
	%	*-8.7*	*0.5*	*1.4*	*2.4*	*2.2*

ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J8.9:

Reference(s): Exhibit U, Tab 3, Schedule 2, Appendix A

With reference to Exhibit U-3-2, Appendix A, Account 4375 Shared Services Recovery, to confirm whether the figure is a gross revenue number or net, and if gross, to provide the line item reference for the related shared services recovery amounts, if available.

RESPONSE:

Toronto Hydro confirms that the shared services revenues in account 4375 are gross amounts. These revenues represent a full recovery of costs incurred across multiple OM&A programs. Table 1 below provides the annual costs related to these services:

Table 1: Shared Services costs for account 4375 ($ Millions)

2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Bridge	2020 Test
2.9	3.2	4.8	5.7	5.5	5.5

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J8.10:

Reference(s): 1B-Staff-9, Appendix L

With reference to 1B-Staff-9, Appendix L, to advise whether unit cost information replacements were based on reactive instead of planned programs.

RESPONSE:

The unit cost information presented in the response to interrogatory 1B-Staff-9, Appendix L does not include asset replacements from the Reactive and Corrective Capital program. Reactive replacements are excluded because there is a high degree of variability in the cost associated with performing this work. For example, the type and severity of the asset failure can have a significant impact on the replacement cost. For more information about how the asset categories and programs were selected please refer to Exhibit 1B, Tab 2, Schedule 1, Appendix B at pages 11 and 12.

RESPONSE (PREPARED BY UMS):

In the exchange with Mr. Rubenstein following the undertaking, it was noted that UMS assumed that other utilities include reactive capital in their unit costs as they did not specify and ask them to split out the costs.[1] Upon further review, it should be noted that it is normal practice in the industry that the costs relating to reactive work are often recorded in non-unitized (i.e. not asset specific) or pre-established storm accounts. Those

[1] EB-2018-0165, THESL Oral Hearing, Day 8, July 11, 2019, at page 132, lines 18-26.

groupings of costs would not have been included in the survey responses because they cannot be attributed to specific asset categories.

ORAL HEARING UNDERTAKING RESPONSES TO ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO

UNDERTAKING NO. J8.11:

Reference(s):

To provide the reference to the undertaking where asset quantities are filed.

RESPONSE:

Asset quantities submitted for the Unit Cost Benchmarking study were provided in interrogatory 1B-Staff-9, Appendix L. Please note that 2017 and 2018 asset quantities were also provided as part of an update to the unit cost data in Appendix A to Toronto Hydro's response to interrogatory U-AMPCO-116.

ORAL HEARING UNDERTAKING RESPONSES TO

N.D. HANN

UNDERTAKING NO. J8.12:

Reference(s): **Exhibit 1B, Tab 2, Schedule 1, Appendix B, UMS Report Figures B-1 and B-2**

To check the density measurements in Figure 1B, showing U.S vegetation density.

RESPONSE (PREPARED BY UMS):

In reviewing Figures B-1 and B-2 of the report, the “m” stands for “meters based on area weighted height.” If one were to apply this nomenclature and scale to Toronto Hydro, they would be placed in the tan region (200-500m).

ORAL HEARING UNDERTAKING RESPONSES TO ENERGY PROBE RESEARCH FOUNDATION

UNDERTAKING NO. J9.1:

Reference(s): Exhibit K9.3, page 4

Precise reference in PSE working papers for Interrogatory L3-EP-74 (b) and (c).

RESPONSE (PREPARED BY PSE):

The congested urban variable data can be found in the working papers in the Excel spreadsheet entitled, "Modeling Dataset.xls" in worksheet "File from SST" in columns BN and BO. These two columns need to be summed to equal the congested urban variable used.

The underground percentage variable can be found in the same Excel worksheet in column AQ.

The rural variable (which we assume is referring to the customer density variable) is found in the same Excel worksheet in columns AK and R. Column AK divided by column R will equal the total service territory divided by the number of customers.

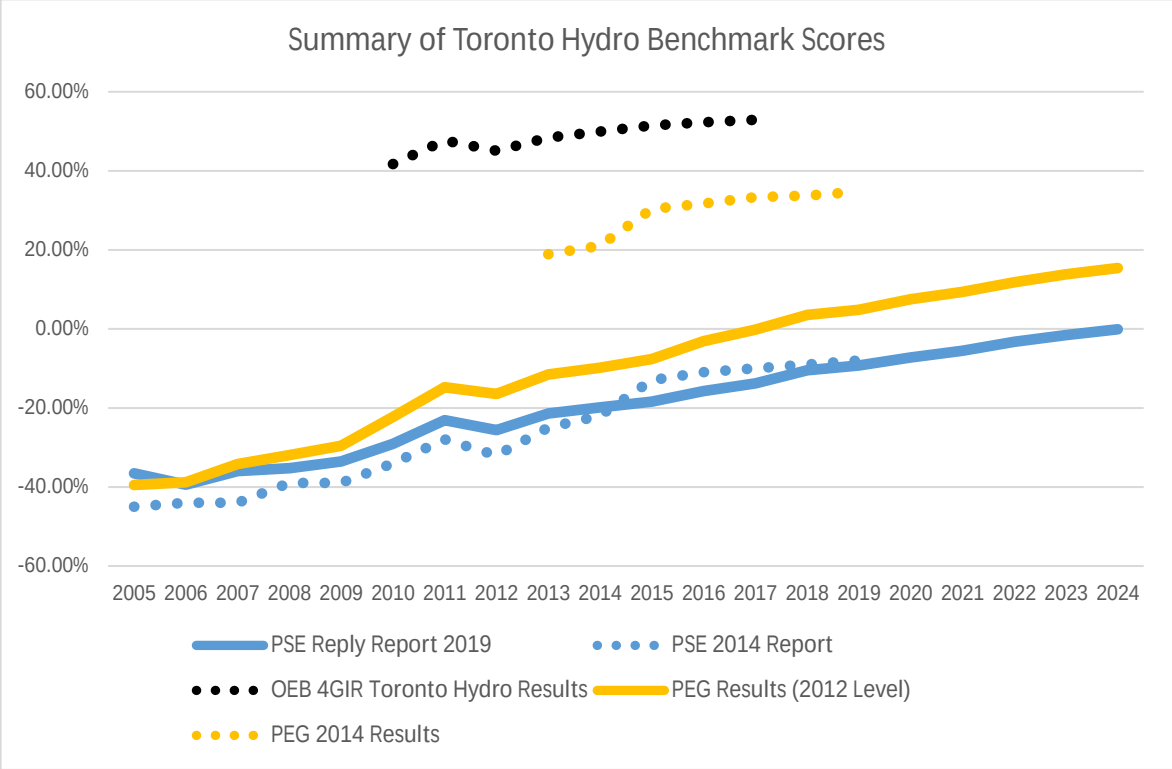
ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALTION

UNDERTAKING NO. J9.2:

Reference(s): Exhibit K9.5, page 21

Expand chart in L3-EP-73 as much as possible.

RESPONSE (PREPARED BY PSE):



ORAL HEARING UNDERTAKING RESPONSES TO OEB PANEL

UNDERTAKING NO. J9.3:

Reference(s):

Remove congested urban variable from model.

RESPONSE (PREPARED BY PSE):

As Mr. Fenrick stated in the hearing, eliminating the congested urban variable produces a meaningless result that no longer accounts for the congested urban cost challenges of Toronto Hydro.[1] The Toronto Hydro benchmarking scores displayed below are produced from the exact total cost model presented by PSE minus the variables containing the congested urban variable. As such, the model is no longer controlling for the substantial increased costs of serving a congested urban area. Furthermore, by simply deleting these variables from the model no other variables (e.g., the percent artificial surfaces variable used in PSE's Hydro One distribution benchmarking research) were able to be substituted. The results shown below suffer from an obvious omitted variable bias and should be disregarded.

[1] EB-2018-0165, Oral Hearing Transcript Day 9 (July 12, 2019) at page 184, lines 22-25.

Year	Toronto Hydro Benchmarking Score
2005	15.1%
2006	13.5%
2007	16.2%
2008	16.5%
2009	17.8%
2010	22.4%
2011	28.0%
2012	25.2%
2013	28.4%
2014	29.7%
2015	30.7%
2016	34.1%
2017	36.3%
2018	39.6%
2019	40.7%
2020	42.9%
2021	44.5%
2022	46.7%
2023	48.4%
2024	49.8%

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J10.1:

Reference(s): 1B-SEC-3, Appendix G

Please explain what the hourly rates specifically reflect (i.e. median or average wage rate within the job classification band)?

RESPONSE:

The hourly rates reflect the end rate for each job classification in the survey. As noted by Ms. Powell on Day 3 of the Technical Conference, starting on page 32 of the Transcript at line 10, the "end rate" represents the highest amount a unionized employee can earn at the fully competent level; the use of the end rate for benchmarking unionized position is industry practice.

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J10.2:

Reference(s): 1B-SEC-3, Appendix G

For each of the listed job classifications, please provide Toronto Hydro's average actual hourly base pay in 2017 (the same period as the analysis). The response should exclude overtime or any other type of compensation that is not directly comparable to the Toronto Hydro rates listed in the document.

RESPONSE:

For each of the listed job classifications, Table 1 compares Toronto Hydro's average actual hourly base pay as at June 30, 2017 (the same period as the analysis) to the end rates shown in Appendix G to 1B-SEC-3. As a result of the utility's ongoing workforce renewal efforts, the average rates are below the end rates for a number of roles as employees who retire are replaced by apprentices starting off at lower rate.

Table 1: Comparison of Average Actual Hourly Base Pay vs. End Rates

Roles	Hourly End Rate as of Feb 1, 2017 to Jan 31, 2018	Average Actual Hourly Base Pay as at June 30, 2017
Dispatcher	43.99	43.99
Customer & Power Systems Logistics Dispatcher	40.60	37.78
Street Light Line Service Technician	38.51	38.51
Supply Chain Specialist	53.74	53.74
Design Technician Level 1	52.83	no incumbent

Roles	Hourly End Rate as of Feb 1, 2017 to Jan 31, 2018	Average Actual Hourly Base Pay as at June 30, 2017
Design Technician Level 2	56.36	56.36
Certified Power Line Person	44.45	43.64
Certified Power Cable Person	44.45	41.19
Certified Crew Leader, Power Line Person	50.13	50.13
Certified Crew Leader, Power Cable Person	50.13	50.13
Distribution Systems Tech	53.31	47.58
System Response Representative	46.28	46.28
Power System Controller	54.78	51.12
Jointer	44.14	no incumbent
Customer Service Advisor	44.59	44.59
Customer Service Representative	43.70	no incumbent
Certified Meter Mechanic/Tester	44.14	41.87
Senior Office Clerk 3	44.59	no incumbent
Engineering Technologist 1	52.83	46.69
Engineering Technologist 2	57.22	55.98
Engineer (Annual Salary)	113,840	104,252

ORAL HEARING UNDERTAKING RESPONSES TO SCHOOL ENERGY COALITION

UNDERTAKING NO. J10.3:

Reference(s): 1B-SEC-3, Appendix G

For each of the listed job classification, how many on an FTE basis are employed by Toronto Hydro?

RESPONSE:

The table below shows the number of FTEs employed by Toronto Hydro in 2018 for each of the job classifications listed in 1B-SEC-3, Appendix G. As result of Toronto Hydro's ongoing workforce management and productivity efforts, including job harmonization, there are no FTE in certain job classifications.

Roles	2018 # of FTEs
Dispatcher	1.0
Customer & Power Systems Logistics Dispatcher	16.0
Street Light Line Service Technician	4.0
Supply Chain Specialist	5.4
Design Technician Level 1	0.0
Design Technician Level 2	2.0
Certified Power Line Person	104.1
Certified Power Cable Person	55.8
Certified Crew Leader, Power Line Person	27.3
Certified Crew Leader, Power Cable Person	10.1
Distribution Systems Tech	56.3
System Response Representative	10.2

Roles	2018 # of FTEs
Power System Controller	50.1
Jointer	0.0
Customer Service Advisor	3.0
Customer Service Representative	0.0
Certified Meter Mechanic/Tester	20.0
Senior Office Clerk 3	0.0
Engineering Technologist 1	40.4
Engineering Technologist 2	70.5
Engineer	62.8