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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

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.

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

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 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.

1 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

<u>Exhibit 2A, Tab 6, Schedule 1, Table 1, Page 4</u>

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
Number of Employees (FTEs including Part-Time)										
Executive	6	6	7	5	5	5	5	5	5	5
Managerial	55	63	63	63	63	62	63	63	63	63
Non Management, Non-Union	495	521	549	595	607	603	610	610	610	610
Society	53	56	60	67	68	69	69	69	69	69
PWU	874	837	794	769	779	778	797	797	797	797
Total	**1483**	**1484**	**1473**	**1499**	**1523**	**1517**	**1544**	**1544**	**1544**	**1544**
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
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
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
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
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
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**
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
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
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
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
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
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**
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
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
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
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
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
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**

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.