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File 95498

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ONTARIO ENERGY BOARD

VIA RESS and EMAIL: BoardSec@oeb.ca

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor, P.O. Box 2319
Toronto, Ontario M4P 1E4

Dear Ms. Walli:

Re: EB-2018-0165 - Application by Toronto Hydro-Electric System Limited for an Order or Orders approving or fixing just and reasonable distribution rates and other charges, effective January 1, 2020 to December 31, 2024

Attached please find the Interrogatories of the Power Workers Union in connection with the above-noted proceedings. An electronic copy has been filed through the Board's RESS filing system, and two paper copies will follow by courier delivery.

Yours very truly,
PALIARE ROLAND ROSENBERG ROTHSTEIN LLP

Richard P. Stephenson
RPS:pb

Attach.

Doc 2748934 v1

1B-PWU-1

Ref: Exhibit 1B, Tab 1, Schedule 1, page 3, Lines 4-5:

"This is the second five-year plan filed by Toronto Hydro. The plan largely continues the methodology approved by the OEB for the 2015-2019 period."

a) Please identify any major differences between the methodology approved by the Board in the 2015-2019 application and the methodology that OPG has followed in the current application.

1B-PWU-2

Ref 1: Exhibit 1B, Tab 3, Schedule 1, Appendix A, page 20

"THESL's initial round of engagement occurred before the introduction of the Fair Hydro Plan and the second round occurred in the lead up to the 2018 Provincial Election campaign."

Ref 2: Exhibit 1B, Tab 5, Schedule 1, Page 1, Table 1

"Table 1 below, provides a summary of the total bill impacts for typical customers in all classes."

Table 1: Bill Impacts – Change in Monthly Bill

Customer Class	Change in bill	2020 Proposed	2021 Proposed	2022 Proposed	2023 Proposed	2024 Proposed
Residential	$/30 days	-3.10	1.44	1.12	1.40	1.92
	%	*-2.4*	*1.1*	*0.9*	*1.1*	*1.5*
Competitive Sector Multi-Unit Residential	$/30 days	-1.19	1.14	0.89	0.99	1.52
	%	*-1.7*	*1.7*	*1.3*	*1.4*	*2.1*
General Service <50 kW	$/30 days	-6.60	3.62	2.81	4.39	4.82
	%	*-2.0*	*1.1*	*0.9*	*1.3*	*1.4*
General Service 50-999 kW	$/30 days	-156.17	63.57	49.55	87.48	84.52
	%	*-1.1*	*0.5*	*0.4*	*0.6*	*0.6*
General Service 1,000-4,999 kW	$/30 days	-1,452.01	521.66	406.45	717.98	693.76
	%	*-0.9*	*0.3*	*0.3*	*0.5*	*0.5*

a) Did the second round of customer engagement include discussion of the Fair Hydro Plan and its impacts on customer bill?

b) Do the bill impacts in Table 1 above take the Fair Hydro Plan into consideration? If not, why not?

c) What are the drivers for the decrease in bill impacts in 2020?

2B-PWU-3

Ref 1: Exhibit 2B, Section A4, page 21, Table 5: 2020-2024 Custom Performance Scorecard Measure:

In the reference, Toronto Hydro is proposing 15 custom measures for the 2020-2024 plan period with associated targets. Of these, the targets for three measures- System Health (Asset Condition) – Wood Poles, Average Wood Pole Replacement Cost, and Vegetation Management Cost per Km are presents as "Monitor"

It appears that Toronto Hydro's reason for not having a target for these measures is because they are new measures are new and therefore baseline data does not exist.

a) Please explain if what Toronto Hydro is saying is that it does not have a 5-year historical data on these measures (such as Average Wood Pole Replacement Cost) or that it has not developed an index to track performance in these measures?

2B-PWU-4

Ref 1: Exhibit 2B, Section D2, page 17, Figure 9:

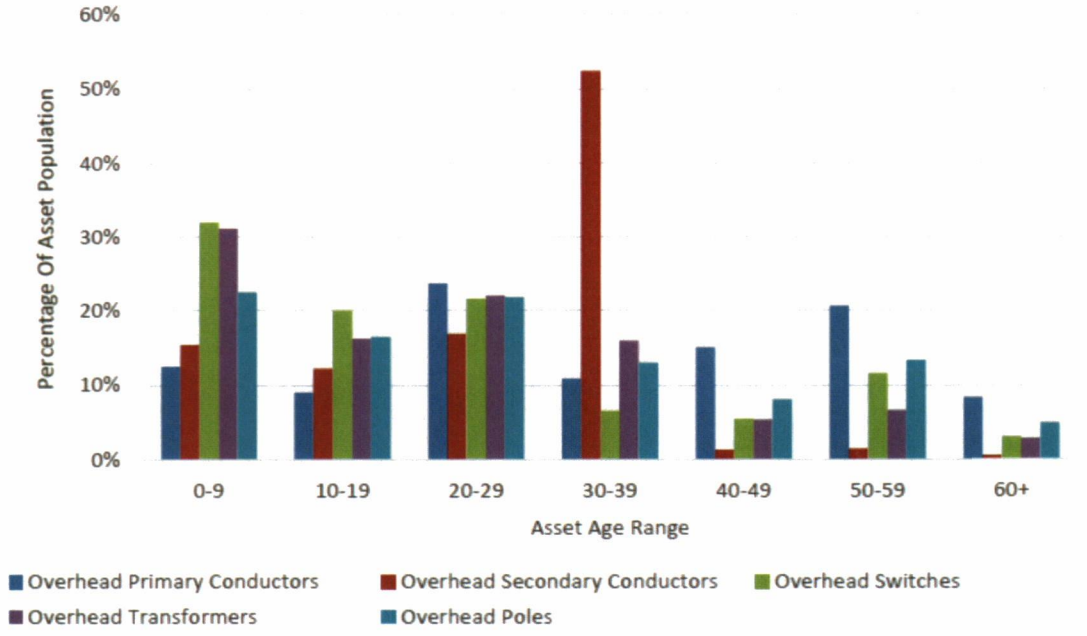

Figure 9: Overhead Assets Age Demographics as of 2017

" As of 2017, over a quarter of poles are beyond their useful life of 45 years, and a significant percentage of pole top transformers are at or approaching their useful life of 35 years. Without proactive intervention, Toronto Hydro projects that the percentage of pole top transformers having reached or exceeded useful life will significantly increase from 14 percent as of 2017 to approximately 40 percent by 2024."

a) What will be the share of wood poles beyond their useful life at the end of the plan if the proposed investment plan is approved by the OEB?
b) What will be the share of wood poles beyond their useful life at the end of the plan under historical level of investment (2015-2019)?
c) What is the useful life or age assumed for pole top transformers?

2B-PWU-5

Ref 1: Exhibit 2B, Section D2, page 18, Figure 10:

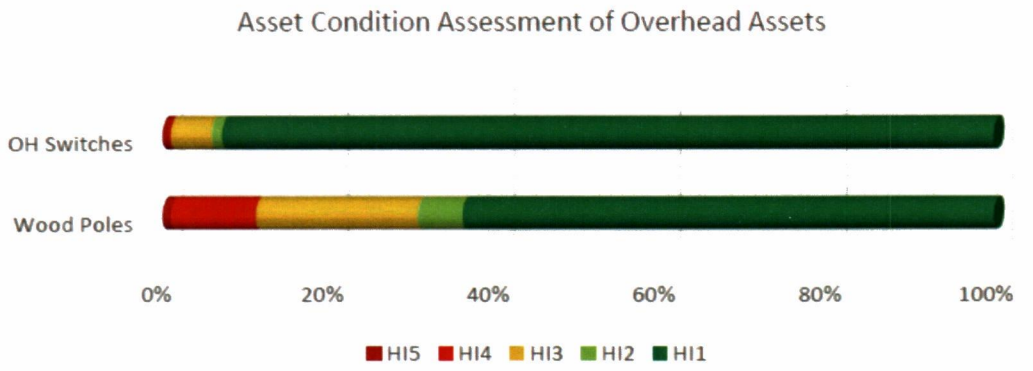

Figure 10: Asset Condition Assessment of Overhead Assets as of 2017

a) What is the average age of wood poles classified as HI5?, HI4? and HI3?
b) Please provide a chart in a tabular form showing the share of wood poles and overhead switches that Toronto Hydro projects to be in HI5, HI4 and HI3 condition at the end of the plan period (2024) assuming the proposed investment plan is approved
c) Please provide a chart as in #2 above under the assumption that Toronto Hydro maintains historical level of investment (2015-2019)

2B-PWU-6

Ref 1: Exhibit 2B, Section D2, page 32, Figure 20:

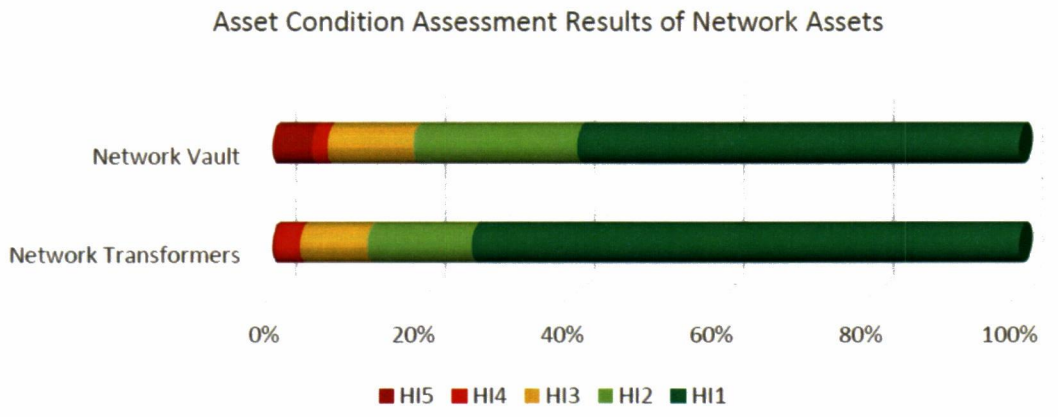

Figure 20: Asset Condition Assessment of Secondary Network Assets

"ACA results show that approximately 19 percent of Toronto Hydro's network vaults and 13 percent of network transformers have at least moderate deterioration as of 2017. With over 60 network vaults in HI3 condition, approximately 10 in HI4 condition, and approximately 30 in HI5 condition (i.e. "end of serviceable life"), Toronto Hydro expects network vault replacement will continue to be a significant driver of both reactive and planned investment through 2024.

a) Please provide a chart in a tabular form showing the share of Network Transformers and Network Vaults that Toronto Hydro projects to be in HI5, HI4 and HI3 condition at the end of the plan period (2024) if the proposed investment plan is approved
b) Please provide a chart as in #8 above under the assumption that Toronto Hydro maintains historical level of investment (2015-2019)

2B-PWU-7

Ref 1: Exhibit 2B, Section D2, page 36-37, Figure 24:

"Figure 24 provides the age demographic distribution of major station assets. As of 2017, 40 percent of Toronto Hydro's switchgear, 51 percent of power transformers, 13 percent of outdoor breakers, and 35 percent of DC battery systems are operating at or beyond their useful life. Without proactive intervention, the proportion of station assets operating beyond their useful life will continue to increase."

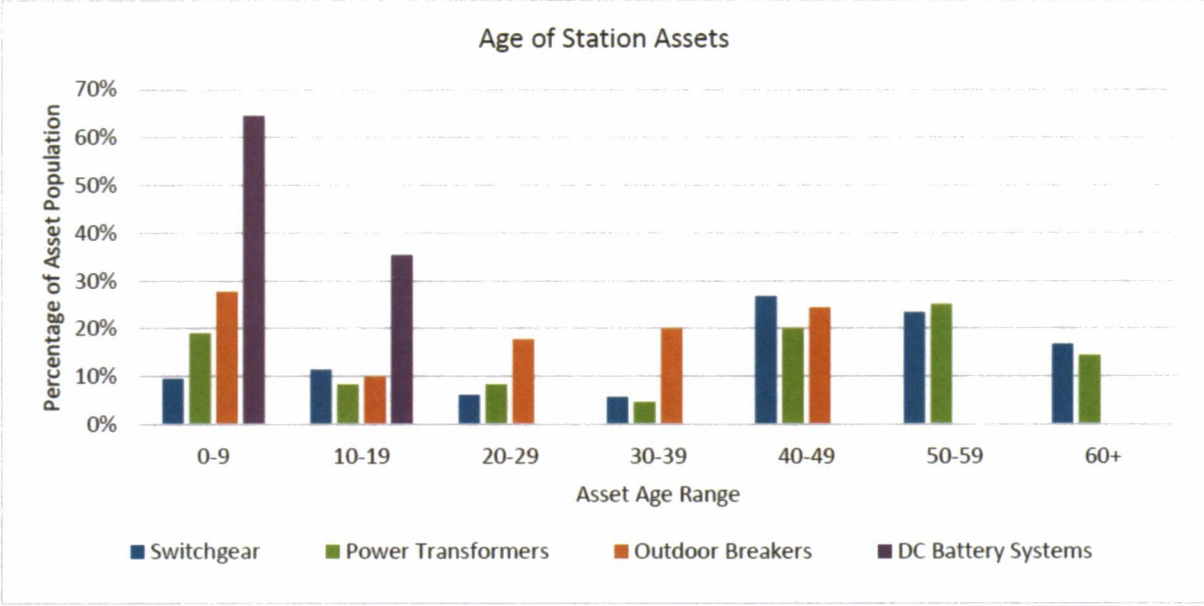

Figure 24: Stations Assets Demographics as of 2017

a) What will be the share of Switchgear, Power Transformers and Outdoor breakers beyond their useful life at the end of the plan if the proposed investment is approved?

b) What will be the share of Switchgear, Power Transformers and Outdoor breakers beyond their useful life at the end of the plan, under historical level of investment?

2B-PWU-8

Ref 1: Exhibit 2B, Section D2, page 38-39, Figure 25:

"Figure 25 shows that 90 percent of Toronto Hydro's air-blast circuit breakers, 66 percent of its oil circuit breakers, 58 percent of KSO oil circuit breakers, 56 percent of air-magnetic circuit breakers, 15 percent of SF_6 circuit breakers, and 6 percent of vacuum circuit breakers show signs of at least moderate deterioration. Accordingly, renewal of switchgear containing air-blast circuit breakers and oil circuit breakers are heavily targeted in the Stations Renewal Program (Exhibit 2B, Section E6.6). Similarly, standalone outdoor KSO circuit breakers are prioritized for renewal in the proposed program. Figure 25 shows that 33 percent of Toronto Hydro's station power transformers show signs of at least moderate deterioration. The need for transformer renewal is underscored by a recent surge in the number of units requiring reactive replacement."

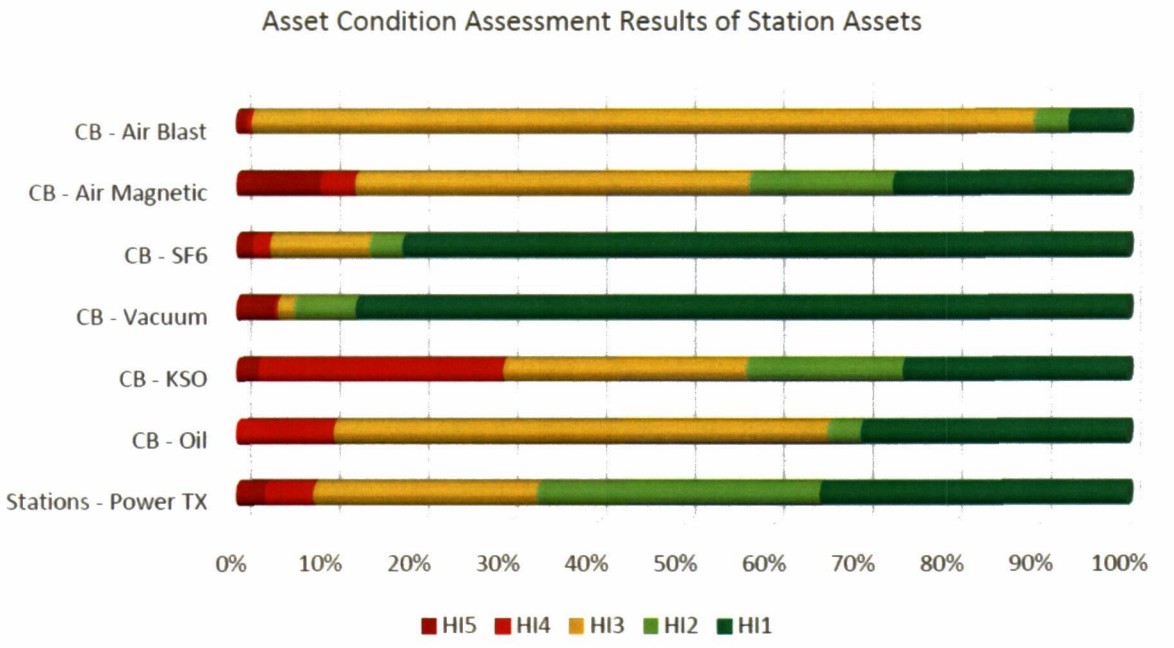

Figure 25: Asset Condition Assessment of Station Assets

a) Assuming the proposed investment plan is approved, what is Toronto Hydro's projection of the share of each of the above assets that will be in HI5, HI4 and HI3 at the end of the plan?

b) What is Toronto Hydro's projection of the share of each of the above assets in HI5, HI4 and HI3 if the company maintains historical level of investment?

4A-PWU-9

Ref 1: Exhibit 4A, Tab 2, Schedule 2, Page 33, Table 1

"Toronto Hydro has been carrying out contact voltage work since 2009 as part of a contractual agreement (treated as a capital lease since 2011). The costs associated with the lease will be fully amortized upon its expiration by the end of June 2018. Beginning in July 2018, Toronto Hydro will continue this work as part of this segment."

a) Under which account were contact voltage segment costs included prior to 2018?

4A-PWU-10

Ref 1: Exhibit 4A, Tab 2, Schedule 4, Page 10

"Increased corrective work volume in 2017 due to the completion of corrective work to address a backlog of issues across the system, and in particular for station assets. This included work on transformers/tap changers, circuit breakers, switches, primary fuses, switchgears, relays, SCADA/RTUs, tripping hazards, concrete patching, and poles and high voltage electrical work."

a) What was the cause of the corrective maintenance backlog?
b) Will returning to the pre-2017 work volume, instead of marginally increasing the work volume, lead to another backlog in the future?

4A-PWU-11

Ref 1: Exhibit 4A, Tab 2, Schedule 21, Page 1, Table 1

Table 1: Allocations and Recoveries Adjustments to OM&A ($ Millions)

Segment	2015 Actual	2016 Actual	2017 Actual	2018 Bridge	2019 Bridge	2020 Test
On-cost Recovery	(10.6)	(11.5)	(11.3)	(11.9)	(11.8)	(11.8)
Fleet Recovery Offset	(12.5)	(12.4)	(11.5)	(11.4)	(11.4)	(11.6)
IT and Occupancy Charges	(0.7)	(1.1)	(1.0)	(1.0)	(1.0)	(1.0)
Shared Services	4.8	2.9	4.8	4.3	4.4	4.6
Other Allocated Costs	0.0	0.1	0.2	(0.1)	(0.1)	(0.1)
Total	**(19.0)**	**(21.9)**	**(18.9)**	**(20.1)**	**(20.0)**	**(19.9)**

a) What was the cause of the decline in shared services costs in 2016?

4A-PWU-12

Ref 1: Exhibit 4A, Tab 4, Schedule 2, Page 1 (Appendix 2-K Table)

Total Salary and Wages (including ovetime and incentive pay)						
Management (including executive)	$ 12,292,778	$ 14,152,809	$ 14,971,880	$ 15,015,969	$ 15,478,739	$ 15,719,811
Non-Management (union and non-union)	$ 145,975,363	$ 146,148,053	$ 148,139,852	$ 155,158,699	$ 160,518,242	$ 163,720,633
Total	$ 158,268,141	$ 160,300,862	$ 163,111,731	$ 170,174,668	$ 175,996,982	$ 179,440,444

a) What share of total salary and wages is overtime in the bridge years and test year?
b) How does the response to part (a) compare with the share of overtime in 2015-2017?
c) Is overtime associated with Z-factor events included in the figures within this table?
d) Please provide actual 2018 data, if available.

4A-PWU-13

Ref 1: Exhibit 4A, Tab 4, Schedule 3, Page 21, Table 5

Table 5: Toronto Hydro Retirement Projection Accuracy

Year	2015	2016	2017
Actual/Projected Retirees	103%	164%	137%

a) How does Toronto Hydro project retirees?
b) Has Toronto Hydro revised the way it projects retirements given the materially higher number of actual retirees than projected in recent years?

4A-PWU-14

Ref 1: Exhibit 4A, Tab 4, Schedule 3, Page 20, Table 4

Table 4: Toronto Hydro Retirement Projections (2018-2024)

Year	2018	2019	2020	2021	2022	2023	2024
Annual	80	42	70	86	64	71	47
Cumulative	80	122	192	278	342	413	460

Ref 2: Exhibit 4A, Tab 4, Schedule 3, Page 28

Table 7: Apprenticeship Program Summary (as of December 31, 2017)

	CPLP	DST	Meter Mechanic	PSC	CPCP	ETL	Engineer	Total
Apprentices	122	49	14	50	77	115	80	**507**
# Retained	91	45	11	35	63	97	63	**405**
% Retained	74.6	91.8	78.6	70.0	81.8	84.3	78.8	**79.9**

"To prepare for expected retirements over the next five to ten years, Toronto Hydro plans to admit over 100 individuals to the apprenticeship program during the 2018-2020 timeframe. It plans to hire apprentices in a staged approach (as outlined in Table 8 below), to facilitate workforce renewal in a safe and effective way, while ensuring knowledge transfer and maintaining productivity."

Ref 3: Exhibit 4A, Tab 4, Schedule 3, Page 29, Table 8

Table 8: Apprenticeship and Technical Hiring Plan (2020-2024)

Apprentice Group	2020	2021	2022	2023	2024	Total
CPCP/CPLP	32	20	18	20	18	**108**
DST	2	5	5	5	5	**22**
PSC	3	5	5	5	5	**23**
Certified Meter Mechanic	4	2	2	2	2	**12**
Engineering Technologist	2	5	5	5	5	**22**
Engineer	0	1	2	0	1	**4**
Total	**43**	**38**	**37**	**37**	**36**	**191**

a) How many apprentices have been hired in 2018? What are the anticipated number of hires in 2019?
b) In total, how many apprenticeship hires are expected from 2018 to 2024?
c) Does Toronto Hydro anticipate its historic rate of retained apprentices (approximately 80%) will persist in the test period?
d) Please confirm that, among the four staffing strategies identified in Section 5 of Exhibit 4A, Tab 4, Schedule 3, only Hire from External Market and Hire New Graduates will increase Toronto Hydro's FTE count.
e) How many employees does Toronto Hydro expect to hire from the external market though the test period?
f) Please reconcile any differences between a) the number of FTEs hired from the external market and retained new graduates and b) the forecast number of retirements and anticipated increased workforce.

4A-PWU-15

Ref 1: Exhibit 4A, Tab 4, Schedule 3, Page 22

"Toronto Hydro uses a number of staffing approaches, including: (i) promoting from within the utility; (ii) hiring skilled labour from the external market; (iii) acquiring and training new graduates; and (iv) using third-party service providers. As explained in more detail below, Toronto Hydro relies on all four approaches to meet human resource requirements, leveraging the relative strengths of each of these options as appropriate in a given set of circumstances."

a) Toronto Hydro characterizes using third-party service providers as a "staffing approach". Please confirm that third-party service providers are not included in Toronto Hydro's FTE counts of compensation costs.

4A-PWU-16

Ref 1: Exhibit 4A, Tab 4, Schedule 4, Page 3

"Both of the aforementioned annual growth rates are lower once normalized for changes in full time equivalent ("FTE") count. Over the same period, Toronto Hydro's workforce is expected to grow on average by 0.5 percent annually. As a result, the compounded annual growth rate in total cash compensation per FTE is 2.1 percent, and total compensation (inclusive of benefits) per FTE is 2.5 percent."

b) Please provide the compounded annual growth rate in total cash compensation per customer.