

2-ED-1

1. Reference: Exhibit 2, Appendix 2-7 DSP

Preamble: Section 4.1 of the 2015 OEB CDM Guidelines states:

“Distributors may apply to the Board for funding through distribution rates to pursue various activities such as CDM programs, demand response programs, energy storage programs and programs reducing distribution losses for the purpose of deferring the capital investment for specific distribution infrastructure. Any such application must include a consideration of the projected effects to the distribution system on a long-term basis.

Applications can be filed at any time. The Board expects that as part of its long-term planning processes, a distributor will consider applications for CDM programs to defer distribution infrastructure. The distributor should explain the proposed program in the context of the distributor’s five-year Distribution System Plan (“DSP”) or explain any changes to its system plans that are pertinent to the program.”

Questions:

- (a) Please file any guidelines, standards, or processes that London Hydro uses to “consider applications for CDM programs to defer distribution infrastructure” as outlined in the above except from the OEB CDM guidelines.
- (b) Why is London Hydro not proposing any CDM programs to defer distribution infrastructure in this application?
- (c) Please describe the steps taken by London Hydro to consider CDM as an alternative to each of the projects listed in Exhibit 2, Appendix 2-7 DSP, pages 155-157. Please address each project and sub-project separately with a particular focus on system service.
- (d) What is the main department responsible for considering non-wires-alternatives to system service projects?
- (e) What steps will London Hydro take to reevaluate its plans for 2023-2027 if the proposed changes to the CDM guidelines are implemented by the OEB?

LH Response:

- a) DSP Appendix M EI-31 “Asset Management and Capital Expenditures Planning: Policy and Process”, includes the process used to manage assets and plan capital budgets. The responsibility for reviewing CDM options is with the Manager of Design (see DSP pdf page 1127 – Step 3). There are no other documents provided for this review.

b) LH is not aware of any CDM programs that could cost-effectively defer any of the proposed infrastructure projects.

c) See tables below:

	Possible CDM Alternatives Considered
<b>System Access</b> City Works Projects City Initiated Relocations	Relocations of assets are mandated, therefore, no CDM alternatives are considered.
Developer Works Projects Expansions & Relocations Secondary Service Upgrades Residential UG Servicing Multi-Housing Servicing Commercial Servicing	Developers specifically request these, therefore, no CDM alternative are considered.
Meters & Devices Metering Capital Primary Meter Tank Replacements AMI Communication Renewal	Measurement Canada requirements, therefore, no CDM alternatives are considered.

1-ED-2

2. Reference: Exhibit 1, Page 68

Questions:

- (a) Please file a copy of any distribution line loss studies completed by or participated in by London Hydro since 2000, including those reports referenced on page 28 of Exhibit 1.
- (b) In Table 1-7: Line Loss Reductions (Exhibit 1, page 68), the loss factor remains the same for the 2017 application and the 2022 application (i.e., 3.15%) despite line loss reductions in the previous four applications. Please explain why line losses have not decreased in the 2022 application.
- (c) Does London Hydro quantify and consider the potential value of distribution loss reductions for different options when procuring equipment (e.g., transformers) and deciding on the details of demand-driven capital projects (e.g., the type and sizing of conductors)? If yes, please explain how and provide documentation detailing the methodology used.
- (d) If London Hydro is considering the value to its customers of distribution loss reductions for planning purposes, how does it calculate the dollar value (\$) of said loss reductions (kWh)? Is the value calculated based only on the HOEP or on all-in cost of electricity (e.g., including the GA)?
- (e) Further to the above question, Hydro Ottawa and Burlington Hydro use the all-in cost of electricity. If London Hydro’s practice differs, please explain whether there are aspects of its system that would justify this.
- (f) Please complete the following table:

Value of London Hydro Distribution System Energy Losses –						
	2015 (historic)	...	2027 (forecast)	Historic annual average	Forecast annual average	Total
Electricity Purchases (MWh)						
Electricity Sales (MWh)						
Losses (MWh)						
Losses %						
All-In Cost of Electricity (\$/MWh) – Annual Average						
Cost of Losses (\$)						

- (g) Please complete the following table:

GHG’s from London Hydro’s Forecast Distribution System Energy Losses						
	2023	2024	2025	2026	2027	Total

Forecast Losses (MWh) <sup>1</sup>						
Carbon Intensity of Electricity <sup>2</sup> (CO <sub>2</sub> e/MWh)						
GHGs (CO <sub>2</sub> e)						

- (h) In EB-2019-0261, Hydro Ottawa agreed to, and the Board approved, the following: “Between 2021 and 2025, Hydro Ottawa shall endeavour to maintain its five-year average total system losses below the target of 3.02% set by the OEB in EB-2005-0381 through cost-effective measures.” Is London Hydro willing to agree to the same terms? If not, what commitments can London Hydro make to the Board in this regard? In particular, please indicate what target London Hydro is willing to meet.
- (i) In EB-2019-0261, Hydro Ottawa agreed to, and the Board approved, the following: “In addition, over the course of 2020-2021, Hydro Ottawa shall prepare a plan to reduce distribution losses as much as possible through cost-effective measures. The utility shall file the plan with the OEB when complete. In 2022-2025, Hydro Ottawa shall implement as many of the cost-effective measures set out in its plan as possible (e.g. any changes to planning and procurement processes to better mitigate losses, investments that can be made within current budgets, operational measures, etc.). All other cost-effective measures will be incorporated into the utility’s next rebasing application and DSP.” Is London Hydro willing to agree to the same terms? If not, what commitments can London Hydro make to the Board in this regard?
- (j) In EB-2019-0261, Hydro Ottawa agreed to, and the Board approved, the following: “Finally, as described in Hydro Ottawa’s response to undertaking JT 3.10, a pilot of a Grid Edge Volt/VAr Control (“VVC”) solution will be complete by the end of 2020. If this pilot is successful, Hydro Ottawa shall increase the deployment of these (or equivalent) units by conducting an analysis in 2021 to identify potential suitable locations and by deploying these units in a subset of locations which are deemed to be suitable and cost-effective, with an estimated investment of up to \$1.0M over the five-year test period. The cost of these investments will be accommodated within the overall approved capital budget.” Is London Hydro willing to agree to implement similar technology through an equivalent commitment? If not, what commitments can London Hydro make to the Board in this regard?
- (k) Please complete the following table:

Distribution Losses – Correlated with Consumption and Peak Demand				
	2010	...	2020	Average

<sup>1</sup> If no better numbers are available, the losses from 2019 or the average over 2015 to 2019 could be used for the purpose of this row of this response.

<sup>2</sup> Please base this figure on the IESO’s January 2020 Annual Planning Outlook - <http://www.ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/apo/Annual-Planning-Outlook-Jan2020.pdf?la=en>; see also the data tables at <http://www.ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/apo/Annual-Planning-Outlook-Data-Tables-Jan2020.xlsx?la=en>.

Annual distribution losses (MWh)				
Annual consumption (MWh)				
Losses as % of consumption (%)				
Peak demand (MW)				
Ratio of loss % to peak demand				

LH Response:

- a) A copy of “System Planning Report SP03-01: Annual Energy Delivery Efficiency Performance for the Year 2002” has been provided as “ED-2 Attachment 1”. See response to 2-CCC-4 regarding electrical vehicle reports.
  
- b) During the 2009 to 2017 period, a large amount of 4 kV load was converted to 27.6 kV which was the main driver of reducing losses. From 2017 to present, the pace of 4 kV conversions has decreased as there are fewer assets in this category that are at end of life.
  
- c) Yes. LH considers the Total Owning Cost (TOC) when purchasing transformers, this takes into account the distribution losses of the transformers. The TOC is calculated as follows,  $17.08 \times \text{No Load Losses} + 4.07 \times \text{Load Losses} + \text{price of transformer}$ .
  
- d) This formula was developed with several LDC's and is forecasted over the lifetime of the transformer (35 years) at the point in time of the original purchase. The values listed in (c) include the following factors, which are reviewed every 5 years coinciding with the transformer tender, and adjusted when significant changes have occurred.

- 1) Cost of Electricity for your utility in \$/kWh 0.122
- 2) Determine the amount of Operating and Maintenance, Secondary to be removed from the cost of electricity 2.0%
- 3) Determine the life of the transformer; you may only input 25, 30, 35, 40, 45 or 50 years (*the formula will default to 40 years if you do not enter one of these values*) 35
- 4) Determine your utility's weighted average cost of capital (OEB deemed rate) 6.24%
- 5) Determine your utility's Single Phase, Residential - Urban load factor 50%
- 6) Determine your utility's Single Phase, Residential - Rural load factor 10%
- 7) Determine your utility's 3 Phase Non - Residential load factor 60%
- 8) Determine your utility's Peak Responsibility Factor 0.91

e) See response to (d).

f) Historical data has been provided in the table below. There is not enough available information for LH to reasonably estimate the forecast for these values.

Value of London Hydro Distribution System Energy Losses –							
	2015 (historic)	2016 (historic)	2017 (historic)	2018 (historic)	2019 (historic)	2020 (historic)	Historic annual average
Electricity Purchases (MWh)	3,254,154	3,282,508	3,177,608	3,311,288	3,211,599	3,162,685	3,233,307
Electricity Sales (MWh)	3,157,007	3,176,444	3,070,375	3,215,830	3,120,062	3,082,955	3,137,112
Losses (MWh)	97,147	106,064	107,233	95,458	91,537	79,730	96,195
Losses %	2.99%	3.23%	3.37%	2.88%	2.85%	2.52%	2.97%
All-In Cost of Electricity(\$/MWh) - Annual Average	\$ 0.117	\$ 0.129	\$ 0.118	\$ 0.108	\$ 0.115	\$ 0.137	\$ 0.120
Cost of Losses (\$)	\$ 11,342	\$ 13,671	\$ 12,603	\$ 10,289	\$ 10,496	\$ 10,932	\$ 11,556

g) This request seeks information that is not relevant to the Application.

- h) It is improper for ED to attempt to negotiate the terms of a potential settlement proposal through an interrogatory request.
- i) It is improper for ED to attempt to negotiate the terms of a potential settlement proposal through an interrogatory request.
- j) It is improper for ED to attempt to negotiate the terms of a potential settlement proposal through an interrogatory request.
- k) London Hydro does not have readily available that detail of data.

2-ED-3

3. Reference: Exhibit 2, Appendix 2-7 Distribution System Plan, p. 29

Preamble:

“The adoption of electric vehicles in residential areas has been moderate and so far, manageable. London Hydro uses smart meter data to determine if any transformers are experiencing loads exceeding their recommended capacity, and is able to take appropriate action to accommodate increased loads. To date, this has only been a couple of transformer upgrades in size each year. However, as electric vehicles become more common, and more customers opt for the higher capacity fast chargers, this trend could increase. The electrification of larger fleet vehicles such as transit, delivery vehicles and service vehicles could have an impact on the overall system loading. This may require upgrades to sections of the grid that historically serviced lightly loaded areas where fleet vehicles were simply parked overnight. London Hydro has joined the Canadian Urban Transit Research & Innovation Consortium (CUTRIC) to stay engaged with industry trends and utility best practices. There are no projects within this DSP that specifically address the impacts of transportation electrification, as these are unknown at this time but London Hydro will continue to monitor the industry trends.”

Questions:

- (a) Please file a copy of any reports in London Hydro’s possession containing forecasts for the numbers of electric vehicles in London Hydro’s service area.
- (b) Please file a copy of any reports in London Hydro’s possession on the impacts of electric vehicles on (i) utility revenue and (ii) utility costs.
- (c) What is London Hydro’s best estimates of the number of electric cars in its service area total and incremental between now and 2030?
- (d) Please describe all steps that London Hydro is taking or considering to encourage customers to charge their cars at off-peak times.
- (e) Please describe all steps that London Hydro is taking or considering to encourage customers to use their car batteries to off-set the peak load of their building via bi-directional chargers.
- (f) Please estimate the impact on London Hydro’s revenues and costs as a result of electric vehicles over 2023-2027. Please consider whether London Hydro will experience additional revenues than costs as described in the following Synapse energy study: <https://www.synapse-energy.com/sites/default/files/EVs-Driving-Rates-Down-8-122.pdf>. Please explain the response.
- (g) Is London Hydro open to offering an optional EV rate structure to encourage EV owners to charge at off-peak times? What regulatory applications and approvals would be necessary to do so?



LH Response:

- a) See LH Response to 2-CCC-4.
- b) See response to (a).
- c) Based on information from the City of London, *“London had 1,016 plug-in EVs (BEVs and PHEVs) as of end of 2020, up from 828 in 2019, which is an increase of 23%. EVs represented 0.8% of all new (2020 Model Year) vehicles registered in London, with BEVs outselling PHEVs.”* London Hydro has not estimated how this number could grow in the coming years as it still immaterial.
- d) LH has developed an on-line calculator that allows customers input their expected usage and determine if they should select TOU vs Tiered Pricing.
- e) None at this time.
- f) LH does not consider the impact to be material.
- g) LH is open to this, but would require OEB direction that a new TOU rate class has been directed for London Hydro to implement.

2-ED-4

4. Reference: Exhibit 2, Appendix 2-7 Distribution System Plan

For all of the below questions, please provide an answer on a best efforts basis and please make and state any assumptions and caveats as necessary.

- (a) Please provide any analysis that London Hydro has produced or reviewed to examine heat pumps as a way to reduce distribution costs (e.g. as part of an NWA).
- (b) Please complete the following table:

<b>London Hydro Customers – Characteristics by Sector</b>			
	2022	...	2027
Total Customers			
Residential			
Commercial			
Industrial			
Customers with Electrical Space Heating			
Residential			
Commercial			
Industrial			
Annual Consumption (kWh) for Resistance Space Heating for Average Customer			
Residential			
Commercial			
Industrial			
Peak Demand (kW) for Resistance Space Heating for Average Customer			
Residential			
Commercial			
Industrial			
Annual Consumption (kWh) for Resistance Water Heating for Average Customer			
Residential			
Commercial			
Industrial			
Peak Demand (kW) for Resistance Water			

Heating for Average Customer			
Residential			
Commercial			
Industrial			

(c) Please complete the following table:

<b>Electricity Use – Typical Customer After Conversion to Heat Pumps</b>									
	Average Annual Electricity Consumption – Resistance Heating (kWh)			Average Annual Electricity Consumption (ccASHP & HPWP, HSPF Region 5=10 <sup>3</sup> ) (kWh)			Average Annual Electricity Consumption (GSHP & HPWP, sCOP=5) (kWh)		
	Total – Space/ Water	Space Heating	Water Heating	Total – Space/ Water	Space Heating	Water Heating	Total – Space/ Water	Space Heating	Water Heating
Average or Typical Single-Family Residential Customer									

(d) Please complete the following table:

<b>Winter Peak Demand – Typical Customer After Conversion to Heat Pumps</b>									
	Average Peak Demand – Resistance Heating (kW)			Average Peak Winter Demand (ccASHP & HPWP, HSPF Region 5=10 <sup>4</sup> ) (kW)			Average Peak Winter Demand (GSHP & HPWP, sCOP=5) (kW)		
	Total – Space/ Water	Space Heating	Water Heating	Total – Space/ Water	Space Heating	Water Heating	Total – Space/ Water	Space Heating	Water Heating
Average or Typical Single-Family Residential Customer									

(e) Please complete the following table:

<sup>3</sup> Equivalent to ~sCOP=2.9 (2.96516)

<sup>4</sup> Equivalent to ~sCOP=2.9 (2.96516)

<b>Summer Peak Demand – Typical Customer After Conversion to Heat Pumps</b>									
	Average Peak Demand – Traditional Central AC (kW)			Average Peak Winter Demand (ccASHP & HPWP, HSPF Region 5=10 <sup>5</sup> ) (kW)			Average Peak Winter Demand (GSHP & HPWP, sCOP=5) (kWh)		
	Total – Space/ Water	Space Cooling	Water Heating	Total – Space/ Water	Space Cooling	Water Heating	Total – Space/ Water	Space Cooling	Water Heating
Average or Typical Single-Family Residential Customer									

(f) Please complete this table of cooling efficiencies:

<b>Cooling Efficiencies of Various Equipment Types</b>			
		SEER	EER
Central air conditioners	Average of current stock (best estimate, London Hydro customers or Ontario average)		
	Standard unit		
	Energy Star rated		
	Energy Star – Most efficient of 2021		
Air source heat pumps	Standard unit		
	Energy Star rated		
	Energy Star – Most efficient of 2021		
Air source heat pumps in hybrid systems (if different)	Standard unit		
	Energy Star rated		
	Energy Star – Most efficient of 2021		
Ground source heat pumps – closed loop	Standard unit		
	Energy Star rated		
	Energy Star – Most efficient of 2021		
Ground source heat pumps – open loop	Standard unit		
	Energy Star rated		
	Energy Star – Most efficient of 2021		
	Standard unit		

<sup>5</sup> Equivalent to ~sCOP=2.9 (2.96516)

Cold climate heat pumps – variable speed	Energy Star rated		
	Energy Star – Most efficient of 2021		

LH Response:

- a) LH has not conducted this analysis.
- b) LH does not have the requested information.
- c) LH does not have the requested information.
- d) LH does not have the requested information.
- e) LH does not have the requested information.
- f) LH does not have the requested information.

2-ED-5

5. Reference: Exhibit B & Exhibit G, Tab 1, Schedule 2, Page 35

Questions:

- (a) What investments is London Hydro making over 2023-2027 to accommodate fuel switching over that period? Please describe these and provide the dollar total.
- (b) Please confer with staff for the Canada Greener Homes Grant to obtain estimates of: (i) the number of customers in Ontario that will use the grant to switch from fossil fuel heating to an electric heat pump and (ii) the number of customers that will use the grant to switch from electric resistance heating to an electric heat pump.

LH Response:

- a) LH is not familiar with the Reference cited, but confirms there are no planned investments in the forecast period to accommodate fuel switching.
- b) LH does not see the relevance of the requested information in regard to our Application since there are no investments planned to accommodate fuel switching, and the results of Regional Planning (see DSP Appendix E) and Local Planning (DSP Section 2.2.4 System Utilization) show ample capacity for the next 10 years.

2-ED-6

6. Reference: DSP Appendix K – Asset Sustainment Plan 2021-2030, p. 107

Preamble: London Hydro states as follows:

“With the advent of electric vehicles (EV), new potential loads from the EV chargers may increase the capacity utilization as higher loads will be drawn by some select customers.”

Questions:

- (a) What investments is London Hydro making over 2023-2027 to accommodate an expansion of electric vehicles? Please describe these and provide the dollar total.
- (b) Does a residential customer need to notify or seek approval from London Hydro before installing a high-speed electric vehicle charger? Please explain and provide any relevant excerpts from the relevant document containing said requirement.
- (c) Does a residential customer need to notify or seek approval from London Hydro before installing a high-speed bi-directional electric vehicle charger (under 10 kW) that does not export to the grid? Please explain and provide any relevant excerpts from the relevant document containing said requirement.
- (d) How many applications to install bi-directional EV charges has London Hydro received?
- (e) Can London Hydro require a residential customer to make a financial contribution toward distribution system upgrades necessary to allow the customer to install a high-speed one-directional EV charger? If yes, would London Hydro do so? Please explain.
- (f) Can London Hydro require a residential customer to make a financial contribution toward distribution system upgrades necessary to allow the customer to install a high-speed bi-directional EV charger (non-exporting)? If yes, would London Hydro do so? Please explain.
- (g) Generally speaking, what protective devices would be needed for a residential customer to install a bi-directional EV charger that is not meant to export to the grid to ensure that there is no damage in the event of a grid outage?
- (h) Is London Hydro obligated to undertake the upgrades necessary for residential customers to install EV chargers if they choose to do so?
- (i) How many electric vehicles will London Hydro buy over 2023-2027?
- (j) How many electric vehicle chargers will London Hydro buy over 2023-2027?

LH Response:

- a) DSP Section 1.1.7 Contingent Activities (5.2.1G), states *“There are no projects within this DSP that specifically address the impacts of transportation electrification, as these are unknown at this time but London Hydro will continue to monitor the industry trends.”* (DSP page 29 of 157).

- b) No. Residential customers are not required to disclose the nature of any new load they connect. The Ontario Electrical Code has jurisdiction for the connection of new devices on the customer side of the meter.
  
- c) Yes. It is our understanding that a bi-directional charging system is equivalent to a Battery Energy Storage System (BESS) which is considered a 'generator'. Whether or not they export to the grid is irrelevant - they are considered a source of energy connected to our grid, and they can contribute to fault current levels and need to follow the same process as any other generator connected to our system. Installations used for load displacement are still considered 'generators' as defined by the DSC. “generate, with respect to electricity, means to produce electricity or provide ancillary services, other than ancillary services provided by a transmitter or distributor through the operation of a transmission or distribution system”.
  
- d) None.
  
- e) If our standard service offering would not be sufficient for a residential customer for any reason, they would be required to provide a contribution for the incremental cost associated with the increased capacity. This is outlined in our Conditions of Service, which is available on our website at <https://www.londonhydro.com/projects-operations/conditions-service>

### Section 3.1.1

*Single-family residential dwelling units will be provided with a basic connection to London Hydro's electric system without charge as long as the meter base is located in the standard location, no further than 3 metres from the front corner of the dwelling, on the side closest to London Hydro's supply transformer. The basic connection includes the supply and installation of overhead distribution transformer capacity or an equivalent credit for transformation equipment and up*



*to 30 metres of overhead conductor or an equivalent credit for underground services. The fee for non-standard locations is described in Appendix A.*

*For the purpose of determining whether a basic connection is provided free of charge or whether a commercial service charge applies, a single family residential dwelling must be zoned residential by the City of London, must be used for dwelling purposes, and must have only one electric meter. Any costs associated with modifying a service to a residential dwelling unit to add additional meters will incur General Service (Commercial) connection costs as described in Section 3.2.*

*Energy supplied to residential dwellings will be single phase, 3 wire, 60 Hz, having a nominal voltage of 120/240 volts, up to a maximum 200 amps per dwelling unit. Only one electrical service will be permitted per dwelling.*

- f) As noted in response to (c) above, bi-directional chargers are considered generators, and customers could be charged for upgrades.
- g) Similar to responses to (c) and (f), bi-directional charges are treated as generators and would therefore require similar protective devices. Since LH has not had any of these specific applications, we do not have any information to share regarding what would be required.
- h) Yes, subject to our Conditions of Service.
- i) LH has not prepared a plan for fleet electrification.
- j) See response to (i).

2-ED-7

7. Reference: Exhibit 2, Appendix 2-7 Distribution System Plan

Questions:

- (a) Does the installation of a bi-directional EV charger in a home that is used to off-set load at peak times contribute toward short circuit limits?
- (b) Approximately how many customers are on a feeder with short circuit constraints that would prevent the customer from installing a parallel bi-directional EV charger? Please provide a breakdown between customer classes if possible.
- (c) Approximately how many customers are on a feeder with short circuit constraints that would prevent the customer from installing a micro distributed energy resource of 10 kW? Please provide a breakdown between customer classes if possible.
- (d) What is included in the basic connection services provided to residential customers and funded through rates? Does this include a maximum rating for a residential customer's electricity panel? Does it include a maximum contribution to the system's short circuit limits? Please explain.
- (e) Please confirm that the DSC requires London Hydro's basic connection services for residential customers to at least include "supply and installation of overhead distribution transformation capacity or an equivalent credit for transformation equipment." Would this include the capacity necessary to install (i) a one-way fast EV charger and (ii) a fast bi-directional EV charger. If relevant, please provide a response for 5 kW and 10 kW chargers.
- (f) Please provide a table showing the DER connections made over the past 5 years and forecast over the application term broken down by year, technology, and size range.
- (g) What investments is London Hydro planning to increase the capacity for its customers to install DERs?
- (h) Please provide a table and narrative description of the restricted feeders with little or no capacity to install DERs, the approximately number of customers connected to each, and the cost so resolve the constraints limiting the capacity to connect DERs.

LH Response:

- a) To the best of our knowledge, yes.
- b) Approximately 3000 customers are on constrained feeders.
- c) Approximately 3000 customers are on constrained feeders.
- d) See response to ED-6 (e). Anything above the basic connection is at the customer's cost.

e) The basic connection is based on a 200A service. The type of load is not relevant.

f)

Size	Sep-21	Dec-16	5 YR Period
<10kW	295	258	37
kW	2453	2169	284
>10kW	62	50	12
kW	12937	9445	3492
NM <10kW	48	9	39
kW	380	32	348
NM	13	3	10
kW	2108	86	2022
Other	76	56	20
kW	89979	59740	30239

Size	2022	2023	2024	2025	2026	Technology
<10kW	20	10	10	10	10	Solar
>10kW<500kW	5	5	5	3	3	Solar
>10kW<1MW	1	1	1	0	0	BESS
>1MW	2	2	2	?	?	BESS
>1MW	1	1	1	1	1	CHP

g) See DSP Section 2.1 (5.3.4) first sentence.

h) There are 28 feeders, out of a total of 60, that are restricted with an average of 3000 customers each. There are no costs calculated to resolve this issue as the restrictions are at the Transformer Station and Transmission level.

7-ED-8

8. Reference: Exhibit 7, Appendix – Cost Allocation Model

Questions:

- (a) Please complete the following table for all non-residential metered customers. Please provide a copy in an excel spreadsheet

<b>Fixed Charges – Actual and Estimated vs. OEB Maximum</b>			
	2010 (actual)	...	2027 (estimated)
Fixed Charge			
Customer class 1			
...			
Customer class n			
Maximum Fixed Charge (minimum system with PLCC adjustment)			
Customer class 1			
...			
Customer class n			
Number of Customers			
Customer class 1			
...			
Customer class n			
Revenue from Fixed Charges			
Customer class 1			
...			
Customer class n			
Total			
Revenue if Fixed Charge Set at Maximum			
Customer class 1			
...			
Customer class n			
Total			

- (b) Please reproduce the above table for 2023 to 2027 as if London Hydro were to set its fixed rates in accordance with the following ruling in Hydro Ottawa’s rates case: “[T]he OEB finds that fixed charges should be set by comparing the fixed charge resulting from Hydro Ottawa’s standard rate design approach with the previous year’s level for the five year rate term. In years where maintaining the current fixed/variable revenue split results in a higher fixed charge than the previous year, Hydro Ottawa shall maintain the fixed charge at the previous year’s level. In years where maintaining the current fixed/variable revenue split results in a lower fixed charge than the previous year, Hydro Ottawa shall maintain the fixed charge at the lower value.”

LH Response:

London Hydro did not have sufficient time available for completing this request.