Exhibit 1

1-Staff-1
Updated Revenue Requirement Workform (RRWF) and Models

Upon completing all interrogatories from Ontario Energy Board (OEB) staff and intervenors, please provide an updated RRWF in working Microsoft Excel format with any corrections or adjustments that the Applicant wishes to make to the amounts in the populated version of the RRWF filed in the initial applications. Entries for changes and adjustments should be included in the middle column on Sheet 3 (Data_Input_Sheet). Sheets 10 (Load Forecast), 11 (Cost Allocation), and 13 (Rate Design) should be updated, as necessary. Please include documentation of the corrections and adjustments, such as a reference to an interrogatory response or an explanatory note. Such notes should be documented on Sheet 14 (Tracking Sheet) and may also be included on other sheets in the RRWFg to assist understanding of changes.

In addition, please file an updated set of models, as applicable, that reflects the interrogatory responses, including an updated Tariff Schedule and Bill Impact model for all classes at the typical consumption/demand levels (e.g. 750 kWh for residential, 2,000 kWh for GS<50, etc.).

LH Response:

Please reference London Hydro 1-Staff-1 2022 RRWF.xlsm

Please reference London Hydro 1-Staff-1 2022_Cost_Allocation_Model.xlsm

Please reference London Hydro 1-Staff-1
2022_Tariff_Schedule_and_Bill_Impact_Model.xlsb

1-Staff-2
Responses to Letters of Comment

Following publication of the Notice of Application, the OEB received 65 letters of comment. Section 2.1.7 of the Filing Requirements states that distributors will be expected to file with the OEB their response to the matters raised within any letters of comment sent to the OEB related to the distributor's application. If the applicant has not received a copy of the letters, they may be accessed from the public record for this proceeding.

Please file a response to the matters raised in the letter of comment referenced above. Going forward, please ensure that responses to any matters raised in subsequent comments or letter are filed in this proceeding. All responses must be filed before the argument (submission) phase of this proceeding.

LH Response:

LH has attached a response that addresses the comments that have been filed with the OEB to date.

1-Staff-3
Ref 1: Exhibit 1, p. 31-32

London Hydro is participating in the West 5 net-zero community project. The first part involves a pilot project funded in part by NRCAN.

a) What are London Hydro's responsibilities in relation to this project?
b) What is the current status of this project, and when is it expected to be completed?
c) Have any amounts related to this project been included in rate base, and are any amounts included in London Hydro's capital/OM&A forecasts?

LH Response:

a) London Hydro is the primary applicant to the NRCAN program for the project, and responsible for the overall project and disbursement of funds received from NRCAN. London Hydro provides technical advice to the project Team, ensuring the pilot project will deliver expected results and will not jeopardize safety or grid reliability. Upon completion of the project, London Hydro will assume operating control of the microgrid portion of the project.

b) As of November 1, 2021: The EPC Contract was awarded by S2E to SunGrid, who will finalize the engineering in 2021. Construction is expected to start in 2022 and be completed in Q1 2023.

c) The only amounts related to this project included in rate base pertain to typical distribution components such as polemount and padmount switchgear, protection and control, and SCADA communications included in various projects such as 22E3 (Residential Servicing), 22E5 (Commercial Servicing), 22H1 (Reclosers), and 22H4 (SCADA Enhancements). As of November 1, 2021, the estimate of these costs is approximately $360,000 and these have been included in the Capital Forecast. The remaining project components which represent the majority of the costs will be owned and funded by other parties. There are no maintenance costs included in the forecast, and none are expected for the first 5

years of the project life (they are covered under warranty). The operation of the pilot project will primarily be automatic, with minimal intervention by LH staff, so no additional operating costs have been forecasted for this project.

1-Staff-4
Ref 1: Exhibit 1, p. 33
Ref 2: Exhibit 2, p. 131

For smart metering operations, London Hydro uses an "in-sourcing" strategy, one aspect of which is to own and operate its own Regional Network Interface and Smart Meter head-end system. London Hydro estimates $610k in annual cost savings from its strategy.

a) Please provide further details on this strategy; what are the other aspects aside from the Regional Network Interface and Smart Meter head-end system?
b) How did London Hydro calculate the estimate of $610k in cost savings?

In reference 1, it's noted that, as part of its in-house capabilities, London Hydro offers services to external clients for meter testing, certification and resealing, which results in $40k annually in cost recoveries.

c) In reference 2, London Hydro states that its revenue from meter sealing services is $100k annually. Please reconcile the two amounts.

LH Response:

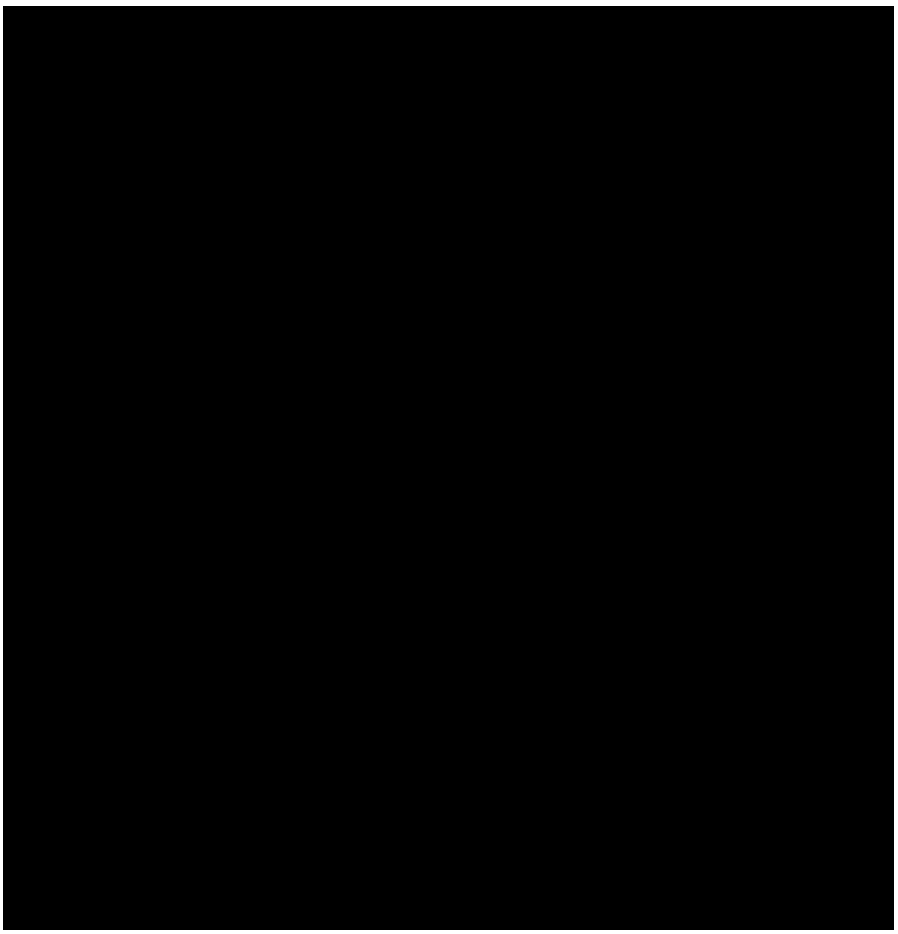
(a)

London Hydro and its customers achieve significant benefits beyond just the external expenditure reductions by operating in-sourcing systems; by being able to achieve a deeper integration between the AMCC head-end systems and other London Hydro systems and processes. Examples within the metering area include being able to more quickly identify and respond to meter failures (communications and other hardware failures) and to exchange meters without impacting customer billing or experience. Further custom integrations with VEE (Validation, Editing, and Estimation) processes with the MDM/R allows data to be automatically corrected, where there have been gaps in communication when there is a power outage at a customer location, for example. Outside of meter measurement issues, other operational integrations and processes have been created to realize further value. Examples of this include voltage monitoring that validates if transformer tap changes are made to provide compliant system or seasonal voltage quality to customers; and outage management and outbound customer

notifications that are driven off of meter power-down last-gasp and first-gasp restoral alarm notifications. In addition, London Hydro has fully integrated hot-socket alarms into the Control Room and an emergency response shift truck crew can be dispatched to catch and prevent potential customer meters from overheating as meter fires are often due to loose meter base connections. Having the metering systems and internal expertise fluent with the technical characteristics of the systems allows for a deeper integration and yields more value to London Hydro and our customers.

(b)

The calculation of the estimated savings as a result of London Hydro's in-sourcing strategy is based on actual commercial quotes from a smart meter vendor that compares the costs between our current internally managed state against the quoted cost of a fully managed service and is provided below:



(c)

The amount referenced in Exhibit 1 on page 33 represents the 2017 OEB Approved amount for meter testing, certification and resealing. Beginning in 2017, volumes for this type of service increased and the new budget for the 2022 Test Year is $100k which is referenced in Exhibit 2 on page 131.

1-Staff-5
Ref 1: Exhibit 1, p. 155
Ref 2: London Hydro Scorecard (2020)

London Hydro's most recent scorecard shows that London Hydro experienced three serious electrical incidents in each of 2018, 2019 and 2020.

a) Please provide further details on what steps London Hydro has taken to address these incidents and to prevent them going forward.

LH Response:

a) As noted in the MD&A of the Scorecards, most of the incidents were related to severe weather / vegetation management and motor vehicle accidents, with two due to failed equipment. As noted in the DSP (Section 1.1.8 (5.2.1H) page 31 of 157, Section 1.3.1 (5.2.3A) page 39 of 157, and Table 25, page 97 of 157), London Hydro monitors tree trimming results through reliability analysis and makes adjustments when needed. While motor vehicle accidents are difficult to prevent, London Hydro reviews the location of its equipment in proximity to vehicle traffic and installs additional protection in high risk areas. Equipment failures are closely monitored and when trends are noted, London Hydro initiates proactive plans to replace any at-risk components (such as porcelain insulators) and use more reliable alternatives. All serious electrical incidents are reported to and discussed with senior management, and prevention options are presented and executed when appropriate.

1-Staff-6
Ref 1: O. Reg. 633/21
Ref 2: Exhibit 1, p. 41-43

O. Reg. 633/21 (Energy Data) under the *Electricity Act, 1998* comes into force on November 1, 2021 and mandates that all energy providers (electricity and natural gas) meet its requirements by November 1, 2023, among which include certification by the Green Button Alliance.

a) Given that all Ontario distributors must adopt Green Button compliant platforms by November 1, 2023, please discuss why an exception under s. 71(4) of the OEB Act should be extended to May 1, 2027.

b) Does London Hydro expect the province-wide adoption of the Green Button platform (by Nov. 1, 2023) to be sufficient to allow it to re-evaluate its framework for the continued provision of Green Button services?

LH Response:

a) The extension is required to pursue opportunities till 2027 to provide services relating to water and natural gas utilities, as well as to service few non-utility customers and potentially expand services beyond the province.

b) The 2018 Framework relied on province-wide adoption of the Green Button platform to kickstart utility collaboration, mitigate risks, and to keep province wide costs down. The presumption is that this would jump start demand for turn-key services. The province-wide adoption aligns with the initial plan from 2018. Assuming that the adoption goes as supposed we will be in the position in 2027 that we anticipated being in for 2022.

1-Staff-7
Ref 1: EB-2018-0118, Decision, p. 7

As noted in the OEB's previous decision granting London Hydro's Green Button exception, London Hydro's existing customers contributed to the initial development of Green Button services. London Hydro's customers should therefore retain the prospect of benefits gained from service expansion, such as economies of scale or spreading the costs across a larger customer base.

Under London Hydro's proposed framework, net profits under its expanded Green Button services are ring-fenced and, while no net incremental costs are attributable to London Hydro's customers, net profits are not shared either.

a) Please explain why this framework is appropriate when London Hydro's customers will not get any benefit from the increased customer base for Green Button services.
b) Please discuss if it would be more appropriate to adopt an asymmetrical earnings sharing mechanism, under which customers would share in net profits, but be insulated from any net losses.

LH Response:

a. London Hydro's proposed framework is consistent with what was applied for in 2018 where any net profits realized would be provided to the customers as an increase in other revenue the same way that any other costs (such as water billing) is used to decrease the revenue requirement. Unfortunately, due to the delays in the green button mandate there are no profits anticipated for the test year which will be generated by London Hydro to provide to its customers through other revenue.
London Hydro's proposed framework and approach has been prudent given the delays with the government mandate and recent announcement for Ontario electricity and gas utilities to implement Green Button by Nov 1, 2023. London Hydro customers' benefits are dependent on the number of Ontario utilities utilizing London Hydro's Green platform.

London Hydro is not anticipating a profit for the proposed 2022 Test Year. However, during the 2023 to 2026 years, the Company will be working towards developing a profitable service model.

b) London Hydro's is open to such earning sharing mechanisms. However, London Hydro's strategy is not to pursue opportunities that suffer a loss.

1-Staff-8
Ref 1: EB-2018-0118, Decision, p. 4

In the Decision noted above granting London Hydro's Green Button exemption, the OEB indicated that it was satisfied that in this case there were "special circumstances" within the meaning of section 71(4) of the OEB Act that warranted an exemption, including the fact that London Hydro's proposed business activities were to be undertaken on a temporary basis.

a) In London Hydro's view, what are the "special circumstances" that warrant the extension of the exception?

LH Response:

a) The special circumstances are the nature of the undertaking, which is best done on an integrated basis across utilities, combining electricity, natural gas and water, thereby expanding the customer base, helping to share costs, creating efficiencies, opening up unique collaboration opportunities and increasing overall usefulness to the customer. The timetable provided by the OEB to adopt Green Button compliant platforms adds to the special circumstance.

1-Staff-9
Ref 1: Exhibit 1, p. 41-43

a) Please provide London Hydro's ring-fenced net profits/losses from its expanded Green Button services in each year since 2018.

b) Given that a province-wide implementation of Green Button is due by November 1, 2023, does London Hydro expect any material net profits/losses within the forecast period (May 1, 2022 to May 1, 2027)?

c) Please provide a forecast of net profits/losses and forecast ROE (ring-fenced and non-ring-fenced) for the next five years.

d) Please quantify how much London Hydro has spent to date on the development of Green Button for its own customers. Please also quantify how much London Hydro has spent to date to expand its Green Button services for its business activities under its s. 71(4) exception.

e) Please provide a forecast of the costs associated with Green Button over the next five years to be recovered through London Hydro's distribution customers and the costs to be ring-fenced.

LH Response:

(a)

Ring-fenced net profits and losses from 2018 are provided below:

GREEN BUTTON PLATFORM AND EXTERNAL APPs						
	2018 Actuals	2019 Actual	2020 Actual	YTD Sept. 2021	2021 Budget	2022 Budget
Revenue	147,500	527,559	194,166	154,727	100,000	110,000
Expenditures	(173,226)	(539,614)	(131,969)	(112,509)	(118,800)	(124,400)
Profit (loss) for year	**(25,726)**	**(12,055)**	**62,197**	**42,219**	**(18,800)**	**(14,400)**

(b)

Forecasted net profit and loss amounts for 2022 to 2026 are provided in item (c) below. No forecasted net profit or loss amounts exceed London Hydro's material threshold which is $397,000 based on the proposed 2022 Test Year.

(c)

Forecasted net profit and loss amounts for 2022 to 2026 are provided below.

GREEN BUTTON PLATFORM AND EXTERNAL APPs					
	2022	2023	2024	2025	2026
Revenue	110,000	1,681,000	1,021,000	896,000	909,000
Expenditures	(124,400)	(1,332,000)	(852,000)	(700,000)	(709,000)
Profit (loss)	(14,400)	349,000	169,000	196,000	200,000

Due to the delays in the Green Button mandate there are no profits anticipated for the proposed 2022 Test Year. The impact on the company's ROE is assumed to be immaterial. Accordingly, a detailed calculation has not been prepared at this time.

(d)

Green Button is a key component in many of the enhancements provided to customers in recent years. Specifically, Green Button data is fundamental in most new features being offered to customers such as Green Button Connect My Data, Green Button Download My Data, the Trickle mobile app, MyIDC, MyEvent, High Usage Alerts, usage visualizations, Energy Consumption and Water Use (EWRB) Reporting, cost predictions, Price Plan Comparisons and new tools offered through MyLondonHydro. This makes it difficult to identify the dollar value impact. Costs associated with Green Button are not specifically tracked in the accounting system. Therefore, numerous studies and analysis would be necessary to estimate the overall cost of this underlying data and stemming tools. That being said, the underlying platform along with many enhancements were developed and funded through projects like the OEB Regulated Price Plan pilot (EB-2014-0319) and the OEB Critical Peak Pricing (EB-2016-0201), which were initiated to test alternative pricing structures and non-price tools to empower consumers and provide incentives and opportunities for consumers to reduce their electricity bills by shifting their time of electricity use.

With respect to non-distribution activities, please refer to the ring-fenced net profits and losses schedule provided under (a) above. This schedule includes all costs associated with these activities including both revenue and expenses. Implementations costs are paid for by non-distribution Green Button clients upfront leaving only the mark up for these services in the profit and loss schedule.

(e)

As mentioned above under item (d), without extensive studies and analysis, this information in connection with London Hydro customers is not readily available because Green Button has become so prevalent in new service offerings and day-to-day activities of the Company.

For non-distribution customers please see the schedule above under item (c) for revenue and expenditures. Capital investments necessary commencing in 2022 have been forecasted to be have an average net book value of $140k.

1-Staff-10
Ref 1: Exhibit 1, p. 41-43

Has London Hydro considered providing the Green Button services through an affiliate? If so, please explain why providing the services through an affiliate would not be a viable option.

LH Response:

Yes, London Hydro has considered providing the Green Button services through an affiliate, however we do not have the corporate structure for it.

1-Staff-11
Ref 1: EB-2018-0118, Decision, p. 2

In its EB-2018-0118 application, London Hydro explained that it wanted "to expand the scope of the Company's GB Services to include services relating to utilities other than electricity, to expand the customer base to whom the Company provides expanded GB Services to include non-electricity utilities and customers as well as customers outside of Ontario, and to provide Green Button Directory Services to enable customers/service providers/utilities of all kinds to access and share utility related data." That application covered the "incubation period" that would end at the expiry of London Hydro's five-year rate plan.

a) Please describe in detail the Green Button services that London Hydro has actually introduced during the incubation period pursuant to the approval granted in EB-2018-0118.

b) Please provide any internal or external reports that may have been prepared (e.g. for London Hydro's board of directors or senior management) that assess London Hydro's Green Button services during the incubation period.

c) Please describe in detail the Green Button services that London Hydro intends to provide over the next five years if its request for an extension of the EB-2018-0118 relief is granted.

d) Who are London Hydro's main competitors in this space?

LH Response:

(a)

London Hydro provided Green Services to the following entities over the incubation period (2017 to 2021):

- Festival Hydro (2016 - current)
- Whitby Hydro (2017 - 2020; not renewed due to utility merger)
- ENWIN (2020 - current)
- Water services for City of London (2019/2020 data reporting enhancements only)
- Union Gas pilot (2018)
- Enmax GB pilot (2018-2019)
- Newmarket (started in 2021)

London Hydro's Green Button Platform solution provides professional services, a GBA certified platform, secure third-party data access to energy consumption and applications for utilities to enable higher customer engagement and digital transformation. The turn key platform solution is provided as a cloud-based hosted and fully managed SaaS (Software as a Service) with regular maintenance and enhancements and includes:

- Green Button platform for residential and commercial customers energy consumption
- MyIDC Commercial and Industrial (C&I) portal
- MyAccount (hourly energy usage)
- Trickl (smart home real time usage and control)
- Secure database with energy consumption (hourly) using North American standard
- Production and Quality Assurance environments required for certification and development management.
- Customer facing Green Button Apps
- Certification and recertification services
- Data transformation modules (translation of utility CIS and AMI/AMR enterprise data into Green button repositories using anonymization and security processes defined by the standard)
- Data management - storage and management of all Green Button data
- Connect My Data connectors - Green Button workflows for authentication and revocation of data for utility and third-party applications/apps
- Customer portal for customer-based functions related to Green Button business workflows
- Support services inclusive of third-party onboarding
- Certification service as per regulatory requirements
- Green Button Connect My Data compatible apps - connection and white labeling solutions for utility customer engagement

(b)

London Hydro provided regular updates to senior management and the Board of Directors regarding other utilities that are adopting London Hydro's Green Button platform and services (per the list in (a) above) on regular basis.

(c)

London Hydro will continue to create innovation partnerships by offering the services listed in (a) to Ontario electricity, gas and water utilities. Integration and alignment with other utilities expands the customer base thereby helping to share costs, while creating efficiencies and opening up unique collaboration opportunities and overall usefulness for customers.

(d)

London Hydro's was the first North American utility to be Download My Data (DMD) and Connect My Data (CMD) certified by the Green Button Alliance for electricity, gas and water in July of 2018. At this point, UtilityAPI based in the USA, has been certified recently (December 2019). London Hydro expects that some meter data management and IT services companies will start providing Green Button services in the near future.

1-Staff-12
Ref 1: Report to the OEB, New Developments in Activities and Program Benchmarking, March 9, 2021 (revised May 11, 2021)

The OEB has released the report on Activities and Program Benchmarking.

a) Has London Hydro reviewed this report?

b) Please discuss London Hydro's performance in the areas evaluated in Activities and Program Benchmarking.

c) Please discuss if London Hydro has taken any actions or is planning to take in response to the report.

LH Response:

a) Yes, summary of results as compared to PEG average below:

Benchmarking Item	Measurement	Average	LH	LH %
Billing O&M	Unit Cost ($ / customer)	36.26	11.42	31.5%
Pole Maintenance O&M	Unit Cost ($ / pole)	14.05	23.49	167.1%
Lines O&M	Unit Cost (Cost Index/Scale Index)	1.01	0.82	81.4%
Meter O&M	Unit Cost ($ per customer)	19.67	19.35	98.4%
Vegetation Management O&M	Unit Cost ($ per Pole)	35.15	38.99	110.9%
Station Maintenance O&M	Unit Cost ($ per station)	23,981.19	23,636.57	98.6%
Poles, Towers, and Fixtures Capex	Unit Cost ($ per pole)	123.62	59.72	48.3%
Stations Capex	Unit Cost ($ per station)	54,092.43	4,188.37	7.7%
Line Transformer Capex	Unit Cost ($ per customer)	27.88	31.83	114.2%
Meter Capex	Unit Cost ($ per customer)	11.04	10.37	93.9%

b) London Hydro is unable to answer the question as we cannot comment on others' status.

c) London Hydro will continue to review APB results as Pacific Economics Group Research, LLC (PEG) continues to "benchmark some (or all) of the ten costs that OEB staff shortlisted". PEG notes that "given the small sample of data currently available, re-estimation of the econometric models as data accumulate will enhance their precision. Further refinements to the data gathered may be warranted." PEG discusses that "distributors may have unique business conditions that are not included in the model, have different accounting treatment for the costs being benchmarked, or have high year-to-year variation." Over time

and as PEG continues to revise their models the data would increase in usefulness. London Hydro will be paying particular attention to the results where London Hydro is significantly above average and will follow up as necessary to better understand the results.

1-Staff-13
Ref 1: Exhibit 1, Appendix D 2019 Audited Financial Statements, p. 16-19
Ref 2: Exhibit 2, p. 133
Ref 3: Exhibit 2, DSP Attachment Q London Hydro Remote Operations Assessment by Verve
Ref 4: Chapter 2 Appendices, Appendix 2-BA Fixed Assets Continuity Schedule

Note 3 of London Hydro's 2019 Audited Financial Statements states that London Hydro adopted the amendments to IFRS 16 Leases effective January 1, 2019. The standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all major leases. The reconciliation of the statement of financial position on the 2019 Audited Financial Statements (AFS) shows that London Hydro recognized a transitional addition to Property, Plant and Equipment of $2,319k with $58k of accumulated amortization for the leased asset as of December 31, 2018.

In Reference 2, London Hydro states that:

> General Plant spending for the historical period is expected to be around 18% or $8M higher than anticipated. The largest single variance was in 2018 with an accounting entry of $2.3M for "land acquisition" to account for the value of the land lease agreement with the City of London for the property at 111 Horton Street.

The report in Reference 3 states that:

> LHI is located at 111 Horton Street, London, ON N6A 4H6. LHI's offices and operations are in a centralized location within the City... LHI owns the buildings, while the land upon which the LHI resides is owned by the City. LHI leases the land from the City for $100,000 annually; there is no formal lease agreement in place.

OEB staff notes from Appendix 2-BA Fixed Asset Continuity Schedule that $2,319k was recorded in USoA 2005 Property Under Finance Leases in the 2018 fixed asset continuity schedule and annual amortization of $58k has been recorded for this asset since 2018. As a result, $2,029k of net book value of the leased asset is included in the 2022 test year's fixed asset continuity schedule.

a) Please confirm that the $2,029k Property under Finance Leases corresponds to the land lease at 111 Horton Street that had been capitalized since 2018 due to the adoption of the amendments to IFRS 16 Leases.

b) Please explain how the land lease was treated in rates (including the quantum) in London Hydro's last rebasing application?

c) Please explain how London Hydro calculated the initial capitalized amount of $2,319k for the land lease in 2018 and how London Hydro determined the annual amortization amount of $58k, given there is no formal lease agreement in place.

d) Please confirm that London Hydro still pays the city of $100,000 for the land lease and explain if London Hydro expects any changes in the payment amount in the future.

e) From rates perspective, please provide London Hydro's view on the expensing vs. capitalization of the leased land in this application.

LH Response:

a) Correct, the $2,029,046 in Account 2005 in the 2022 Forecasted Fixed Asset Continuity Schedule represents the forecasted net book value, at December 31, 2022, of the finance lease related to the land at 111 Horton Street, that has been capitalized since 2018 as a result of the adoption of IFRS 16 Leases.

b) In LH's last rebasing application (EB-2016-0091), LH captured the $100,000 annual payment to the City of London for the use of the land under the Facilities and Environmental Services OM&A Program under Property Leasing.

c) The initial capitalized amount of $2,318,969 was measured at the present value of the lease payments that were not paid at the commencement date (1/1/2018), discounted using the Company's incremental borrowing rate, since there is no implicit interest rate.

Annual payment = $100,000
Discount rate = 2.98% (LH's incremental borrowing rate at 2/1/2018)
Number of payments = 40 (In 2018, LH was in negotiation with the City of London to sign a formal lease agreement for 111 Horton Street (LH's head office building). The last draft agreement with the City of London was for 20 years + one 20-year renewal option. The draft agreement maintained

the same annual payment of $100,000. To date, the agreement has not been finalized and signed.)

The annual amortization of $58,000 was calculated by taking the initial capitalized amount of $2,318,969, and is being amortized over the total estimated number of payments (40 years).

$2,318,969 / 40 = $57,974

d) LH continues to pay the City of London $100,000 annually regarding this land lease. Although there is no formal lease agreement in place with the City, the annual lease amount has remained unchanged for over 20 years, and there is no expectation that the amount will be changing under the current arrangement. This payment is recorded as a reduction in the Right of Use Land Lease Liability (Account 2325 – Obligations Under Finance Lease – Non-Current).

e) As per the Accounting Procedures Handbook for Electricity Distributors, issued by the OEB, if specific regulatory guidance for a particular issue has not been issued by the Board, and that issue is not addressed in the Articles of the APH, generally, a distributor should follow the requirements of IFRS. In the matter of the land lease with the City of London, LH has adopted IFRS 16 Leases, effective January 1, 2019. LH's preference is that, when possible, the OEB rules contained within the APH follow that of IFRS, as each difference that occurs between the two methodologies requires an additional reconciliation. This leads to additional complexities and potential opportunities for errors.

1-Staff-14
Ref 1: Exhibit 1, Appendix F Reconciliation of Financial Statements
Ref 2: Chapter 2 Appendices, Appendix 2-BA Fixed Asset Continuity Schedule

London Hydro has provided a reconciliation of the 2020 regulatory trial balance to the 2020 AFS in Reference 1. In reviewing the reconciliation of the accounts in the trial balance for Property, Plant and Equipment to the 2020 AFS, OEB staff notes the following discrepancies between the reported 2020 trial balances for two accounts and the 2020 reported RRR 2.1.7 balances for these accounts, as below:

USoA	OEB Account Name	2020 Trial Balance per the Reconciliation	RRR 2.1.7 Reported to OEB	Difference
2055	Construction Work in Progress - Electric	12,535,396	13,466,895	(931,500)
2105	Accumulated Depreciation of Electric Utility Plant - Property, Plant and Equipment	(209,431,075)	(207,264,637)	(2,166,438)

OEB staff notes that the net book value of fixed assets as per the 2020 fixed asset continuity schedule filed in Appendix 2-BA is $325,183k while the net book value of PP&E as per the 2020 AFS is $352,992k.

a) Please explain the discrepancies noted by OEB staff in the table above.
b) Please provide a reconciliation between the net book value of fixed assets as of December 31, 2020 in the fixed asset continuity schedule and the values in the 2020 AFS.

LH Response:

a) Reconciliation of Audited Financial Statements: 2020 Trial Balance per Reconciliation (RRR 2.1.13) versus Trial Balance Reported to the OEB (RRR 2.1.7):

USoA 2055 Construction Work in Progress - Electric		**2020**
2020 Trial Balance per RRR 2.1.13 Reconciliation of T/B to AFS - Property, plant and equipment (Non-current assets - AFS Grouping: Property, plant and equipment)	$	12,535,396
Intangible assests (Non-current assets - AFS Grouping: Intangible assets)	$	931,500
2020 Trial Balance per RRR 2.1.7 Reported to the OEB	$	13,466,895

USoA 2105 Accumulated Depreciation of Electric Utility Plant - Property, Plant and Equipment		
2020 Trial Balance per RRR 2.1.13 Reconciliation of T/B to AFS - Property, plant and equipment (Non-current assets - AFS Grouping: Property, plant and equipment)	$	(209,431,075)
Deferred Revenue Amortization (Non-current liabilities - AFS Grouping: Deferred revenue)	$	2,166,438
2020 Trial Balance per RRR 2.1.7 Reported to the OEB	$	(207,264,637)

The Construction Work in Progress – Electric (USoA 2055) difference between the 2020 Trial Balance per Reconciliation (RRR 2.1.13) versus Trial Balance Reported to the OEB (RRR 2.1.7) represents the intangible assets which are presented on separate lines in the RRR 2.1.13 reconciliation according to the Audited Financial Statements.

The Accumulated Depreciation of Electric Utility Plant – Property, Plant and Equipment (USoA 2105) difference between the 2020 Trial Balance per Reconciliation (RRR 2.1.13) versus Trial Balance Reported to the OEB (RRR 2.1.7) represents the deferred revenue amortization which are presented in a separate section, Non-current Liabilities, in the RRR 2.1.13 reconciliation according to the Audited Financial Statements.

b) Reconciliation between the net book value of fixed assets as of December 31, 2020 in the fixed asset continuity schedule and the values in the 2020 Audited Financial Statements.

	$'000
Net Book Value of fixed assets per Continuity Schedule, Dec 31, 2020	$ 325,183
Adjustments to bring OEB accounting to IFRS:	
Add back WIP 2055	13,467
Add back NBV Renewable Generation 2075	1,469
Add back NBV of Regulatory Assets 1508	8,312
Remove Deferred Revenue 2440	28,005
Total PP&E and Intangibles per 2020 Audited Financial Statements	376,435
Remove Intangible Assets	- 23,443
Total PP&E as per 2020 Audited Financial Statements	$ 352,992

The net book value of fixed assets per Continuity Schedule, Dec 31, 2020 excludes Work-In-Progress, Non-Distribution assets from account 2075 and Regulatory Assets from account 1508.

PP&E as per the Audited Financial Statements includes WIP, Non-Distribution assets from account 2075 and Regulatory Assets from account 1508. However, it excludes Deferred Revenue and reports Intangible Asset Balances separately.

1-Staff-15
Ref 1: Exhibit 1, p. 166
Ref 2: Exhibit 1, Appendix C 2020 Annual Report
Ref 3: London Hydro's 2020 Scorecard posted on the OEB's website

London Hydro has provided the 2019 achieved return on equity (ROE) performance as part of the 2019 scorecard. London Hydro states that:

> London Hydro submitted an IRM application for new rates effective May 1, 2019. The approved application resulted in a modest right sizing of our return on equity (ROE) achieved in 2019 of 8.82% down from the 2018 value of 10.08%. The achieved ROE is above the deemed ROE of 8.78%.

Note 14 Long-term debt in the 2020 AFS (and included in the 2020 Annual Report) states that:

> The swap agreements entered into with Royal Bank of Canada and Toronto Dominion Bank do not meet the standard to apply hedge accounting. Accordingly, the interest rate swap contracts are recorded at their fair value at the end of the period with the unrealized gain or loss recorded in the Statements of Comprehensive Income as finance expenses. The unrealized loss for the year ended December 31, 2020 was $6.6 million (2019 – $0.4 million).

The OEB has posted Electricity Distributors' 2020 scorecards on the OEB's website. OEB staff notes that London Hydro's 2020 achieved ROE is calculated as 7.90%.

a) Please confirm whether the 2019 and 2020 achieved ROE percentages have adjusted out the unrealized loss on interest swaps of $6.6 million and $0.4 million, respectively.
   i) If not, please explain why not and provide a revised achieved ROE for 2019 and 2020 by removing the impact of the unrealized losses on interest swaps.

LH Response:

Confirmed, the 2019 and 2020 achieved ROE percentages have adjusted out the unrealized loss on interest swaps.

Exhibit 2

2-Staff-16
Ref 1: Exhibit 2, Appendix 2-4 Capitalization Policy
Ref 2: London Hydro's 2017 Cost of Service Application EB-2016-0091, Exhibit 2, Appendix 2-2 Capitalization Policy

Section 4.8 Major Inspections/Overhauls of Item of PP&E of London Hydro's capitalization policy states that:

> If regular "major" inspections are instituted on an item or items of PP&E, regardless if the parts of the item are replaced, this cost is recognized in the carrying amount of the item of PP&E. (IAS 16.13). If the PP&E item is derecognized the remaining carrying amount of the cost of the previous major inspection is also derecognized.
>
> The cost of the major inspection or overhaul included in the amount initially recognized for an item of PP&E should be allocated to the major inspection or overhaul component and amortized separately over the useful life of this component so that it is fully depreciated before the next major inspection occurs.

Section 4.8 Major Inspections/Overhauls of Item of PP&E from London Hydro's capitalization policy presented in its 2017 cost of service rate application stated that:

> The Company does not normally realize regular major inspections on its PP&E, and therefore does not anticipate having a separate component for major inspection costs.

OEB staff notes that the above quote is not reflected in the capitalization policy underpinning this current application.

a) Please explain why the capitalization policy presented in this application excludes this quote.
b) Has London Hydro revised its capitalization policy since it last rebased? If so, how does London Hydro propose to treat the impact, from a rates perspective, of expensing the major inspection costs throughout one rate-setting term, and then capitalizing them into opening rate base in a subsequent term?
c) Please explain if London Hydro has capitalized regular major inspections on its PP&E in the 2022 test year. If so, please provide the details for the capitalized components for the regular major inspections (i.e., capital projects where the

major inspections are capitalized, the quantum of the major inspections included in the capital project and the depreciation periods for these capitalized major inspections).

LH Response:

a) London Hydro removed the quote from the capitalization policy because it was no longer applicable. Although London Hydro still does not normally realize regular major inspections on its PP&E, a separate component was created for major inspections of vaults and maintenance holes, to account for a large-scale inspection and evaluation of the structural integrity of vaults and maintenance holes that arose in 2020. At this time, Section 4.8 of the Policy was applied.

b) London Hydro has not revised its capitalization policy since its last rebasing. It is still not normal practice to realize regular major inspections on our PP&E as most regular major inspections are required annually and continue to be expensed as incurred.

c) London Hydro has not capitalized regular major inspections as additions in the 2022 test year and as such, there are no details to provide regarding capital projects, or the quantum of major inspections included in capital projects. The only inspection costs that have been capitalized in the past are reflected within Underground Conduit Account 1840, and represent a net book value of $88,482.85 as of Dec 31, 2022. This asset has a depreciation lifespan of 5 years, since this large-scale inspection and evaluation is required every 5 years.

2-Staff-17
Ref 1: Chapter 2 Appendices/Appendix 2-D Overhead Expenses
Ref 2: London Hydro's 2017 Cost of Service Application EB-2016-0091/Chapter 2 Appendices filed at settlement proposal/Appendix 2-D Overhead Expenses

Based on Reference 1, OEB staff reproduced part of the Appendix 2-D for the capitalized OM&A% filed in this application as below:

	Historical Years			Bridge Year	Test Year
	2018	**2019**	**2020**	**2021**	**2022**
% of Capitalized OM&A	22.1	21.9	24.0	26.3	25.8

Based on Reference 2, OEB staff reproduced part of the Appendix 2-D for the capitalized OM&A% filed in London Hydro's last rebasing application as below:

	Historical Years			Bridge Year	Test Year
	2013	**2014**	**2015**	**2016**	**2017**
% of Capitalized OM&A	22.0	22.1	22.0	22.4	24.9

a) Please provide the actual percentage of capitalized OM&A in 2016 and 2017, compared to the forecasted percentage filed in London Hydro's 2017 rebasing application, and explain the differences.

b) Please confirm that London Hydro has not changed its overhead capitalization methodology since its last rebasing application.

c) Please explain the pattern of the increased percentage of capitalized OM&A in the test year in both applications.

LH Response:

a) The following schedule summarizes capitalized OM&A for 2016 and 2017 as originally reported in the 2017 rebasing application, as well as actual results:

	2016 Forecast	2016 Actual	2017 Forecast	2017 Actual
% of Capitalized OM&A	24.4%	22.4%	24.4%	22.4%

A breakdown is shown below (data inputted into Appendix 2-D):

OM&A Before Capitalization	FORECAST* 2016 Bridge Year	ACTUAL 2016 Bridge Year	FORECAST* 2017 Test Year	ACTUAL 2017 Test Year
Asset management	$ 5,893,200	$ 5,474,763	$ 6,140,600	$ 5,313,190
Operations and maintenance	$ 15,255,800	$ 15,534,889	$ 16,032,200	$ 16,078,827
Metering and data management	$ 3,939,500	$ 3,847,190	$ 4,263,800	$ 3,522,443
Information technology	$ 6,690,700	$ 6,214,856	$ 6,945,000	$ 6,745,935
Customer service and collections	$ 2,878,900	$ 2,595,805	$ 2,692,800	$ 3,243,574
Corporate communications	$ 942,500	$ 938,266	$ 963,600	$ 862,180
Human resources, health and safety	$ 1,728,400	$ 1,582,467	$ 1,801,700	$ 1,713,289
Facilities and environmental services	$ 3,742,600	$ 3,342,323	$ 3,805,800	$ 3,355,209
Corporate services	$ 4,764,800	$ 4,837,123	$ 5,480,100	$ 5,100,093
Locate services	$ 914,200	$ 957,684	$ 917,700	$ 1,006,200
Fleet services (gross expenditures)	$ 4,162,100	$ 4,144,905	$ 4,349,000	$ 4,150,272
Materials management (gross expenditures)	$ 1,111,661	$ 1,044,220	$ 1,110,060	$ 1,156,497
Fleet and materials management cost allocations	-$ 3,074,800	-$ 3,090,552	-$ 3,172,200	-$ 3,137,048
Total OM&A Before Capitalization (B)	$ 48,949,561	$ 47,423,939	$ 51,330,160	$ 49,110,663

Capitalized OM&A	FORECAST* 2016 Bridge Year	ACTUAL 2016 Bridge Year	FORECAST* 2017 Test Year	ACTUAL 2017 Test Year
Asset management	$ 1,752,200	$ 1,454,420	$ 1,802,500	$ 1,351,553
Operations and maintenance	$ 5,647,500	$ 5,551,366	$ 6,071,500	$ 5,879,652
Metering and data management	$ 538,100	$ 464,573	$ 547,000	$ 295,900
Information Technology	$ 1,986,800	$ 1,328,281	$ 2,000,800	$ 1,665,152
Customer service and collections	$ 280,500	$ 128,720	$ 280,500	$ 139,622
Corporate communications	$ -	$ -	$ -	$ -
Human resources, health and safety	$ -	$ 20,652	$ -	$ -
Facilities and environmental services	$ -	$ -	$ -	$ -
Corporate services	$ -	$ 674	$ -	$ -
Locate services	$ -	$ -	$ -	$ -
Fleet services (gross expenditures)	$ 1,479,000	$ 1,423,615	$ 1,571,900	$ 1,396,668
Materials management (gross expenditures)	$ 254,461	$ 248,827	$ 258,960	$ 279,173
Total Capitalized OM&A (A)	$ 11,938,561	$ 10,621,128	$ 12,533,160	$ 11,007,721
% of Capitalized OM&A (=A/B)	24.4%	22.4%	24.4%	22.4%

The percentage of actual capitalized OM&A in 2016 and 2017 is lower than originally forecasted, primarily as a result of fluctuations in gross available labour. These fluctuations and vacancies are the result of many factors including delays with respect to replacing retired employees due to recruitment issues, employees on sick leave / LTD, employees on maternity / paternity leave and a switch in the resource mix between internal staff and external contractors.

For example, where an Overhead Line personnel is budgeted but the position remains vacant for a period of time, the outcome is a reduction in gross salaries with an offsetting reduction in allocations to capital. In these situations, LH would hire an external contractor for the capital work rather than using internal resources. Costs incurred re: external contractors are charged directly to capital jobs (compared to labour, which is charged to OM&A, and then allocated out to capital).

For the most part, where budgeted gross FTE's are vacant, the impact has little bearing on **net** OM&A expenditures, but it does reduce the overall **percentage** of capitalized OM&A.

b) LH confirms that it has not changed its overhead capitalization methodology since its last rebasing application.

c) LH's budgets are set anticipating that a certain level of FTE's will be deployed to capital and billable activities. If these positions remain vacant (for the reasons described in part (a) above, the outcome is a reduction in gross salaries with an offsetting reduction in allocations to capital. This reduces the percentage of actual capitalized OM&A when compared to budget, but the impact has little bearing on net OM&A expenditures.

2-Staff-18
Ref 1: Exhibit 2, p. 89

London Hydro's SAIFI metric has a peak in 2018. Whether MEDs/LOS are included or excluded, the 2018 SAIFI performance is significantly worse than the other historical years.

a) What is the cause of the increase in SAIFI (excluding MED and LOS) for 2018?

LH Response:

a) Defective equipment accounted for 34.3% of the outages in 2018. Some of the more significant outages were due to failed porcelain cutout switches and primary cable faults, which had a higher than average failure frequency in 2018. The locations of these failures impacted large number of customers. A new accelerated renewal program that addressed the porcelain cutouts was initiated and there has been a significant reduction in these types of outages. The primary cable replacement program was also increased to address aging cables."

2-Staff-19
Ref 1: Exhibit 2, p. 42

In discussing system renewal spending, London Hydro notes that, since 2017, it has made significant investments to increase the available capacity of the 27.6kV distribution system.

a) Please elaborate on the investments described here.

b) Please explain why these investments to increase available capacity have been designated as system renewal spending, as opposed to system service spending.

LH Response:

a) As noted in the DSP (DSP pages 130 to 132), System Renewal spending exceeded planned spending due to the Dundas Place Project and Nelson TS conversion from 13.8 kV to 27.6 kV. The Dundas Place Project provided the opportunity to replace a significant amount of end-of-life assets with new assets that also accommodated some of the 27.6 kV feeders from the new Nelson TS. The conversion from 13.8kV to 27.6 kV increases available capacity since each feeder cable can carry twice the load (since the voltage doubled). Prior to the conversion, there were 12 feeders at 13.8 kV. There are now 5 feeders connected at 27.6 kV with 3 additional feeders to be connected in the future to accommodate growth.

b) As noted in Chapter 5, Section 5.1.2, "*A project or program involving two or more drivers associated with different categories should be placed in the category corresponding to the trigger driver. For example, a project triggered by the need to replace end of service life components in a distribution station should be considered a system renewal investment, even if in anticipation of future system requirements (a system service driver) the project includes assets rated for a higher voltage and/or capable of handling reverse flows*." The "trigger" for the assets replaced as part of the Dundas Place Project and the Nelson TS

conversion was assets at end of life, therefore, these investments have been placed in the system renewal category.

2-Staff-20
Ref 1: Chapter 2 Appendices, Appendix 2-AB

London Hydro's 2019 actual general plant capital expenditures were significantly higher than originally forecast.

a) What is the reason for the variance between 2019 forecast and actual general plant spending?

LH Response:

a) DSP Section 3.2C Historical Variances by Project (5.4.2C) provides a summary of the reasons for the variance (DSP page 145 of 157).

2-Staff-21
Ref 1: DSP, p. 63

As part of its capital expenditure prioritization process, London Hydro's Board of Directors and senior management annually review and adjust the yearly capital budget along with a rolling five-year forecast for capital spending. Potential projects are then reviewed and ranked so that the overall list of projects meet the overall financial targets set by the Board of Directors and senior management.

If the annual financial target for capital spending is found too restrictive, senior management reviews the overall budget or makes a request to the Board of Directors to change the financial target.

a) When the Board of Directors and senior management initially set the annual budget, does this include any input provided by London Hydro's engineering, operations and IT staff on the expected capital need for the year?
b) Please provide any materials/presentations provided to the Board of Directors.
c) What information is provided to the Board of Directors when requesting a change to the financial target? Please provide a copy of all materials provided to the Board of Directors, if any, related to any requests for changes to the financial target for the test year or any historical years.

LH Response:

a) Yes. Engineering, Operations, and IT staff provide details to senior management regarding the proposed list of projects, their drivers, and priorities. The process is explained fully in Engineering Instruction EI – 31 which was included in DSP Appendix M (see specifically DSP Appendix M pages 16, and 37 to 40). The finalized budget is summarized for presentation to the Board of Directors.

b) The following items were submitted to LH's Board of Directors for their approval on November 24, 2020 (initial submissions to the Audit Committee on November 23, 2020):

Attachment 1 – LH 2021 and 2022 Budget Presentation - Original 11.23.20

Attachment 2 – 2022 Operating and Capital Plan - Original 11.24.20

c) The following item was submitted to LH's Board of Directors for their approval on October 26, 2021.

Attachment 3 – 2022 Operating and Capital Plan - Revised 10.26.21

The final revised version includes adjustments for increased capital spending in connection with relocations for the City of London's Bus Rapid Transit ("BRT") project and the London Hydro's SAP Customer Information System ("CIS") refresh as discussed in LH's original submission, Exhibit 2, Section 2.5.1. Other revenue was also revised to decreased billing service fees for cellular meter read charges to agree with amounts included in the Cost of Service Rate Application filed August 2021.
No changes were made after the Board of Directors' review. The Board accepted the fiscal 2022 budget as presented by London Hydro's Executive Team.

2-Staff-22
Ref 1: DSP, p. 123-124

As shown in the reference, there is a peak in spending in 2022 and 2023, which recedes in 2024 onwards. It's been noted that this is in large part due to increased road relocation spending and the CIS refresh project.

On a net basis, London Hydro's capital expenditures for 2022 is $47.5M, which is 21% higher than the average net capital expenditures over the forecast period (2022-2026) of $39.1M.

a) What steps has London Hydro considered to defer spending from the test year into future years as part of its capital budgeting process so as to smooth out spending and limit the rate impact to customers?
b) Please provide a list of projects that have been deferred as part of this process, if any.

LH Response:

a) The initial list of proposed capital projects for 2022 was reviewed prior to submitting the budget to senior management and the London Hydro Board. As a result, some projects were reduced in scope and deferred to future years. However, System Renewal projects had already been deferred from previous years and still need to be completed, so the net result was that only a few projects could be shifted.

b) Approximately $100k of substation refurbishment and $200k of overhead line work was deferred to 2023.

The Enterprise CRM enhancement project ($500k) was cancelled as result of the CIS refresh. It will be delivered as part of CIS refresh project in 2023.

2-Staff-23
Ref 1: Exhibit 2, p. 43, 48
Ref 2: Exhibit 2, section 2.2.1
Ref 3: DSP, Appendix J

The gross assets recorded within 1908 – Buildings and Fixtures have increased from $23.1M 2017 OEB-approved to $28.1M in the 2022 test year.

As noted in section 2.2.1 and p. 48, much of this spending is to renovate London Hydro's offices to accommodate the changing needs of its workforce while updating fixtures. Appendix J of the DSP contains the scope of the $1.6M spending for 2022.

a) Does London Hydro have a facilities plan/study that provides the strategy and guidelines for the upkeep and renovation of its facilities?
b) How does London Hydro determine the scope of work to be completed in any given year?
c) How did London Hydro determine the 2022 budget of $1.6M?

LH Response:

a) LH does not have a formal strategy. Regular inspections are conducted to assess the condition of assets and plans created for upgrades / replacements when needed. See response to part c) below.

b) Engineering Instruction EI – 31, included as Appendix M of the DSP, outlines how assets are maintained, and how capital is planned. Facilities falls into the General Plant category, which is outlined on Appendix M pages 14 to 16, 18, 33 to 35, 45, and 53.

c) Following the steps in EI-31 (specifically #5 on page 53), the condition of facilities assets are inspected and assessed (often by third-party experts) and a forecast of future replacements is prepared. For the annual budget, this uses inspection results from the prior year and consultation with department supervisors and the Joint Health & Safety Committee. For the annual budget, this uses inspection results from the prior year and consultation with department supervisors and the Joint Health & Safety Committee.

2-Staff-24

Ref 1: Exhibit 1, p. 36, 60
Ref 2: Exhibit 2, p. 12, 43

As noted in various sections of the application (e.g. reference 1), London Hydro is moving towards cloud solutions for many of its IT systems and has already done so for many of its systems in the past five years. The transition to cloud computing reduces hardware/software in rate base as cloud costs are recorded as OM&A.

However, as shown on p. 12, London Hydro's gross assets within 1920 Computer – Hardware and 1611 Computer – Software have not decreased since 2017, which was $23.5M, and have increased to $29.0M for the 2022 test year.

As well, London Hydro's capital spending on Hardware/Software for the 2022 test year has not decreased relative to 2017 spending.

a) Please explain why London Hydro's IT assets have increased significantly rather than decreased despite the transition to cloud.
b) Please explain why London Hydro's Hardware/Software expenditures remain unchanged despite the transition to cloud.

LH Response:

a) Although London Hydro has moved many of its IT solutions to the cloud, it's major enterprise systems still remain on-premise, such as OMS, SAP CIS, JD Edwards, ODS and GIS. These systems make up a significant amount of London Hydro's overall computing and storage requirements. The increase in asset value for these systems results from the following requirements:

i. Hardware comes off warranty and requires replacement
ii. Software releases require cyber security enhancements and compliance
iii. Increases in storage requirements due to data volume, and system integration
iv. Prices for hardware/software have increased significantly since 2017

b) By transitioning to the cloud, London Hydro's been able to avoid additional capital costs that would have been required to maintain previous on-premise solutions. Upgrading or enhancing on-premise solutions would have cost significantly more than a cloud-based alternative.

2-Staff-25
Ref 1: Exhibit 2, p. 43
Ref 2: DSP, p. 153
Ref 3: DSP, Appendix I, 22B2

London Hydro's subdivision rebuilds spending increased significantly from $4.4M in 2019 to $9.0M in 2020. This increased level of spending continues into the 2022 test year.

As shown in reference 2, subdivision rebuild spending decreases and levels off starting in 2023 around $6.5M.

a) Please explain the increased spending between 2020-2022 for subdivision rebuilds.

b) Please explain why the test year spending is higher than the latter half of the forecast period. Has London Hydro considered deferring capital to later years to smooth out its capital spending?

Appendix I shows that the estimated spending in 2022 for the "subdivisions conversions/rebuild" subcategory is $5.8M. This is significantly higher than all prior years.

c) Please explain why spending in 2022 is significantly higher than prior years.

d) The scope of work for 2022 is 6 subdivisions at a cost of $5.8M. The scope of work for 2021 is 11 subdivisions at $3.4M. Please explain how London Hydro forecasts its cost estimates and why 2022 spending is higher than 2021 despite a fewer number of subdivisions.

LH Response:

a) As noted in DSP section 3.2B Historical Variances by Category (5.4.2B) (DSP page 130 of 157), spending on Subdivision Rebuilds was decreased in 2018 and 2019 to accommodate the Dundas Place and Nelson TS related projects, as part of the effort to pace the overall volume of work. These deferred projects are being completed over the 2020 to 2022 period. The volume of work is expected to return to normal in 2023, pending the results of cable testing.

b) As noted in the previous answer, the higher amounts in 2020 to 2022 for subdivision rebuilds is the result of deferring projects in 2018 and 2019 to smooth capital spending in previous years. Additional deferrals would impact system reliability. As noted in response to 2-Staff-18, primary cable faults are one of the leading contributors to outages, which is of concern to our customers.

c) As noted in DSP section 3.2B Historical Variances by Category (5.4.2B) (DSP page 130 of 157), spending on Subdivision Rebuilds was decreased in 2018 and 2019 to accommodate the Dundas Place and Nelson TS related projects, as part of the effort to pace the overall volume of work. These deferred projects are being completed over the 2020 to 2022 period, with 2022 as the last year of completed deferred projects. The volume of work is expected to return to normal in 2023, pending actual results of cable testing.

d) See answer to 2-Staff-39 for an explanation of how cost estimates are forecast. The number of subdivisions does not represent the amount of cable that needs to be replaced since the size of subdivisions is variable, and the cable testing identifies the amount of cable that is in poor or very poor condition.

2-Staff-26
Ref 1: DSP, Appendix I, 22E1-5

Under 22E1, London Hydro notes that it does not have any details on expansion or relocation projects but has based its spending in this category on historical spending.

a) Which historical years is the test year budget based on? Please explain how London Hydro arrived at $1,838,000 for the test year.

As noted in the project description, new subdivision and commercial distribution services projects (E3, E4, E5) are driven directly by customer applications to install services. The application notes that, from a budgeting perspective, annual expenditures are estimated using a number of factors, including past history and various forecasts.

b) For the 2022 test year, please confirm whether the budget allocated to these projects are based on actual customer requests for 2022, or an estimate based on past history and market forecasts. If the latter, please provide all assumptions, data and methodology.

c) Please explain how London Hydro calculates the capital contributions forecasts for these projects.

d) The cost estimate for E5 shows only “cost” but does not indicate whether this is the gross cost or net cost after including capital contributions. Please explain whether the costs here are on a gross or net basis. If there are no capital contributions forecasted, please explain why not.

LH Response:

a) The budget for 22E1 was based on the estimate for 2021 and increased by 1.5% for inflation, for a total of $1,838,000. The budget for 21E1 was based on the average of actuals from 2017 to 2019, to reflect the most recent trends.

b) For 2022, the budgets for E3, E4, and E5 are based on the estimates for 2021 plus 1.5% for inflation. For 2021, E3 forecast was based on previous 5 years (2015 to 2019), and increased 5% due to an increase in housing starts forecasted for 2021 by CMHC (see page 4 of 22E3 Project Sheet). For 2021, E4 forecast was based on previous 5 years (2015 to 2019), and increased 10% due to the trend of an increase in multi-housing units. For 2021, E5 forecast was

based on previous 5 years (2015 to 2019), and increased 6% due to the trend of an increase in multi-housing units.

2-Staff-27
Ref 1: DSP, Appendix J, 22H2, 22H4, 22H5

For 2022, London Hydro has a budget of $795k for SCADA enhancements. For comparison, the 2017 budget was $288k. Appendix J notes that "most of the SCADA enhancement projects are part of programs that have successfully been completed in previous years."

a) Please explain how London Hydro determines the scope and budget of work to be completed each year under this program.
b) If most SCADA enhancement projects are part of programs that have been completed in prior years, please explain why the program budget has increased significantly over 2020-2022.

LH Response:

a) This budget category also includes cyber security of operational technology (OT) systems (such as SCADA), the communication system for SCADA and SCADA-controlled devices (which includes radio frequency, fibre optics, powerline carrier, and cellular technology), and line sensing devices (such as fault indicators, network transformer and protector monitoring). The main drivers are ensuring system reliability and improving visibility of the grid which reduces outage time and costs. London Hydro is working through a multi-year plan that will upgrade cyber security, improve SCADA and communication system resiliency, and increase grid visibility. Projects selected are based on a logical migration path – building fibre optic backhaul to radio tower locations, upgrading / rebuilding radio towers, installing new devices in areas with sufficient communication infrastructure – which is based on forecast obsolescence, asset condition, system reliability needs, cyber security best practices, and smart grid enhancements.

b) The comment "*most of the SCADA enhancement projects are part of programs that have successfully been completed in previous years*" on the project sheet was in reference to the "risks to completion", and confirms that LH has

undertaken similar projects in the past with no concerns regarding our ability to complete them. The projects planned for the period 2020 to 2026 are larger in scope than previous years, such as longer runs of fibre and taller towers, resulting in the need to increase the budget for those years.

2-Staff-28
Ref 1: Exhibit 2, p. 49

London Hydro notes that its capital spending for application development is to meet the needs of its current and evolving information technology environment and regulatory requirements. The test year budget is $4.4M compared to 2017 OEB-approved budget of $3.3M.

a) What regulatory requirements are driving the spending in this category, particularly the increase in spending from 2017 to 2022?
b) What portion of this budget is to address regulatory requirements, and what portion of this budget is discretionary spending?

LH Response:

The major regulatory requirements that are driving the increased spending from 2017 to 2022 include the following:

i. OEB Cyber Security Framework compliance requirements – in 2017 the OEB released its Cyber Security Framework to address exposure to cyber-attacks with the electrical energy sector and established a cyber security policy and the development of a Framework to be applied within LDC's. As a result, London Hydro has focused its application development resources to meet these compliance requirements.

ii. Accessibility for Ontarians with Disabilities Act (AODA) required enhancements to all web facing applications and the LH website to maintain compliance.

iii. Changes to OEB programs such as LEAP, Ontario Energy Rebate, COVID related rate changes, TOU and Tier rates all required enhancements to applications to support each program.

iv. Requirements to remain on vendor-supported versions for critical applications such as OMS, Contact Centre Software, RNI, IVR, CIS and JD Edwards.

v. OEB amendment EB-2013-0311 required software updates to support the replacement of all demand to MIST (Metering Inside the Settlement Timeframe) meters.

b) IT Application Development spending has been broken down into further detail in Excel Attachment "2-SEC-22 Attachment 1 App 2-AA Updated Detailed Spending". Regulatory & Sustainment capital spending is considered non-discretionary and arises due to regulatory changes and other upgrade projects that are necessary to keep the systems functioning properly. Other categories of IT Application Development spending are System Enhancements and New Systems. Spending within these categories are primarily non-discretionary, although the timing and priority of projects is at times discretionary. For additional information regarding the planned projects spending within these categories for 2021 and 2022, please refer to the individual project sheets located in Appendix J of the DSP (Appendix 2-7 of Exhibit 2).

2-Staff-29
Ref 1: Exhibit 2, p. 41, 57, 66
Ref 2: DSP, p. 25, 91
Ref 3: DSP, Appendix J, E2021-01, E2022-01

London Hydro has upgraded a number of its IT systems and increased automation in the distribution system. OEB staff has found a number of references that describe these enhancements/upgrades as drivers of efficiency, some examples of which include:

- CIS refresh that would improve operational efficiencies
- JD Edwards upgrade that allows the automation of processes
- Upgrades to protection and control devices
- Self-serve customer service options

a) Are these efficiencies reflected in London Hydro's OM&A forecasts? Please provide an analysis of the impact on OM&A spending.

b) Given London Hydro's continued spending in IT and distribution automation, please discuss the expected impact this will have on London Hydro's OM&A.

LH Response:

a) The efficiencies have been reflected in London Hydro's OM&A forecast along with benefits to customers such as:

i) Enabled annual OM&A increases to be within CPI (excluding cloud costs)

ii) 80% of field work is paperless, which helps reduce outage time

iii) Promoting more self-services reduces customer calls and results in less call center agents (EWRB reporting, Global Adjustment, Digital Notifications, Move In-Move Out)

iv) Automated and paperless financial processes enable smooth transition to work from home during COVID

v) Maintaining billing accuracy and less exceptions

b) London Hydro is on a digital journey to provide online tools for its residential and commercial customers to manage energy costs. This will require continued investments in technology and drive the need for more real time data. As well, over the next 5 years there will be a need to focus on carbon reduction requirements (e.g. microgrids, solar) that will require digital solutions. London Hydro expects to manage OM&A impact based on our track record and open standard (Green Button) approach and collaboration opportunities with other utilities.

LDCs are challenged with keeping costs in check while at the same time meeting new requirements and expectations associated with rapid changes in technology, cyber security and increased customer expectations, for example. While absorbing many of these rising costs, London Hydro has been able to offer customers new enhancements and features, meet regulatory requirements and implement best practices. The Company is able to accomplish all of this with minimal impact to OM&A costs through savings realized as a result of continuous operational efficiencies and by leveraging innovation.

2-Staff-30
Ref 1: DSP, p. 97-101

In the Reference 1, London Hydro provides the sustainment strategy for each of its asset classes (proactive vs. reactive).

a) For assets that are reactively replaced, does London Hydro forecast a budget in each year for their replacement? If yes, how does London Hydro forecast the budget required in each year?

LH Response:

a) Yes. The forecast is based on previous activity, and adjusted for the remaining population of assets along with their age and condition. The Asset Sustainment Plan provides an estimated quantity per year and the budgets consider that quantity with adjustments for assets that may be replaced proactively through other programs.

2-Staff-31
Ref 1: Exhibit 2, p. 77
Ref 2: ACM Model, tab 9a

Distributors are required to fill out their forecasted capital expenditures in tab 9a of the ACM model. This is used in conjunction with the materiality threshold to calculate the maximum eligible incremental capital.

The threshold calculation is to determine the amount of capital the utility is expected to be able to fund through base rates. Therefore, the forecasted amount should be on a net basis because capital contributions help fund a portion of the capital expenditures.

a) London Hydro has used gross capital expenditures in tab 9a as opposed to net capital expenditures. Please explain whether London Hydro agrees with the preamble above and please provide an updated ACM Model using forecasted net capital expenditures.

LH Response:

a) Based on the definition provided London Hydro agrees that the line item represents net amounts to be included in rate base, and have modified the capital expenditures in the updated ACM Model using the forecasted net amounts to be included in rate base for the test year and subsequent years.

   See attachment 2-Staff-31 Attachment London Hydro EB-2021-0041 2022_ACM - REVISED

2-Staff-32
Ref 1: Exhibit 2, Appendix 2-3

The EY report on London Hydro's potential CIS upgrade options provides a rough cost estimate (+/- 30%) of $14.5M - $18.5M one-time implementation costs for migrating to SAP S/4 HANA.

a) How did London Hydro forecast the total ACM cost of $18.5M? Please explain how London Hydro arrived at the highest end of the range provided by the EY report.
b) Please provide a breakdown of each component of this project.
c) Has London Hydro obtained quotes or any engaged in any competitive pricing process for the materials/labour required for this project?
d) The EY report notes $0.4M - $0.5M in ongoing operating costs. Are these amounts included in London Hydro's 2022 OM&A budget?
e) What is the anticipated support lifetime for the S/4 HANA platform?
f) Has London Hydro considered the option of jointly developing a CIS solution with another electricity distributor so as to share the costs?

LH Response:

a)

To develop the forecasted ACM costs, London Hydro considered the EY report and the variety of costs which will be incurred:

- External labour makes up a significant portion of the total forecasted ACM costs and it is anticipated that contractors will be charging higher rates going forward. London Hydro has experienced a significant increase in the costs of external labour from 2020 to 2021, demonstrated by the rate cards from London Hydro's vendor of record list, which have generally increased by 10% - 15% in the past year.

- In addition, it is anticipated that there will be an ongoing increased demand for IT resources as a result of the COVID-19 pandemic, as several companies have

delayed or deferred projects, and will now be in the market for contractors. This demand is anticipated to drive up the cost of external labour even further. This could also impact internal labour, as LH will have to remain competitive in its compensation rates in order to retain talented IT personnel.

- There is a limited number of vendors with S4/HANA expertise and utility experience. Allocating adequate budget for specialized and skilled resources for the Design Authority role will help minimize customization and align product capabilities.

- With ongoing supply chain disruptions due to the pandemic, it is anticipated that the prices of the necessary hardware will be higher than originally estimated at the time of the initial report.

It is prudent to weigh the above-mentioned costs against the significance of a high-impact system like this. London Hydro's CIS/CRM system is a vital system, as it maintains customer information, helps ensure compliance to regulatory requirements, contains consumption data, drives customer billing and calculations, maintains accounts receivable and payment processing, among other functions. A sufficient budget is necessary in order to ensure a quality solution and avoid any major issues (for example, avoid issues via an extended testing timeframe, utilization of parallel runs).

b)

The $18.5M cost estimation for CIS Refresh includes: software license costs, external labour costs, infrastructure and related set up costs, travel and living and other sundry expenses, and contingency. A high-level breakdown of cost is provided below:

Internal Labour: [redacted]
External Labour: [redacted]
Hardware & Software: [redacted]
Contingency & Expenses: [redacted]

c)

London Hydro issued an RFP for IT advisory resources in September 2021. The contract is expected to be awarded in December.

d)

The change in on-going cost for refreshed CIS solution will be applicable only after go-live in 2023, therefore does not impact the 2022 OM&A budget.

e)

The anticipated supported lifecycle for S4/HANA is 10 to 15 years.

f)

London Hydro has tried in the past to work with other utilities on CIS projects without much success. Most utilities wanted their right-sized CIS system (e.g. Tier 1 or Tier 2 solutions) to align with their internal business processes and requirements. London Hydro will share project experiences with other utilities using SAP to pursue future synergies.

2-Staff-33
Ref 1: DSP, Appendix J, CIS2022-01-J

As part of the 2022 work on the CIS refresh project, London Hydro will be selecting an external system integrator through an RFP to work with London Hydro's project team.

a) Aside from the system integrator, are there any other third-parties that London Hydro intends to contract to work on this project?
b) What is the breakdown of costs allocated to external parties versus London Hydro's internal costs?
c) Since London Hydro's RFP for a system integrator won't be completed until 2022, how did London Hydro's forecast the cost for the system integrator?
d) What are London Hydro's processes for evaluating and approving any variances to project scope, schedule and cost?
e) What steps has London Hydro taken to mitigate the risk of cost overruns and the resulting impacts on rates to customers?

LH Response:

a) Apart from the system integrator, London Hydro has decided that the following partners will be utilized for the CIS Refresh project:
    - SAP as Solution Design Authority: SAP's MaxAttention services at various stages of the project will help London Hydro to maximize value from SAP standard solution and future roadmap
    - Client-side IT Advisor - The client-side IT Advisor will bring in prior experience of delivering S4/ HANA implementation and utility industry best practice process accelerators.
    - Infrastructure provider for SAP S4/ HANA System

b) Approximately 15% of total labour cost is allocated for internal costs.

c) The forecast cost for System Integrator is based on EY's previous experience of similar engagement and market intelligence.

d) London Hydro will form a Steering Committee (SC) to meet on a monthly basis to review the project status, risks, deliverables, and costs. The SC will consist of senior representatives from London Hydro, SAP, QA Lead, SI and IT Advisor with previous utility S4/HANA implementation experience.

e) Answered in part (d) above.

2-Staff-34
Ref 1: DSP, Information System Plan, p. 8-9, 14

As noted in London Hydro's Information System Plan, support for its existing CIS is expected to end in 2027. The expected lead time to design, deploy and test the new CIS (S/4 HANA) is 12-15 months.

a) Given that the support for the existing CIS will continue until 2027 and the lead time for the new system is only slightly more than a year, please discuss why it is necessary to upgrade the system now, as opposed to some later year.
b) What is the annual cost to operate and maintain London Hydro's current CIS?
c) Has London Hydro conducted a present value analysis of upgrading its CIS now versus in a later year?
d) Has London Hydro conducted a risk analysis to delaying the upgrade of its current CIS to a later year?

LH Response:

a) A system go-live in 2023 as opposed to a later year will enable greater value and better risk mitigation for London Hydro and its customers. The CIS study conducted by EY highlights cost savings and qualitative benefits including:

- Avoiding the surge for SAP resources required for CIS refreshes by larger utilities who are also migrating to SAP S4/HANA. This provides benefits for both the availability of skilled resources, and avoids potential higher premiums for limited resources.

- Mitigates potential retirements of key London Hydro resources with business process knowledge and IT skills.

- A loss of project synergies would result if payments, CRM and other scope items were implemented as separate projects in advance of the CIS upgrade, rather than included in the scope of the CIS project. An earlier

project implementation avoids separate investment in a planned Enterprise CRM initiative.

- Gives LH an opportunity to enhance the customer experience, and deploy a more robust and flexible system
- Early mover advantages enable access to top SAP talent
- Higher likelihood for advantageous pricing (SI and software)

b) London Hydro doesn't track annual operating and maintenance costs at a system level given:

- Common resources (e.g. Cyber Security, Testing, Architects, Data Analysts)
- Shared technology (e.g. IVRs for billing and outages)
- Integrated systems (e.g. CIS to OMS for outage notifications and AMI data is used for CIS and MyAccount presentment)

c) Although LH did not conduct a present value analysis, cost savings were considered and are discussed in (a) above.

d) In addition to the risks described in (a) above, the company had EY include remaining on the current CIS system as one of the proposed options, which identified higher costs and higher risks compared to moving to the S4/ HANA system.

2-Staff-35
Ref 1: DSP, Information System Plan, p. 48

Reference 1 notes multiple enhancements made to the JD Edwards platform in 2021.

a) Given that the JD Edwards platform was only recently implemented in 2018, what are these further enhancements being made?

LH Response:

The following list represents enhancements and the continuation of 2020 JDE Enhancement that were delayed due to lack of resources and/or impact of COVID-19:

- JDE Microsoft Dashboard, JDE Work Order Attachments
- JDE One View – Reporting and Analytics
- JDE Watch lists, Asset Management Roadmap for JDE Inventory Items
- Capture Engineering Work Orders under JDE

LH's approach with these projects is to introduce enhancements to both MS Project and JDE to allow more fluid management of additional assets in JDE. This will result in an improved process related to management of capital projects.

The JDE Upgrade was designed with the intention of being done in multiple phases. Additional enhancements beyond the 2018 upgrade, such as the items above were prioritized, and it was determined they would be implemented over time when resources and budget was available.

2-Staff-36
Ref 1: DSP, Information System Plan, p. 47, 50
Ref 2: Chapter 2 Appendices, 2-AB

The Information System Plan notes that upgrading its CIS in the future would likely result in higher costs due to demand for resources supporting other utilities' upgrades. The estimate is a cost increase of 15-20%.

a) Please explain how London Hydro came to an estimate of 15-20%.
b) Why is likely that demand would be higher in the future for resources to upgrade other utilities' upgrades?

LH Response:

a) There are various drivers for the estimated 15 - 20% cost increase from deferring the CIS project:

- Significant additional upward pressure on SI costs due to the very significant demand expected for SAP S/4 CIS resources, with SAP ECC (ERP Central Component) customers migrating to S/4 HANA by end of 2027 (and most of them expected to do so in the period 2023 to 2026) due to the end of support for ECC - see part (b) below.

- It is anticipated that there will be an ongoing increased demand for IT resources as a result of the COVID-19 pandemic, as several companies have delayed or deferred projects. This demand is anticipated to drive up the cost of external labour even further. There is a limited number of vendors with S4/HANA expertise and utility experience, therefore higher external hourly rates for SAP resources is predicted.

- LH expects to get an "early adopter discount" which would not be available if we are not one of the first utilities to adopt S4/HANA in the utility sector. Often large companies will provide a discount to early adopters so they can show a successful implementation in that specific industry as a sales pitch to sell to others.

b) As SAP is discontinuing support for its ECC software after 2027, SAP customers running ECC will migrate to SAP S/4 HANA by then, creating significant demand for SAP S/4 SI and internal resources (in addition to demand from new SAP implementations). By launching its project in 2022, LH will be an early adopter in the Canadian market with most other utilities expected to launch their programs from 2023 onwards.

2-Staff-37
Ref 1: DSP, DSP Customer Feedback Survey Summary, Large Commercial & Industrial

London Hydro posed the following question in its survey to large commercial & industrial customers: “Average C&I customers will see an increase in the Delivery portion of their bill of 0.9%.”

a) OEB staff is unable determine what bill impact the 0.9% corresponds to – it does not match any value in the bill impacts model. Please explain what the 0.9% represents.

LH Response:

a) The customer engagement for the DSP was conducted before the DSP and Rate Application was completed. The 0.9% bill impact was the value estimated at the time the survey was conducted.

2-Staff-38
Ref 1: DSP, UtilityPulse Customer Satisfaction Survey, p. 37
Ref 2: Exhibit 2, p. 33

When asked to prioritize the most important aspects for improvement, it seems most customers prioritized “better prices / lower rates.” As shown in the survey, lower rates were considered most important for 44% of customers. By comparison, the next item on the list is “restore power faster” with 13%.

Customer communications, such as “Improve / simplify / clarify billing”, “better communications / be pro-active", and customer self serve options such as “create an online mobile APP” appear to be far less important to customers and were less than 10% each.

a) How has London Hydro incorporated customer feedback in its budgeting process for customer communications spending and customer engagement software spending (e.g. Trickl)?
b) Has London Hydro canvassed customers specifically on preferences and cost vs. benefits for customer engagement efforts, such as corporate communications, or self-serve apps like Trickl? If so, please provide a reference to the customer engagement conducted on these topics.
c) How did London Hydro determine the amount of annual budget to dedicate to customer communications and customer engagement related software development?

LH Response:

a) In LH’s 2020 UtilityPulse survey, 74% of customers placed educating customers about energy conservation as a ‘very high + high priority’ when planning for the next 5 years. Additionally, as mentioned in the question above, lower rates were considered most important for 44% of customers.
LH factors in these customer priorities while developing and focusing it’s spending budgets, as outlined below:

		Spending Type	
		Customer Communications	Customer Engagement Software
Customer Priority	Education (Energy Conservation)	Communications are directed at informing customers of how new apps/tools can provide access to more energy conservation education and enable customers to make informed decisions on their energy usage.	Developing a smartphone app that allows customers to view electricity usage (and therefore make informed decisions) and pay their bills via a mobile device. With nearly half of our customers accessing our website through their mobile device, an app provides them with easier means to access their information.
	Low Rates	E-billing and paper-free communication options are promoted, to reduce our environmental impact and improve cost-effectiveness.	

b) LH has performed focus groups and held online surveys to capture customer feedback in relation to online apps such as Trickl, MyLondonHydro, Builder's Portal, Property Management Portal, etc. Using this feedback, we have assessed that customers are looking for tools to help them monitor their energy usage, self-service tools that they are able to use at their own convenience, as well as tools to help make informed decisions about energy usage.
Section 3.1A within the DSP discusses LH's Customer Engagement in more detail.

c) Budget is determined based on historical spending patterns, historical customer outreach and planned upcoming communication projects. To prepare the customer communications and customer engagement related software development budgets, LH took into consideration previous promotional campaign costs as well cost savings achieved from cross-promotional options.

2-Staff-39
Ref 1: DSP, Appendix I, 22B2

Although the Kinectrics asset condition assessment flags 40km of underground to be replaced annually, London Hydro has scoped out 29.5km of cable to be replaced under the 22B2 project for 2022.

a) How did London Hydro determine 29.5km of cable for replacement in 2022?
b) How did London Hydro estimate the budget required for this scope of work?

LH Response:

a) As noted in the answer to 2-Staff-45, the new cable testing program has been used to select cables that test poor or very poor, and these are given priority. The project ranking process (see page 5 of project sheet 22B2) also considers the impact to reliability, safety, the environment, capacity and efficiency.

b) The Engineering Design Team reviews the scope of work for each project and estimates the cost using typical costs per km, per segment, and accounts for variables such as access type (rear yard vs front yard), any known unusual soil conditions (such as rocks which can impact directional drilling), etc.

2-Staff-40
Ref 1: DSP, Appendix I, 22C1

22C1 refers to the main feeder supply system renewal project, which for 2022 involves the construction of a new feeder.

a) From the description, it appears to OEB staff that this is a new build of a new feeder. Please explain why this project is considered system renewal.

LH Response:

a) As noted in response to 2-Staff-19b, the category selected is based on the driver that is the "trigger". The project sheet for 22C1 notes that this feeder is part of the conversion of Nelson 13.8 kV to 27.6 kV, it replaces "very poor condition egress feeders", and is replacing end of life 13.8 kV assets. If the 13.8 kV supply from Nelson was still available, these assets would have been replaced with new 13.8 kV assets. The availability of 27.6 kV allows additional capacity and reduced losses.

2-Staff-41
Ref 1: DSP, Appendix I, 22G1
Ref 2: DSP, Appendix I, 22G3

22G1 is a program to replace 120 poles per year that have been identified as needing replacement.

22G3 is a program aimed at rebuilding specific parts of London Hydro's system that are in an advanced state of deterioration.

a) Both programs will replace deteriorated poles – how does London Hydro determine which program will address which poles?

LH Response:

a) Project 22G1 replaces poles that have been identified through inspection and testing as requiring replacement. These pole locations are then compared to existing and future plans to ensure that if they are replaced, the correct pole class, height, and location are used to match future needs. Project 22G3 rebuilds sections of the overhead system (poles, transformers, switches, insulators, etc.) that have been collectively assessed as being poor or very poor condition. This will replace some of the poles in the area that were identified for Project 22G1, but will be completed under 22G3. Historical pole testing results are used in part to determine which areas are to be rebuilt under project 22G3.

2-Staff-42
Ref 1: DSP, Appendix I, RS2022-01

Within this project is a budget of $400k towards “regulatory changes”, which is “designed to ensure that regulatory requirements from the OEB and Measurement Canada are delivered in a timely and efficient manner.”

a) What regulatory requirements is this project intended to address for the test year?

LH Response:

Regulatory requirements anticipated to be addressed for the test year include system updates, upgrades, changes, testing and quality assurance in support of:

- Changes to OEB programs such as LEAP, Ontario Energy Rebate, rate changes and loss factor updates (OEB and Retailers)
- Required Bill print updates, bill messages
- Global Adjustment updates and changes
- OER changes
- Rebates and Rate Riders
- OEB/ENMD program supports

For additional reference, 2-Staff-28 lists examples of continued and past regulatory requirements within the RS2022 (Regulatory & Sustainment) spending category that have been and continue to be addressed as they arise.

2-Staff-43
Ref 1: DSP, Appendix K, Asset Sustainment Plan, Executive Summary

The asset sustainment plan details London Hydro's strategy for the renewal/replacement of its assets. On page 2 of the executive summary, it's noted that this plan focuses only on the natural lifecycle of assets and does not account for accelerated retirement due to external drivers like city or developer related projects.

OEB staff notes that the 2022 test year contains a significant amount of spending towards road relocation projects driven by the City of London. These projects involve the relocation of assets such as poles, transformers and underground assets.

a) In London Hydro's system renewal programs, has London Hydro accounted for assets that are expected to be replaced as part of road relocation projects? That is to say, is there any overlap in scope between what has been budgeted in London Hydro's system renewal programs and road relocation (or other externally driven) projects?

LH Response:

a) Yes, London Hydro takes this into account. As noted in DSP Section 1.1.3 Sources of Cost Savings (5.2.1C), (page 26 of 157), London Hydro coordinates projects as much as possible with the City to find the best overall solution. In some cases, a road relocation project provides an opportunity to replace assets identified in the Asset Sustainment Plan as needing replacement in the near term (5 to 10 years), and London Hydro will adjust budgets to accommodate the necessary work (for example, see write-up on the Dundas Place Project DSP pages 130 to 132).

2-Staff-44
Ref 1: DSP, Appendix K, Asset Sustainment Plan, p. 76

The asset sustainment plan proposes replacing approximately 455 wood poles per year. OEB staff notes that there are multiple programs that involve replacing poles (e.g. 22G1, 22G3).

a) What is the total number of poles London Hydro expects to replace in 2022 across all programs?
b) How many poles have been replaced annually in each of the past five years?

LH Response:

a) Expected replacements will be between 400 and 450 poles in 2022.

b) 2016: 534, 2017: 515, 2018: 601, 2019: 384, 2020: 593

2-Staff-45
Ref 1: DSP, Appendix K, Asset Sustainment Plan, p. 97, 102

The asset sustainment plan notes that London Hydro acquired new cable testing equipment in 2020 and that "cables previously identified as being in 'very poor' condition might, as a result of cable testing, be deferred from replacement…"

a) Has London Hydro been able to integrate the use of its new cable testing equipment when budgeting for cable renewal/replacement programs?
b) For the underground cables that London Hydro plans to replace in the test year, have these cable populations been tested using the new cable testing methodology? If yes, what has been the impact of the new testing results on the scope of cables to be replaced?

The asset sustainment plan suggests that London Hydro replace an average of 40km of polymeric cables per year. However, it also notes that "preliminary cable testing is giving an indication that some of the cable rated 'very poor' is, in real life, performing better than expected."

c) Does the suggested pace of 40km / year take into consideration the new cable testing, which is showing that the actual conditions of some cables do not necessitate an immediate replacement?
d) What is the total km of cables forecasted to be replaced in the 2022 test year across all projects and programs?

LH Response:

a) Yes. Projects selected for 2021 and 2022 used the results of the testing to reduce the scope from 40 km to approximately 33 km.

b) As noted in the answer to 2-Staff-45a, the scope of cables being replaced is approximately 18% less than without testing.

c) No, the pace of 40km / year was determined by Kinectrics prior to the introduction of the new cable testing program.

d) Total km of cables forecasted to be replaced in 2022 = 32.9 km (22B2 = 29.5 km, 22B9 = 2.6 km, 22B12 = 0.8 km).

2-Staff-46
Ref 1: DSP, Appendix L, Asset Condition Assessment

a) Does London Hydro conduct any back testing of the ACA methodology on previous years' data to see if assets in very poor or poor condition did indeed fail or required greater than average maintenance? If yes, please provide such analysis.

b) Does London Hydro analyze any of its failed assets to determine the root causes of failure?

LH Response:

a) No formal back testing is conducted. We have noted informally that some of the primary cables that tested poorly had faults prior to remedial work, and some of the air insulated switching enclosures (SEs) failed one or two years before their scheduled replacement.

b) Yes, our Standards Engineer leads the review of failed assets using internal resources (including our Reliability Engineer) as well as outsourcing to industry experts when the cause is not apparent. A database of failures is maintained to determine if trends are emerging. Our Standards Engineer also networks with equipment suppliers and other LDCs to compare failure histories of various assets.

Exhibit 3

3-Staff-47
Ref 1: Exhibit 3, p. 9-10

London Hydro states that:

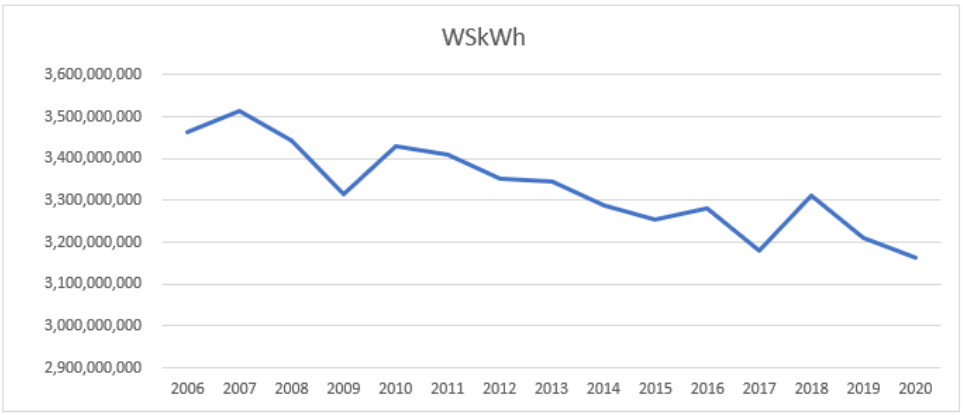
> London Hydro experienced significant load loss between 2008 and 2010 as a result of the global recession, and any recovery post-recession has been steadily eroded to below recession levels. As shown in Chart 3-1 below, London Hydro's recovery from the recession reveals that the load has leveled off and London Hydro is now experiencing a more consistent load profile over the last four years.

OEB staff notes that a typical 10 years ending in December 2020 would begin January 2011, after the 2008-2010 period of significant load loss.

a) Please provide 10 years of historical load from January 2011 to December 2020.

LH Response:

Year	WSkWh
2006	3,463,554,919
2007	3,513,738,064
2008	3,442,614,476
2009	3,315,882,997
2010	3,428,161,401
2011	3,408,628,157
2012	3,351,442,979
2013	3,346,449,709
2014	3,287,119,477
2015	3,254,201,945
2016	3,282,717,043
2017	3,178,422,069
2018	3,310,791,495
2019	3,211,003,829
2020	3,163,553,020



b) Is there a longer subset of data longer than four years that could be used, even if the full 10 years does not produce a good fit?

LH Response:

London Hydro would suggest that the four-year model submitted was the best fit.

c) What does London Hydro believe has caused any erosion in load from 2011-2016?

LH Response:

Whereas load growth is often related to population growth (i.e. more people means more dwelling units, and an increased need for municipal services such as schools, libraries, fire stations, domestic water pumping, sewage treatment, etc. and retail outlets), excerpts from the OEB Publication *Yearbook of Electricity Distributors* for the period in question as tabulated below paint a different (and counter-intuitive) picture.

Table 1, Excerpts from Yearbook of Electricity Distributors

OEB Publication: *Yearbook of Electricity Distributors for*	Published Total Number of Customers	Published Total kWh Delivered (excluding losses)
2011	148,331	3,316,999,124
2016	155,496	3,199,325,732

It can be seen from the above tabulation that (over the 2011 – 2016 timeframe) whilst the number of customers increased by 4.8%, the overall energy delivered to these customers by London Hydro's distribution system diminished by 3.6%.

There were three (3) fundamental reasons why the system overall load didn't increase in lockstep with the growth in population, namely:

(i) Plant closures and other customer defections –
During the time period in question, there were some highly-publicized closures of significant and long-term manufacturing facilities in London, namely the Kelloggs

plant[1] and GM Diesel plant.[2] While both facilities would eventually be re-developed for other purposes, the Kelloggs plant becoming a multi-purpose retail and entertainment complex (housing a micro-brewery, an indoor adventure park, the Children's Museum, the Canadian Medical Hall of Fame, virtual offices, etc.) and the GM Diesel plant becoming a warehouse, this re-development took time and the load densities between a heavy manufacturing facility and warehouse operation are at both ends of the spectrum.

In any economy, there are naturally occurring business cycles that alternate between recession and expansion phases. From a provincial perspective, the past decade or so has seen flight of manufacturing sector jobs to other jurisdictions for a variety of reasons. Two (2) Fraser Institute reports[3] [4] estimate nearly two-thirds of the province's decline in manufacturing jobs since 2008 was due to elevated electricity prices, equaling about 74,881 jobs. London Hydro serves but one community in the province of Ontario, so it is highly likely that London Hydro experienced a proportional flight of its manufacturing sector for similar reasons.

Note: While London's Economic Development Corporation (LEDC) is certainly attempting to reinvigorate London's industrial sector by focusing on the food processing industry and niche manufacturers with an emphasis on advanced manufacturing techniques with an associated highly-skilled labour force, this transition will likely take a decade or so to materialize.

[1] See URL:: https://www.cbc.ca/amp/1.2867538
[2] See URL:: https://lfpress.com/2015/07/14/electro-motive-era-finally-ends/wcm/617efa72-1cff-d000-50d3-4bb166cddda1/amp/
[3] Fraser Institute report *Rising Electricity Costs and Declining Employment in Ontario's Manufacturing Sector*; Ross McKitrick and Elmira Aliakbari; October 2017. Document available in electronic format on Fraser Institute website at URL:: https://www.fraserinstitute.org/sites/default/files/rising-electricity-costs-and-decliningemployment-in-ontarios-manufacturing-sector.pdf
[4] Fraser Institute report: *Understanding the Changes in Ontario's Electricity Markets and Their Effects*; Elmira Aliakbari, Kenneth P. Green, Ross McKitrick, and Ashley Stedman; April 12, 2018. Document available in electronic format on Fraser Institute website at URL:: https://www.fraserinstitute.org/sites/default/files/understanding-the-changes-in-ontarios-electricity-markets-webfinal_0.pdf

(ii) Aggressive energy conservation activity –

London Hydro was very aggressive in its offering of provincial energy conservation programs. The organization's progress on this front is highlighted in a series of internal (but public domain) reports, specifically:

- London Hydro Report EM-12-04, *Energy Conservation and Demand Management – Annual Report of London Hydro's 2011 Activities & Achievements*; issued September 2012.

- London Hydro Report EM-13-04, *Energy Conservation and Demand Management – Annual Report of London Hydro's 2012 Activities & Achievements*; issued September 2013.

- London Hydro Report EM-14-02, *Energy Conservation and Demand Management – Annual Report of London Hydro's 2013 Activities & Achievements*; issued September 2014.

- London Hydro Report EM-15-02, *Energy Conservation and Demand Management – Annual Report of London Hydro's 2014 Activities & Achievements*; issued September 2015.

The above-referenced reports would have been submitted (in conjunction with a regulatory filing) to the Ontario Energy Board so should certainly be available in the OEB's archives.

In subsequent years, the governing Ministry-issued directive called for a significant reporting change (i.e. streamlining). Rather than submitting comprehensive reports, LDCs would include highlights of their respective CDM progress as a topic in their annual utility performance and monitoring scorecard submissions.[5]

[5] Annual LDC-specific scorecards are published by the Ontario Energy Board at URL:: https://www.oeb.ca/utility-performance-and-monitoring/what-are-electricity-utility-scorecards/electricity-utility

(iii) Evolution of technology and consumer habits –

Every electric appliance has an expected service life, and each successive generation of appliance tends to offer more functionality to the consumer and be more energy-efficient than the appliances they replace. Consequently, with the natural turnover of television sets, computer and peripheral devices there is natural gain in energy-efficiency.

Whereas in the past, 750 kWh was taken as the average monthly energy consumption of a residential dwelling unit, nowadays in London this benchmark has fallen to 662 kWh.

Note: On page 78 of the OEB publication: *2020 Yearbook of Electricity Distributors*,[6] the tabulation shows that within London Hydro's franchise service territory, the metered annual consumption per residential customer was 7,954 kWh, which is an average of 662 kWh per month per residential customer.

One needs only to look at the transformation in the consumer lighting industry to appreciate this reduction. Whereas in 2011, residential lighting was still predominantly incandescent with a smattering of compact fluorescent lamp (CFL) technology, nowadays residential lighting is predominantly light-emitting diode (LED) technology with a smattering of residual CFL technology (that will likely be replaced with LED technology at the end of its service life).

Note: Gains in residential energy efficiency have also occurred with other electrical appliances and devices (e.g. refrigerators and central air conditioner units, adoption of dc drives for furnace air circulation motors, etc.).

[6] See URL:: https://www.oeb.ca/oeb/_Documents/RRR/2020_Yearbook_of_Electricity_Distributors.pdf

d) Did London Hydro attempt to use any explanatory variables to capture the impact of the loss of load and use a full ten years of historic data? If so, which ones?

LH Response:

London Hydro did not propose using a longer period than the four years presented so did not explore any explanatory variables to capture the impact of the loss of load and use a full ten years of historic data.

e) As a scenario, please provide a load forecast where a full ten years of historic data is used.

LH Response:

Please reference London Hydro 3-Staff-47.xlsx filed separately for model scenario.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.948898344
R Square	0.900408067
Adjusted R Square	0.894183571
Standard Error	8182768.984
Observations	120

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	7	6.78006E+16	9.68581E+15	144.6555827	4.68804E-53
Residual	112	7.49926E+15	6.69577E+13		
Total	119	7.52999E+16			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
WHSL_kWhA	187253125.2	39678812.72	4.719221982	6.89048E-06	108634644	265871606.4
N10HDD18	60307.19465	4144.030176	14.55278849	1.40762E-27	52096.33006	68518.05924
N10CDD18	739161.931	26707.72402	27.6759611	6.7158E-52	686243.9994	792079.8627
StatDays	3504057.777	1514113.343	2.314263851	0.022476861	504036.2741	6504079.279
MonthDays	4185611.139	1199620.872	3.489111634	0.000693872	1808716.155	6562506.123
PeakDays	1894823.757	934024.0319	2.028667028	0.044864351	44174.86603	3745472.648
OntarioGDP	-56712453.41	32843333.41	-1.726756925	0.086968406	-121787308.5	8362401.718
LondonPop	-59419437.01	54134544.05	-1.09762515	0.274722405	-166680096.8	47841222.79

Annual Actual vs. Normalized WHSL_kWhA

	Sum of WHSL_kWhA	% Change	Normalized Value	% Change
2011	3,408,628,157		3,379,938,976	
2012	3,351,442,979	-1.7%	3,379,541,695	0.0%
2013	3,346,449,709	-0.1%	3,330,030,762	-1.5%
2014	3,287,119,477	-1.8%	3,273,591,342	-1.7%
2015	3,254,201,945	-1.0%	3,268,066,332	-0.2%
2016	3,282,717,043	0.9%	3,313,348,912	1.4%
2017	3,178,422,069	-3.2%	3,208,407,758	-3.2%
2018	3,310,791,495	4.2%	3,274,174,003	2.0%
2019	3,211,003,829	-3.0%	3,161,582,260	-3.4%
2020	3,163,553,021	-1.5%	3,478,304,071	10.0%
2021			3,170,230,061	-8.9%
2022			2,857,316,018	-9.9%

3-Staff-48
Ref 1: Exhibit 3, p. 10-13

The proposed load forecast includes variables for HDD, CDD, Stat Days, Month Days, Peak Days, Ontario GDP and London Population. Of these, Peak Days and Ontario GDP have t Stat values below 1.0, and London Pop and Stat Days have coefficients less than 2.0. London Pop has a negative coefficient, which seems counter-intuitive to OEB staff.

a) Please explain why all of these variables were used together when several have low t stats indicating statistical insignificance.

LH Response:

Principally London Hydro was using the same variables as used in 2017 COS and their inclusion made the model R values a little stronger.

b) Why does London Hydro believe that London Pop has a negative coefficient? Please comment on the observation that as population increases, wholesale purchases decrease.

LH Response:

Please reference response in 3-Staff 47.

c) Please test the variables used for multi-collinearity and provide the results.

LH Response:

Please reference response in London Hydro 3-Staff 48c.xlsx.

d) As a scenario, please provide a load forecast where Peak Days and Ontario GDP are omitted. If the resulting coefficients of any remaining variables falls below 1.0, please remove those as well.

LH Response:

Please reference London Hydro 3-Staff-48d.xlsx filed separately.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.945271347
R Square	0.893537919
Adjusted R Square	0.88363447
Standard Error	9271608.155
Observations	48

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	3.10239E+16	7.75598E+15	90.22491898	2.4563E-20
Residual	43	3.6964E+15	8.59627E+13		
Total	47	3.47203E+16			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
WHSL_kWh	65008266.59	52223864.55	1.2448	0.219947042	-40311193.67	170327726.8
N10HDD18	60086.12702	8015.347077	7.496384928	2.47706E-09	43921.6391	76250.61494
N10CDD18	779191.9554	48510.47222	16.0623453	8.81019E-20	681361.2645	877022.6463
StatDays	2784622.244	2366398.175	1.176734445	0.245774599	-1987674.495	7556918.983
MonthDays	5285650.722	1724724.811	3.064634246	0.003755869	1807411.65	8763889.794

Annual Actual vs. Normalized WHSL_kWh

	Sum of WHSL_kWh	% Change	Normalized Value	% Change
2017	3,178,422,069		3,168,532,849	
2018	3,310,791,495	4.2%	3,273,529,104	3.3%
2019	3,211,003,829	-3.0%	3,189,918,851	-2.6%
2020	3,163,553,021	-1.5%	3,231,789,610	1.3%
2021			3,207,083,357	-0.8%
2022			3,207,083,357	0.0%

3-Staff-49
Ref 1: Exhibit 3, p. 11
Ref 2: Load Forecast Generator Model, sheet Normalized Monthly Data

London Hydro states that it used the Ontario Government budget which forecasts Real GDP growth of 4.0% in 2021 and 4.3% in 2022. It also states that it used a City of London forecasted population growth rate of 0.59% in 2021 and 0.78% in 2022.

OEB staff have calculated total values for the explanatory variables used in 2020, 2021, and 2022 as follows:

	Ontario GDP	GDP Growth	Population	Population Growth
2020	13.631	N/A	13.260	N/A
2021	13.553	(0.57%)	13.470	1.58%
2022	14.118	4.16%	13.698	1.69%

a) Please confirm OEB staff's calculations as described or provide a correction with explanation.

LH Response:

London Hydro disagrees with OEB's staff calculations.

Please reference London Hydro 3-Staff-49a Ontario GDP.xlsx and London Hydro 3-Staff-49a London Population.xlsx for the corrected calculations.

b) As a scenario, please provide the load forecast that would result where the total annual GDP increases by 4.0% in 2021 and by 4.3% in 2022, and where the population increases by 0.59% in 2021 and by 0.78% in 2022. A method to achieve this would be to adjust the forecast for each month by the annual growth rate relative to the same month a year prior.

LH Response:

London Hydro does not agree with the proposed scenario.As referenced in a) above London Hydro believes its calculations as included in filed wholesale load forecast are correct.

3-Staff-50
Ref 1: Exhibit 3, p. 8-33
The provided load forecast does not make explicit reference to the COVID-19 pandemic. The historic data provided includes the historic years 2017 to 2020, approximately 10 months of which coincides with the ongoing pandemic.

a) To what extent was London Hydro's historic load affected by the COVID-19 pandemic?
    i) In aggregate at a wholesale purchases level?

LH Response:

a) While COVID-19 has had some impact on load, other factors include change in customer counts, weather patterns, and customer mix. London Hydro is not able to determine the COVID-19 pandemics relative contribution, or its impact on the absolute load patterns.

   Please see Table 3-27: Comparison of Billing Determinants, which captures the change in load between pre-pandemic and COVID-19 pandemic load at a rate class level and at a wholesale purchases level.

b) As is evident in 2021 the recovery is still stalled and long-term normalization to pre COVID-19 levels is not expected. Many businesses have implemented a hybrid model for employees which contributes to higher residential consumption and lower consumption in many other categories

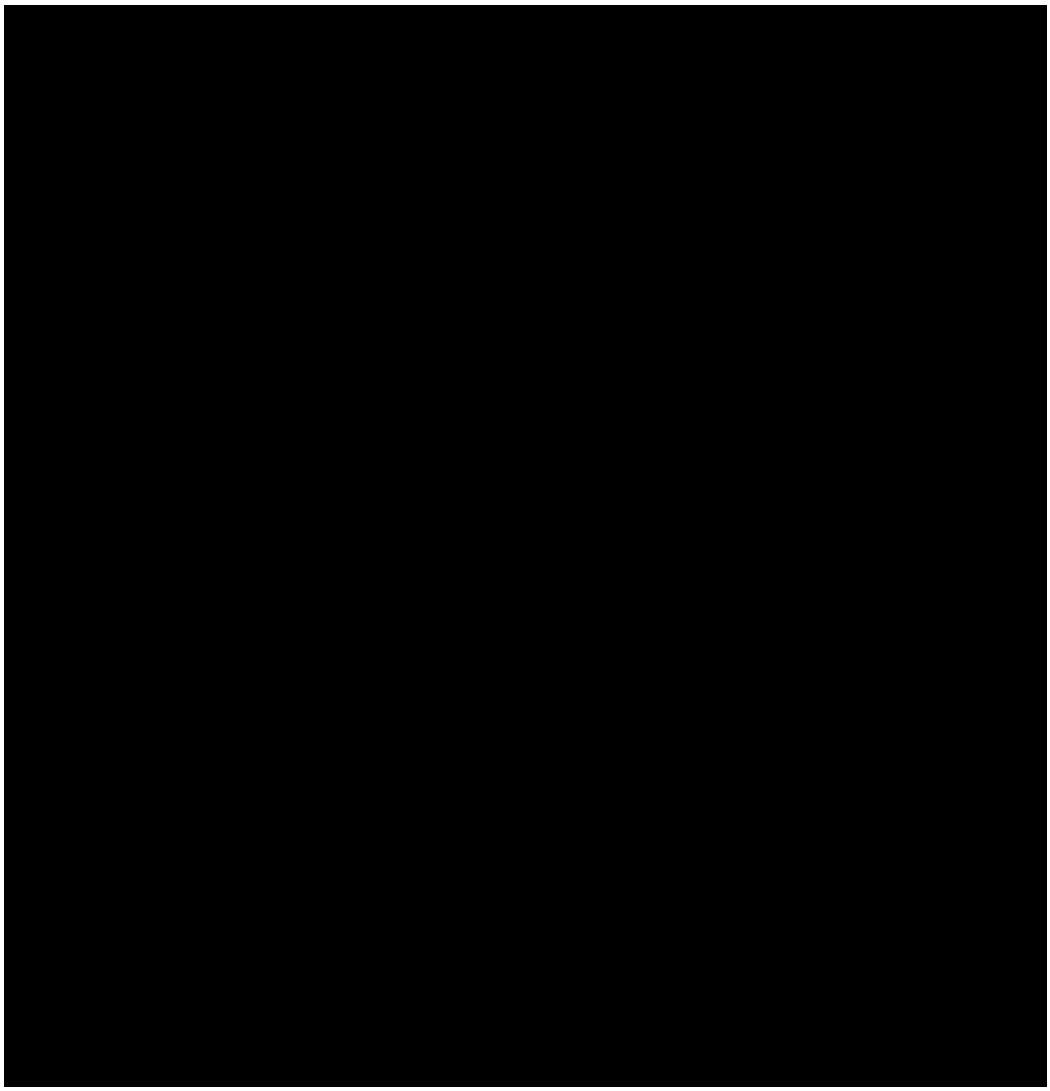
c) The provided load forecast considers the COVID-19 pandemics impact through inclusion of 2020 actuals as a factor in the forecast, while not providing immoderate weight based on unknown future impacts.

3-Staff-51
Ref 1: Exhibit 3, p. 16

A new customer is expected in the Large Use rate class in the summer of 2022. London Hydro indicates that it will have more information as 2021 closes.

a) Please provide any information London Hydro has on the expected peak demand and connection date of the new customer.

LH Response:



b) Is this a new customer, or an existing customer expected to increase usage enough to move up from a lower volume rate class?

LH Response:

This is a brand-new customer

c) If this is related to the growth of an existing customer, please indicate the customer's current class and historic kW and kWh for all months from January 2017 to the most recent data available. In responding to this question, please consider whether confidential treatment is required.

LH Response:

Not applicable.

3-Staff-52
Ref 1: Exhibit 3, p. 17

The provided load forecast does not contain any adjustments for CDM. London Hydro indicates that it does not expect any future significant impacts.

The normalized forecast predicts a decline from 3,199 MWh to 3,188 MWh from 2017 to 2020, and a further decline to 3,130 MWh in 2022.

a) Please provide historic verified and estimated savings in each of the 2017-2020 years.

LH Response:

Please reference London Hydro 3-Staff-52a.xlsx

b) To what extent are the explanatory variables capturing the effect of declining load over the historic period and projecting the continued decline into the forecast period?

LH Response:

London Hydro did not include any explanatory variables capturing the effect of declining load over the historic period and projecting the continued decline into the forecast period for CDM.

3-Staff-53
Ref 1: Exhibit 3, p. 19-20

London Hydro has calculated a geometric mean annual growth rate of energy use per customer for each rate class. It appears to have applied this to 2020 energy use per customer to forecast 2021 and 2022 energy use per customer. From there, forecast energy per rate class is derived.

a) As a scenario, please calculate the growth rate using the geometric mean methodology but excluding the 2020 historic year.

LH Response:

London Hydro
EB-2021-0041
2022 Load Forecast

Forecast Consumption by Rate Class (kWh)

Year	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Consumption (kWh)									
2016	1,090,996,379	393,919,990	1,481,119,683	49,560,447	132,844,272	21,678,933	713,687	5,610,879	3,176,444,270
2017	1,041,232,119	384,261,420	1,456,743,101	44,968,462	117,005,431	20,022,458	592,608	5,549,550	3,070,375,149
2018	1,134,273,427	396,936,108	1,497,045,852	48,833,253	116,791,074	15,903,208	550,596	5,496,547	3,215,830,065
2019	1,099,830,560	395,444,422	1,456,298,256	35,020,139	110,801,181	16,623,912	541,973	5,501,898	3,120,062,340
2020	1,174,570,751	374,492,024	1,371,744,687	36,277,791	103,009,408	16,908,317	534,360	5,417,919	3,082,955,257
Average Consumption per Customer (kWh)									
2016	7,757	31,418	931,522	8,260,075	132,844,272	607	1,151	3,689	
2017	7,322	30,558	911,604	7,494,744	117,005,431	553	1,015	3,663	
2018	7,881	31,418	926,963	6,976,179	116,791,074	432	1,020	3,611	
2019	7,558	30,964	926,398	5,002,877	110,801,181	448	1,032	3,566	
2020	7,992	29,051	894,227	4,534,724	103,009,408	447	1,028	3,534	
Average Growth per Customer									
2017	94.39%	97.26%	97.86%	90.73%	88.08%	91.10%	88.18%	99.30%	
2018	107.63%	102.81%	101.68%	93.08%	99.82%	78.12%	100.49%	98.58%	
2019	95.90%	98.55%	99.94%	71.71%	94.87%	103.70%	101.18%	98.75%	
2020	105.74%	93.82%	96.53%	90.64%	92.97%	99.78%	99.61%	99.10%	
Geomean (2017 to 2020)	**100.75%**	**98.06%**	**98.98%**	**86.07%**	**93.84%**	**92.64%**	**97.21%**	**98.93%**	
Forecasted Average Consumption per Customer (kWh)									
2021	8,052	28,487	885,133	3,903,261	96,664,841	414	999	3,496	
2022	8,112	27,934	876,131	3,359,730	90,711,050	384	971	3,459	
Calculated Consumption Non-Weather Adjusted (kWh)									
2021	1,196,535,759	369,785,426	1,345,653,577	33,555,169	96,664,841	15,876,132	497,133	5,369,918	3,063,937,956
2022	1,218,771,216	365,125,314	1,320,329,417	30,237,570	90,711,050	14,936,832	462,196	5,323,401	3,045,896,996
Calculation of Weather Sensitive Load									
% of Load	100.0%	100.0%	76.5%	48.9%	44.4%				
2021	1,196,535,759	369,785,426	1,028,886,725	16,411,833	42,948,189	-	-	-	2,654,567,932
2022	1,218,771,216	365,125,314	1,009,523,872	14,789,195	40,302,920	-	-	-	2,648,512,517
Allocation of Weather Adjustment									
Percent	45.1%	13.9%	38.8%	0.6%	1.6%	0.0%	0.0%	0.0%	100.0%
2021	(5,910,431)	(1,826,599)	(5,082,309)	(81,068)	(212,148)	-	-	-	(13,112,555)
Percent	46.0%	13.8%	38.1%	0.6%	1.5%	0.0%	0.0%	0.0%	100.0%
2022	1,224,122	366,728	1,013,956	14,854	40,480	-	-	-	2,660,140
TOTAL NORMALIZED LOAD FORECAST									
2021	1,190,625,328	367,958,827	1,340,571,268	33,474,101	96,452,693	15,876,132	497,133	5,369,918	3,050,825,400
2022	1,219,995,338	365,492,042	1,321,343,373	30,252,424	90,751,530	14,936,832	462,196	5,323,401	3,048,557,136
WMP ADJUSTMENT									
2021			14,942,996						14,942,996
2022			14,791,025						14,791,025
TOTAL ADJUSTED WEATHER NORMALIZED LOAD FORECAST									
2021	1,190,625,328	367,958,827	1,355,514,264	33,474,101	96,452,693	15,876,132	497,133	5,369,918	3,065,768,396
2022	1,219,995,338	365,492,042	1,336,134,398	30,252,424	90,751,530	14,936,832	462,196	5,323,401	3,063,348,161
% CHANGE TOTAL ADJUSTED WEATHER NORMALIZED LOAD FORECAST									
2021	1.37%	-1.74%	-1.18%	-7.73%	-6.37%	-6.10%	-6.97%	-0.89%	-0.56%
2022	2.47%	-0.67%	-1.43%	-9.62%	-5.91%	-5.92%	-7.03%	-0.87%	-0.08%

London Hydro
EB-2021-0041
2022 Load Forecast

Forecast Consumption by Rate Class (kWh)

Year	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Consumption (kWh)									
2016	1,090,996,379	393,919,990	1,481,119,683	49,560,447	132,844,272	21,678,933	713,687	5,610,879	3,176,444,270
2017	1,041,232,119	384,261,420	1,456,743,101	44,968,462	117,005,431	20,022,458	592,608	5,549,550	3,070,375,149
2018	1,134,273,427	396,936,108	1,497,045,852	48,833,253	116,791,074	15,903,208	550,596	5,496,547	3,215,830,065
2019	1,099,830,560	395,444,422	1,456,298,256	35,020,139	110,801,181	16,623,912	541,973	5,501,898	3,120,062,340
2020	1,174,570,751	374,492,024	1,371,744,687	36,277,791	103,009,408	16,908,317	534,360	5,417,919	3,082,955,257
Average Consumption per Customer (kWh)									
2016	7,757	31,418	931,522	8,260,075	132,844,272	607	1,151	3,689	
2017	7,322	30,558	911,604	7,494,744	117,005,431	553	1,015	3,663	
2018	7,881	31,418	926,963	6,976,179	116,791,074	432	1,020	3,611	
2019	7,558	30,964	926,398	5,002,877	110,801,181	448	1,032	3,566	
2020	7,992	29,051	894,227	4,534,724	103,009,408	447	1,028	3,534	
Average Growth per Customer									
2017	94.39%	97.26%	97.86%	90.73%	88.08%	91.10%	88.18%	99.30%	
2018	107.63%	102.81%	101.68%	93.08%	99.82%	78.12%	100.49%	98.58%	
2019	95.90%	98.55%	99.94%	71.71%	94.87%	103.70%	101.18%	98.75%	
2020	105.74%	93.82%	96.53%	90.64%	92.97%	99.78%	99.61%	99.10%	
Geomean (2017 to 2019)	**99.13%**	**99.51%**	**99.81%**	**84.60%**	**94.13%**	**90.37%**	**96.43%**	**98.88%**	
Forecasted Average Consumption per Customer (kWh)									
2021	7,923	28,909	892,568	3,836,600	96,965,703	404	991	3,494	
2022	7,854	28,768	890,912	3,245,953	91,276,590	365	956	3,455	
Calculated Consumption Non-Weather Adjusted (kWh)									
2021	1,177,366,222	375,263,344	1,356,956,889	32,982,105	96,965,703	15,492,651	493,152	5,366,846	3,060,886,911
2022	1,180,008,522	376,026,528	1,342,604,384	29,213,577	91,276,590	14,197,770	455,056	5,317,245	3,039,099,672
Calculation of Weather Sensitive Load									
% of Load	100.0%	100.0%	76.5%	48.9%	44.4%				
2021	1,177,366,222	375,263,344	1,037,529,237	16,131,547	43,081,862	-	-	-	2,649,372,213
2022	1,180,008,522	376,026,528	1,026,555,312	14,288,361	40,554,189	-	-	-	2,637,432,911
Allocation of Weather Adjustment									
Percent	44.4%	14.2%	39.2%	0.6%	1.6%	0.0%	0.0%	0.0%	100.0%
2021	(4,471,279)	(1,425,136)	(3,940,221)	(61,263)	(163,612)	-	-	-	(10,061,511)
Percent	44.7%	14.3%	38.9%	0.5%	1.5%	0.0%	0.0%	0.0%	100.0%
2022	4,231,345	1,348,378	3,681,083	51,236	145,422	-	-	-	9,457,464
TOTAL NORMALIZED LOAD FORECAST									
2021	1,172,894,943	373,838,208	1,353,016,668	32,920,842	96,802,091	15,492,651	493,152	5,366,846	3,050,825,400
2022	1,184,239,867	377,374,906	1,346,285,467	29,264,813	91,422,012	14,197,770	455,056	5,317,245	3,048,557,136
WMP ADJUSTMENT									
2021			15,068,514						15,068,514
2022			15,040,553						15,040,553
TOTAL ADJUSTED WEATHER NORMALIZED LOAD FORECAST									
2021	1,172,894,943	373,838,208	1,368,085,182	32,920,842	96,802,091	15,492,651	493,152	5,366,846	3,065,893,915
2022	1,184,239,867	377,374,906	1,361,326,020	29,264,813	91,422,012	14,197,770	455,056	5,317,245	3,063,597,689
% CHANGE TOTAL ADJUSTED WEATHER NORMALIZED LOAD FORECAST									
2021	-0.14%	-0.17%	-0.27%	-9.25%	-6.03%	-8.37%	-7.71%	-0.94%	-0.55%
2022	0.97%	0.95%	-0.49%	-11.11%	-5.56%	-8.36%	-7.73%	-0.92%	-0.07%

b) Continuing the scenario above, please apply the growth rates to 2019 to forecast 2021 (2 years of growth) and 2022 (3 years of growth).

LH Response:

London Hydro
EB-2021-0041
2022 Load Forecast

Forecast Consumption by Rate Class (kWh)

Year	Residential	General Service < 50 kW	General Service > 50 kW	Co-Gen	Large User	Street Lighting (Conn)	Sentinel Lighting (Conn)	Unmetered Scattered Load (Conn)	Total
Consumption (kWh)									
2016	1,090,996,379	393,919,990	1,481,119,683	49,560,447	132,844,272	21,678,933	713,687	5,610,879	3,176,444,270
2017	1,041,232,119	384,261,420	1,456,743,101	44,968,462	117,005,431	20,022,458	592,608	5,549,550	3,070,375,149
2018	1,134,273,427	396,936,108	1,497,045,852	48,833,253	116,791,074	15,903,208	550,596	5,496,547	3,215,830,065
2019	1,099,830,560	395,444,422	1,456,298,256	35,020,139	110,801,181	16,623,912	541,973	5,501,898	3,120,062,340
2020	1,174,570,751	374,492,024	1,371,744,687	36,277,791	103,009,408	16,908,317	534,360	5,417,919	3,082,955,257
Average Consumption per Customer (kWh)									
2016	7,757	31,418	931,522	8,260,075	132,844,272	607	1,151	3,689	
2017	7,322	30,558	911,604	7,494,744	117,005,431	553	1,015	3,663	
2018	7,881	31,418	926,963	6,976,179	116,791,074	432	1,020	3,611	
2019	7,558	30,964	926,398	5,002,877	110,801,181	448	1,032	3,566	
2020	7,992	29,051	894,227	4,534,724	103,009,408	447	1,028	3,534	
Average Growth per Customer									
2017	94.39%	97.26%	97.86%	90.73%	88.08%	91.10%	88.18%	99.30%	
2018	107.63%	102.81%	101.68%	93.08%	99.82%	78.12%	100.49%	98.58%	
2019	95.90%	98.55%	99.94%	71.71%	94.87%	103.70%	101.18%	98.75%	
2020	105.74%	93.82%	96.53%	90.64%	92.97%	99.78%	99.61%	99.10%	
Geomean (2017 to 2019)	**99.13%**	**99.51%**	**99.81%**	**84.60%**	**94.13%**	**90.37%**	**96.43%**	**98.88%**	
Forecasted Average Consumption per Customer (kWh)									
2021	7,493	30,813	924,679	4,232,681	104,300,321	405	995	3,526	
2022	7,428	30,663	922,963	3,581,057	98,180,876	366	959	3,486	
Calculated Consumption Non-Weather Adjusted (kWh)									
2021	1,113,467,765	399,978,880	1,405,774,730	36,387,095	104,300,321	15,530,999	495,143	5,415,998	3,081,350,930
2022	1,116,005,004	400,796,073	1,390,905,241	32,229,513	98,180,876	14,236,668	456,484	5,364,954	3,058,174,813
Calculation of Weather Sensitive Load									
% of Load	100.0%	100.0%	76.5%	48.9%	44.4%				
2021	1,113,467,765	399,978,880	1,074,855,358	17,796,928	46,340,633	-	-	-	2,652,439,563
2022	1,116,005,004	400,796,073	1,063,486,147	15,763,455	43,621,763	-	-	-	2,639,672,442
Allocation of Weather Adjustment									
Percent	42.0%	15.1%	40.5%	0.7%	1.7%	0.0%	0.0%	0.0%	100.0%
2021	(12,814,314)	(4,603,146)	(12,369,944)	(204,815)	(533,310)	-	-	-	(30,525,529)
Percent	42.3%	15.2%	40.3%	0.6%	1.7%	0.0%	0.0%	0.0%	100.0%
2022	(4,066,177)	(1,460,305)	(3,874,824)	(57,434)	(158,936)	-	-	-	(9,617,677)
TOTAL NORMALIZED LOAD FORECAST									
2021	1,100,653,451	395,375,733	1,393,404,786	36,182,279	103,767,011	15,530,999	495,143	5,415,998	3,050,825,400
2022	1,111,938,827	399,335,768	1,387,030,417	32,172,079	98,021,940	14,236,668	456,484	5,364,954	3,048,557,136
WMP ADJUSTMENT									
2021			15,068,514						15,068,514
2022			15,040,553						15,040,553
TOTAL ADJUSTED WEATHER NORMALIZED LOAD FORECAST									
2021	1,100,653,451	395,375,733	1,408,473,300	36,182,279	103,767,011	15,530,999	495,143	5,415,998	3,065,893,915
2022	1,111,938,827	399,335,768	1,402,070,970	32,172,079	98,021,940	14,236,668	456,484	5,364,954	3,063,597,689
% CHANGE TOTAL ADJUSTED WEATHER NORMALIZED LOAD FORECAST									
2021	-6.29%	5.58%	2.68%	-0.26%	0.74%	-8.15%	-7.34%	-0.04%	-0.55%
2022	1.03%	1.00%	-0.45%	-11.08%	-5.54%	-8.33%	-7.81%	-0.94%	-0.07%

c) Please provide the resulting load forecast by rate class.

LH Response:

Please reference London Hydro 3-Staff-53a.xlsx and London Hydro 3-Staff-53b.xlsx.

3-Staff-54
Ref 1: Exhibit 3, p. 41

London Hydro's pole rental revenues are forecasted to increase in the 2022 test year because the 2022 forecast is budgeted at the OEB-approved rate of $44.50 / pole, as opposed to $22.35 / pole previously. The increase from $22.35 to $44.50 is about double; however, London Hydro's forecasted revenue for 2022 of $793k is only a 60% increase over the 2021 amount of $495k.

a) Please provide London Hydro's pole rental revenue calculations. Does London Hydro expect a fewer quantity of pole rentals in 2022?

LH Response:

LH expects the same quantity of pole rentals in 2022 as in 2021. The amount going into the variance account in the 2022 calculations has been pro-rated for 4 months only, since LH's new rates become effective on May 1, 2022. This is therefore contributing to the approximately 60% increase in pole rental revenue in 2022 compared to 2021.
On March 22, 2018, the OEB issued the "Report on Wireline Pole Attachment Charges", updating the OEB's approach to wireline pole attachments, which resulted in an increase in the pole attachment rate to be charged, effective September 1, 2018. Because the increase in the pole attachment charge resulted in LH earning revenue above what is reflected in our current distribution rates (EB-2016-0091), the excess incremental revenue has been recorded in a variance account (Account 1508, Sub Account – Pole Attachment Revenue Variance), with the accumulated balance ultimately being refunded to ratepayers via this current cost-based rate application.

Calculations for 2021 and 2022 pole rental revenue are outlined below.
Explanations of Calculations:
Billing Rate: Rate used to invoice customer
Total Billing: Billing Rate x Quantity
Permitted Rate: As per LH'S current distribution rates (EB-2016-0091)
Permitted Amount: Permitted Rate x Quantity

Variance Amount: Total Billing less Permitted Amount (incremental revenue recorded in Account 1508, Sub Account – Pole Attachment Revenue Variance)

2021 Pole Rental Calculation

Rate Type	Description	Qty	Billing Rate	Total Billing	Permitted Rate	Permitted Amount	Variance Amount
Province-wide pole attachment charge (included in 2017 Rate Application)*	Used when no distributor-specific charge is in place	18,380	$ 45.39	$ 834,268	$ 22.35	$ 410,793	$ 423,475
Province-wide pole attachment charge (new since 2017 Rate Application)	Used when no distributor-specific charge is in place	1,688	$ 45.39	$ 76,618	$ 45.39	$ 76,618	$ -
Single customer - Attachments overlashed	Per individual Joint Use Agreement (25% of full fee)	356	$ 11.35	$ 4,040	$ 5.59	$ 1,989	$ 2,051
Single customer - Pole attachment charge	Per individual Joint Use Agreement	54	$ 86.96	$ 4,696	$ 47.82	$ 2,582	$ 2,113
Single customer - Power supplies (attachments outside the communications space)	Per individual Joint Use Agreement ($3.75 in 2019, adjusted based on IPI)	846	$ 3.91	$ 3,305	$ 3.91	$ 3,305	$ -
TOTALS		**21,324**		**$ 922,927**		**$ 495,288**	**$ 427,639**

**per LH Rate Application EB-2016-0091*

2021 Revenue **$ 495,000**

2022 Pole Rental Calculation

					Jan. 1 - April 30 only			*May 1 - Dec. 31 (new rates)*		
Rate Type	Description	Qty	Billing Rate	Total Billing	Permitted Rate	Permitted Amount	Variance Amount	Permitted Rate	Permitted Amount	Variance Amount
Province-wide pole attachment charge (included in 2017 Rate Application)*	Used when no distributor-specific charge is in place	18,380	$ 46.30	$ 850,954	$ 22.35	$ 136,931	$ 146,720	$ 46.30	$ 567,302	$ -
Province-wide pole attachment charge (new since 2017 Rate Application)	Used when no distributor-specific charge is in place	1,688	$ 46.30	$ 78,151	$ 46.30	$ 26,050	$ -	$ 46.30	$ 52,100	$ -
Single customer - Attachments overlashed	Per individual Joint Use Agreement (25% of full fee)	356	$ 11.57	$ 4,121	$ 5.59	$ 663	$ 710	$ 11.57	$ 2,747	$ -
Single customer - Pole attachment charge	Per individual Joint Use Agreement	54	$ 86.96	$ 4,696	$ 47.82	$ 861	$ 704	$ 86.96	$ 3,130	$ -
Single customer - Power supplies (attachments outside the communications space)	Per individual Joint Use Agreement ($3.75 in 2019, adjusted based on IPI)	846	$ 3.98	$ 3,371	$ 3.98	$ 1,124	$ -	$ 3.98	$ 2,247	$ -
TOTALS		**21,324**		**$ 941,291**		**$ 165,629**	**$ 148,135**		**$ 627,528**	**$ -**

**per LH Rate Application EB-2016-0091*

2022 Revenue **$ 793,000**

Exhibit 4

4-Staff-55
Ref 1: Exhibit 4, p. 35

In total, London Hydro's proposed 2022 OM&A contains the full increase attributable to inflation, wage escalations and customer growth as well as some additional cost drivers as noted in the reference above.

a) Given that London Hydro's customer base is increasing, what economies of scale and cost savings has London Hydro been able to achieve since 2017?

b) What efficiencies in OM&A spending has London Hydro achieved since 2017, and where are these efficiencies reflected? In particular, please discuss why these efficiencies have not kept London Hydro's OM&A cost increases below inflation, wage escalations and customer growth.

LH Response:

(a)

The amount of savings associated with economies of scale is not readily available information. To determine savings achieved, numerous surveys, analysis and studies would be necessary to compare before and after levels of input and output. London Hydro is, however, able to illustrate savings on a higher overall level in the schedule included under item (b) below which lists many of the cost pressures encountered by the Company, together productivity initiatives put into place to absorb costs and keep the impact to OM&A expenditures at a minimum for customers.

(b)

LDCs are challenged with keeping costs in check while at the same time meeting new requirements and expectations associated with an aging infrastructure, rapid changes in technology, cyber security and increased customer expectations, for example. While absorbing many of these rising costs, London Hydro has been able to offer customers new enhancements and features, meet regulatory requirements and implement best practices. The Company is able to accomplish all of this with minimal impact to OM&A costs through savings realized as a result of continuous operational efficiencies and by leveraging innovation.

4-Staff-56

Ref 1: Exhibit 4, p. 44

Increased advertising and consulting fees contribute to the increase in London Hydro's corporate communications budget.

a) What aspects of London Hydro's corporate communications require external consulting? Could these activities be completed in-house?

LH Response:

(a)

Third-party consulting services help with activities including the development of media content, creating videos and focus groups and surveys necessary to solicit customer perspectives. Consultants are primarily engaged when London Hydro does not have the expertise or resources available in-house. There are activities that could be completed in-house. However, using external consultants helps the Communications Department manage its budget more efficiently by engaging third-party services to handle volume fluctuations, which helps to keep an appropriate level of staffing in this area.

4-Staff-57
Ref 1: Exhibit 4, p. 45

London Hydro has recently established a Green Button Marketing Strategy and has directed funds towards Green Button related endeavors.

a) Do these Green Button related expenses overlap with any of London Hydro's non-distribution related Green Button services? That is, are any of the marketing or Green Button applications also offered to London Hydro's non-distribution related customer base under its exception under s. 71(4)? If yes, how have London Hydro allocated costs between its distribution customers and non-distribution customers under s. 71(4)?

LH Response:

(a)

The Green Button Marketing Strategy referred to in Exhibit 4 is not directed at non-distribution customers. This promotion is for London Hydro distribution customers to increase their recognition and use of Green Button features that are being offered under a unified approach. London Hydro has worked with its customers to develop features allowing them to monitor and control their energy consumption through both MyLondonHydro and the Trickl app available for their smartphone. Enhanced information accessible to customers includes hourly, daily, weekly and monthly consumption together with comparisons to historical data, as well as the ability to predict their upcoming bill. London Hydro does not have any marketing activities associated with the non-distribution related customer base under its exception under s. 71(4) that have been not been excluded from OM&A expenditures for ratemaking. Specifically, there is a position within the Company that works with this customer base, but this position has been assigned to a non-distribution cost centre created within the financial records to ensure that costs are segregated appropriately.

4-Staff-58
Ref 1: Exhibit 4, p. 46

London Hydro notes that labour costs within the Asset Management department have decreased due to the increased volume in capital projects, which result in more costs being capitalized.

a) Please explain why an increase in capital projects would reduce the OM&A costs in this department. Does this imply that this department is completing less work that are not attributable to specific capital projects (e.g. reliability analysis, system planning)?

LH Response:

(a)

Increases in capital projects reduce OM&A costs by increasing the amount of time that employees spend on activities that are directly attributable to bringing an asset 'to the location and condition necessary for it to be capable of operating in the manner intended by management' under IFRS 16 Property, Plant and Equipment. When capital project activities increase, Engineering staff spend more hands-on time working on specific projects and more intensely to keep up with customer requests.

This does imply that the Asset Management Program is completing less work that is not directly attributable to specific capital projects. However, work associated with System Planning and Reliability Analysis has not decreased since it is a constant activity. London Hydro has been able to reduce other work that is not directly attributable and is more reactionary in nature because of problems with the electricity grid. This is because capital investments and proactive refurbishments over recent years have helped to reduce the time required to resolve issues with many older assets.

4-Staff-59
Ref 1: Exhibit 4, p. 111, 125, 129, 131

London Hydro notes that the overall budget in metering increased particularly between 2019-2020 due to a large number of meters installed during 2009-2010 requiring their ten-year seal renewal.

a) Given that these meters have now been resealed, please explain why there is no corresponding decrease in overall costs from 2020 to the 2022 test year.

London Hydro notes that 2022 revenues from meter resealing services remain lower than prior years due to the need to redirect internal resources on London Hydro's own needs with respect to expiring smart meter seals and the replacement of demand meters with interval meters.

As above, OEB staff notes that the large population of meters due for seal refresh was in 2019-2020. Furthermore, London Hydro notes that it has completed replacing all demand meters to interval MIST meters for GS>50kW customers.

b) Please explain why cost recoveries in 2022 remain lower than 2017 OEB-approved.

LH Response:

(a)

While it is true that the meter resealing and MIST GS>50kW milestone targets have been achieved there are several drivers related to meter operations that continue as forecasted. Within the metrology domain, compliance testing and inspection of commercial meter installations continues with annual requirements for other meter types. Further, sample monitoring (aka presampling) is required on an ongoing basis to meet the metrology requirements to ensure accurate metering and support the next round of compliance sample meter seal expiry.

The meter compliance sample work was only one work driver for the metering department. During the resealing effort, some metering programs such as replacement of primary oil-filled metering transformer replacement, 2.5 to 3 element metering

conversion projects, support to AMI network system upgrades and other non-essential commercial meter replacement and verification were put on hold to meet the target deadlines of the smart meter sampling and GS>50 MIST metering installations. Thus, in completing the targets, there has been a backlog of other work that the department is now focused to catch up.

Resources in this area are been redeployed towards the ongoing proof of concept for the next generation of communication and AMI technologies. The AMI network has become more complex and requires additional support for wireless system optimization and next generation system design efforts, made necessary for near real time data acquisition. New systems are being designed and integrated to realize a high-performance data flow pipeline necessary to provide consumers with energy consumption information.

The Metering and Metering Data Management Program has become the foundational data source for other operational processes such as the Outage Management System and voltage information. This area is also the source for customer consumption and demand data made available to self-service online portals and Green Button interfaces. London Hydro has developed and continues to enhance data presentation and analytic solutions for both internal and external applications. These systems are managed and used by AMI staff to monitor system status and identify anomalies. With more renewable and non-renewable embedded generation, as well as other inverter-based electrical technology, power quality has been an area of increasing concern. London Hydro continues to work with customers to identify (using available meter data) and diagnose power factor, power quality, voltage and supply issues. Power frequency harmonics and stray voltage are also of concern to London Hydro customers and thus investments in equipment and staff training allow the Meter and Meter Data Management Program to meet customers' needs.

(b)

The decrease in cost recoveries between 2017 and 2022 is largely as a result of one-time cost recoveries in 2017. Specifically, costs recoveries in the Metering and Data

Management Program includes services to the City of London in connection with the City's water meter replacement program which commenced in 2015. The objective of this program is to replace older 'direct read' water meters with new meters that can be read remotely using a walk-by or drive-by method. London Hydro's services involve contacting customers in need of a meter exchange due to age or defect, arranging the appointment and completing the necessary service order.

Cost recoveries with respect to the City's water meter replacement program resulted in one-time increases in 2017 and 2018 of $153,000 and $91,000, respectively. The City of London accelerated their replacement program in 2017 by hiring a third party to perform mass installations. The third party then hired London Hydro through a separate contract to perform the additional accelerated meter exchange appointments. This work ended in the summer of 2018.

4-Staff-60
Ref 1: Exhibit 4, p. 20-21, 145, 265-268

Moving to cloud IT solutions has the benefit of reducing the amount of investment required for on-premises hardware, as well as the costs to maintain and operate such hardware.

a) Given London Hydro's transition to cloud for many of its IT services, what cost savings has London Hydro achieved in avoiding the need for maintaining and operating on-premises solutions?
b) Please indicate where cost savings, if any, are recorded in London Hydro's IT program costs.
c) Please explain why London Hydro has experienced CAGR of 2.7% in IT program costs (which does not include cloud costs as those have been segregated) despite significant progress in moving to cloud solutions.

LH Response:

(a)
London Hydro has been utilizing cloud services for many years which makes it difficult to provide this information. The amount of savings associated with choosing a cloud solution over an on-premise solution is not something that is tracked in an accounting system. To determine savings achieved, numerous surveys, "what if" analysis and studies would be necessary to develop actual and forecasted overall costs for both solutions.

However, to help illustrate the difference in "Total Cost of Ownership" between these two solutions over the 5-year life span, a schedule has been prepared in connection with recent implementations and is provided below,

	Cloud						
Project	Implementation Costs	Depreciation	Service Fees	In-house Support	SW / HW Maintenance	Total Cost of Ownership	Annual OM&A
Ultipro Payroll	349,077	69,815	72,500	52,500	-	974,077	125,000
Genesys Contact Centre	760,744	152,149	120,000	52,500	-	1,623,244	172,500
Bill Imaging	791,393	158,279	166,400	126,000	-	2,253,393	292,400
Disaster Backup and Recovery	883,117	176,623	168,300	52,500	-	1,987,117	220,800
Content Management System	176,527	35,305	86,700	87,500	-	1,047,527	174,200
	2,960,858	592,172	613,900	371,000	-	7,885,358	984,900

	On Premise						
Project	Implementation Costs	Depreciation	Service Fees	In-house Support	SW / HW Maintenance	Total Cost of Ownership	Annual OM&A
Ultipro Payroll	630,000	126,000	-	75,000	24,000	1,125,000	99,000
Genesys Contact Centre	1,000,000	200,000	-	75,000	50,000	1,625,000	125,000
Bill Imaging	1,200,000	240,000	-	180,000	60,000	2,400,000	240,000
Disaster Backup and Recovery	2,180,000	436,000	-	75,000	40,000	2,755,000	115,000
Content Management System	300,000	60,000	-	125,000	30,000	1,075,000	155,000
	5,310,000	1,062,000	-	530,000	204,000	8,980,000	734,000
Cloud versus On Premise	(2,349,143)	(469,829)	613,900	(159,000)	(204,000)	(1,094,643)	250,900

Costs associated with on premise solutions in the schedule above have been estimated to help depict the overall savings for customers, which in these cases is over $1M ($1,094,643). Although it is clear from a cash perspective, that costs are lower utilizing cloud services for these projects, the method of accounting for cloud services in ratemaking has the unfortunate outcome of reporting increases in OM&A expenditures ($250,900). Consequently, this provides the misleading representation that cloud services increase costs for customers, where the opposite is true. The $1M of cost savings for customers as noted above would be even higher if it took into account the capital returns associated with assets included in rate base.

In fact, the savings associated with using cloud services goes beyond the 5-year period included in the schedule above. This is because in year 6, an on-premise solution needs to be refreshed resulting in additional implementation costs. On the other hand, cloud solutions do not need to be upgraded or refreshed since it is the vendor that takes on this responsibility as part of their service fee.

Further, maintaining on-premise solutions is becoming more expensive due to increasing complexities in technology, the increased costs of in-house labour as well as licensing and maintenance costs for software and hardware. Additional benefits of utilizing cloud services includes (for example) enhanced cyber security, remote access, mobility, scalability and big data performance.

Please note that a comparison for the Intelex Health and Safety system is not provided above since there is no on-premise system available with similar functionality offered by the cloud-based systems.

As listed in the above-noted schedule, savings for in-house support of $159,000 and software and hardware maintenance of $204,000 have been estimated.

(b)
Savings associated with the decreased requirement for in-house support ($159k in this example) would be realized in the Information Technology Program. Software and hardware maintenance in connection with disaster recovery and backup and the content management system would also be realized in this area.

(c)
The utilization of new innovations is a significant factor in connection with the trend in costs as customers and London Hydro rely more and more on technology in self-service, energy conservation, mobility, the Internet of Things (“IoT”), operational efficiencies and the grid, for example. Simply put, rapid advances in technology and the need to enhanced cyber security are driving up costs.

The largest increase in the IT program relates to hardware and software maintenance costs associated with on premise solutions, cyber security and numerous applications and hardware maintenance and support such as,

- SAP Customer Information System ("CIS")
- Cloud integration platforms
- Xerox DocuShare
- Network servers licensing maintenance
- Web servers
- Virtualization applications
- Operational contact centre
- Technical project testing
- Microsoft servers and workstations
- End-point security
- Single sign-on
- Event monitoring and management
- Blade centre, core and edge switch hardware maintenance
- Firewalls, digital certificates and other cyber security tools

Utilizing cloud services does not negate these cost pressure. However, it does help to minimize the impact of rising costs associated with technology. For instance, as a result of utilizing cloud services, labour and contractor services combined in the Information Technology Program have been contained to a 2% CAGR between 2017 and 2022.

Overall cost increases for the more than 30 items included in the software and hardware budget line relate to the addition of new applications since 2017, as well as increases associated with new functionality and vendor price increases for product enhancements including added cyber security features. Keeping the Company's network secure against intruders, whether targeted attackers or opportunistic malware requires continuous monitoring and has changed the way data is collected, stored and secured. Increased mobility has added new challenges in ensuring integrity and privacy of data while in transit and requires a new layer of endpoint security.

4-Staff-61
Ref 1: Exhibit 4, p. 268
Ref 2: Chapter 2 Appendices, Appendix 2-AA

Despite the increase in IT solutions being moved to the cloud, it does not appear London Hydro's Hardware/Software capital spending has decreased as much as cloud costs are increasing. The 2022 Hardware/Software capital spending is a decrease of $212k over 2017 spending, while cloud OM&A costs are increasing by $887k from 2017 to 2022.

a) What capital costs have London Hydro been able to reduce as a result of moving IT solutions to the cloud? Please provide an analysis on the impact of moving to the cloud on capital spending.

b) For IT solutions that have been moved to the cloud, please provide a comparison of costs to customers prior to moving to cloud, and after moving to the cloud.

LH Response:

(a)

London Hydro has been utilizing cloud services for many years which makes it difficult to provide this information. However, as depicted in the schedule above included in 4-Staff-60 (a), London Hydro is estimating a reduced capital investment of $2.3M with respect to the recent projects listed in this schedule.

(b)

Please see the schedule included with 4-Staff-60 (a).

4-Staff-62
Ref 1: Exhibit 4, p. 173

In customer service and collections, net OM&A labour has increased by $393k (CAGR 2.0%) and contractor services have increased by $174k (CAGR 6.8%) since 2017 OEB-approved.

London Hydro notes that net OM&A labour has decreased due to the increasing number of customer self-serve options but that decrease is offset by an addition of three staff.

a) Given London Hydro's increasing number of customer self-serve options (website, mobile app, etc.) and IT solutions (IVR, etc.), please explain why contractor services for call centres have not decreased but increased.
b) What reductions in net OM&A labour for customer service and collections has London Hydro achieved through the increase in customer self-serve options?

London Hydro notes that the three new staff are to help provide expert advice on energy related matters.

c) Prior to the addition of these three staff, how did London Hydro provide this business function to its customers?
d) How did London Hydro determine the appropriate size of this team of three? Annually, how much work does London Hydro receive related to customer requests for expert advice on energy related matters?

LH Response:

(a)
Contractor services in the Customer Services Program for call overflow services have been decreased by $140,000 between the OEB Approved Budget for the 2017 Test Year in comparison to the proposed budget for the 2022 Test Year. Increases in the contractor services line item relate to a new budget for credit card fees of $240,000.
(b)
Customer self-service options have helped to reduce FTE's in the Customer Services and Collections Program by 6. Specifically, FTEs in this area were reduced by 6 FTE's as a result of efficiencies and leveraging of technology. However, to continue with London

Hydro's promotion of energy conservation for customers and maintain the valuable expertise developed while working in the CDM department, the Company repositioned 3 of the former CDM employees into the Customer Services department leaving a net decrease of 3 FTE's.

As London Hydro undergoes further transformation to provide more digital offerings to customers the nature of work changes. While there have been some overall reductions in call service levels there are other changes. For example, there is more email-based communication than in the past and also the seasonal nature of summer disconnections has altered a stable model of call and communication work levels. Another example is that London Hydro has recently introduced a browser-based chat service for customers. While chat may be more convenient for customers, it may not be as efficient as telephone-based customer service at the onset. Full time staff are involved in bringing these new technologies online and often contract call overflow services help fill the gap to ensure regulated service levels are maintained and to meet changing peak demand.

Other work drivers include the fact that the number of complex billing and generation customers have increased. Manually billed Net-metered customers have increased 55%. The number of larger COGEN rate customers have increased by 57% and so has the complexity of service and billing (WMP, BESS, etc.). Microfit Solar Contract customers are an increasing focus of the customer service department as London Hydro handles the transfers and terminations. This requires more complex customer interactions and coordination with IESO and other stakeholders. These new and evolving customer needs have led to the recognition that new staff are needed to help provide expert advice on energy related matters.

(c)

London Hydro has always supported customers regarding bills and energy concerns through the Customer Service Contact Center, Collections and Revenue Protection staff, Conservation and Demand Management and even through times when a customer engages with a field worker with a question or raises a concern. Where a customer has a high bill concern, advice and tips are available to give the customer some things to consider or investigate to help get to the root cause of higher than expected consumption. As kWh pricing has increased so have high bill concerns been an increasing driver of call

volume. Typically, London Hydro's internal staff handle these calls while more transactional calls for moves and payment arrangements are serviced by call overflow contract service providers. The customer specific nature of consumption drivers and high bill investigation can be supported with web data presentment, but is largely a holistic high-touch human conversation with customers.

(d)

With the wind down of CDM programs, trained and talented staff who have a strong grasp of energy consumption aspects and experience with finding inefficiencies and identifying areas of consumption opportunities to help customers manage their energy, were assigned to customer service. This team also works particularly closely with Commercial and Industrial customers (who are the largest consumer of energy) by providing guidance, business models and design frameworks to help them with their goals of developing energy conservation within their infrastructures. In summary, London Hydro had always been supporting customers, but these 3 people added an enhanced level of engagement with customers with a view to increase overall customer satisfaction around energy consumption related issues.

While the nature of incoming calls varies depending on the annual season (i.e. Moves in May and September, Collection issues in June/July, higher bills in February-March and August-September) consumption related calls comprise approximately 10% of overall contact volume. The 3 customer service staff are a 10% portion of the overall customer service contact and collections group and thus were sized proportionately. Again, this focus in direction to improve customer satisfaction in this area is relatively new and the model is expected to be adjusted based on performance and success of the programs. Particularly, Commercial and Industrial customers exploring renewable energy, electric vehicles and battery energy storage solutions are presenting their need for focused and more in-depth support, so as our capacity and capability improve, this may be a future area of focus or re-focus.

4-Staff-63

Ref 1: Exhibit 4, p. 173, 180

London Hydro is forecasting $900k in bad debt expenses for 2022.

a) How did London Hydro forecast a bad debt expense of $900k?

LH Response:

The Finance department monitors accounts receivable on a monthly basis to help estimate those accounts that will result in bad debt expenses. Accounts are broken down into active and final categories as well as various aging groups to provide for more accurate trending based on historical results. For example, once an active account reaches 61-90 days past due, 10% of those accounts are estimated to be uncollectible. At 91-120 days, an estimate of 20% is used. Accounts that are identified as bankrupt are identified separately so that they are considered in full rather than by their aging category. As a result of the COVID-19 pandemic, the Company is taking a closer look at small business customers that are greater than 60 days. Bad debts have been increased to $900,000 in the proposed 2022 Test Year budget based on recent trends and the likelihood that bankruptcies may increase as the Ontario government pandemic support decreases.

4-Staff-64
Ref 1: DSP, UtilityPulse Customer Satisfaction Survey, p. 37
Ref 2: Exhibit 4, p. 193

Based on the UtilityPulse survey, it appears that few customers ranked “better communications” as a top priority, while a significant portion of customers felt that “better prices / lower rates” is the most important priority.

London Hydro has hired two new FTEs within corporate communications.

a) Has London Hydro surveyed customers on preferences with respect to increased corporate communications spending and provided context to customers on the corresponding rate increase as a result of the increased costs? If so, please provide a reference to the survey results.
b) Please discuss how customer preferences, particularly with reducing rates, have influenced London Hydro’s budget planning in corporate communications, particularly with its decision to increase costs in this program.

LH Response:

(a)

London Hydro has not surveyed its customers on the correlation between increased communication activities and the hire of two new FTEs within the Corporate Communications Program. However, in its 2020 UtilityPulse survey 74% of customers placed educating customers about energy conservation as a ‘very high + high priority’ when planning for the next 5 years.

(b)

The additional FTEs in the Corporate Communications Program allows London Hydro to keep customers informed on changes to rules and regulations that affect them directly. The investment in these additional resources also helps to educate customers about energy management. Media types such as billing inserts, radio advertisements and bus shelter signage are used to communicate information to customers regarding information and services offered by London Hydro that affect them directly. For example, increased communications help to increase recognition and use of choices available to them as well as new tools and features provided by the Company to monitor their consumption and conserve energy.

Further, based on the customer feedback associated with the rate application submission for revised rates, it is evident there continues to be a significant lack of understanding associated with exactly what services London Hydro delivers combined with what costs London Hydro is responsible for. One of the expectations of the corporate communications group will be to return to places such as libraries, community centers, and other public events, when the COVID-19 pandemic has ended, to provide customers with more information and engagement opportunities.

4-Staff-65
Ref 1: Exhibit 4, p. 230

Within Corporate Services, for net OM&A labour, there is a significant increase of $370k from 2019 to 2020 that accounts for the bulk of the increase in net OM&A labour between 2017 and 2022.

a) What is the cause of this increase?

LH Response:

(a)

The increase in 2020 is due to various factors including wage escalations at 2.1% of approximately $66k; 3 maternity leaves in this area causing an increase of $125k when the employees returned the office or were replaced and temporary staffing of $47k. There was also a decrease in direct allocations to CDM programs for periodic and day-to-day administrative accounting services of $52k as a result cessation of these programs. In addition, incentives payments were lower in 2019 than 2020 by $72k ($80k burdened).

4-Staff-66
Ref 1: Exhibit 4, p. 240

a) How many locate requests does London Hydro forecast for 2022 and how many actual locate requests were received in the previous historical years?

LH Response:

(a)

London Hydro is estimating 26,000 locates in the 2022 Test Year as listed in the schedule below along with historical amounts.

Year	Number of Locates
2017	26,331
2018	25,746
2019	23,939
2020	26,148
2021 (est.)	26,000
2022 (est.)	26,000

4-Staff-67
Ref 1: Exhibit 4, p. 320

London Hydro's management FTEs has increased from 53 (2017 OEB-approved) to 64 (2022 test year). This represents an increase of 20%.

For non-management employees, London Hydro's 2017 OEB-approved FTE count was 258.7, but 2017 actuals were 240.5. The 2022 forecast is 255.7.

a) Please provide a list of the management positions hired and explain why London Hydro required an increase of 20% in management FTEs.
b) Please explain why 2017 actuals for non-management FTEs were so much lower than 2017 OEB-approved.

LH Response:

(a)

Below is a list of management positions added and deleted from London Hydro's budget between the 2017 Test Year and the proposed 2022 Test Year:

OEB Program	Position Title	FTE
Operations and Maintenance	Lines & Forestry Superintendent	1.0
Operations and Maintenance	Cable URD Supervisor	1.0
Operations and Maintenance	Cable URD Supervisor	1.0
Operations and Maintenance	Mgr-Developer & Ops Support	1.0
Operations and Maintenance	Mgr Operation Engineering	1.0
Asset Management	Dir Logistics & Ops Support	1.0
Asset Management	Mgr Systems Engineering	1.0
Asset Management	Mgr Logistics & Ops Support	(1.0)
Metering and Data Management	Project Manager - MDM	(1.0)
Materials Management	Logistics & Operations Supervisory Analyst	1.0
Human Resources, Health and Safety	Dir Health & Safety	1.0
Human Resources, Health and Safety	Health & Safety Manager	(1.0)
Facilities and Environmental Services	Environmental Supervisor	1.0
Corporate Communications	Program Manager Marketing & Corporate Comm.	1.0
Information Technology	Project Manager	1.0
Information Technology	Project Manager	1.0
Information Technology	Manager Cyber Security	1.0
Corporate Services	Supervising Regulatory Advisor	1.0
Customer Services and Collections	Dir Customer Services	(1.0)
		11.0

Increases in management staff are largely due to London Hydro's leveraging of technological advances in areas such as network monitoring, device management as well as new self-service features being offered to customers through the Company's website. This continued progression in leveraging technology where appropriate requires more technically skilled staff.

For example, since 2017, three Engineering positions have been added in the System Operating Centre to help support and enhance procedures, processes, and safe work practices as well as support new integration such as the Mobile Workforce, Advanced

Distribution Management System and Fault Location Isolation Service Restoration. Moreover, these positions are needed to meet the requirements of Equipment and Design Approval processes related to Control Systems and Protection Relaying (ESA Reg 22/04). One of the new Engineering positions has the role of Manager of Operations Engineering who oversees the overall GIS, Protection and Control and System Operating Centre department functions while providing technical engineering support and recommendations. This ensures cross-functional support for the Operations Engineering team in connection with functions relating to Protection and Control, SCADA, GIS, IVR and the OMS while providing continuity between the System Operating Centre and IT.

Management staff has also increased in Operations and Maintenance departments due to restructuring as a result of retirements in the Overhead Line and Underground Cable departments. Other areas experiencing an increase in management staff include the Information Technology Program and the Corporate Communications department. The Information Technology department has brought on more management staff as it moves to utilizing more internal resources rather than third-party contractors. Management staff in the Corporate Communications department have been increased to meet the growing needs in this services area relating to keeping customers informed of changes to rules and regulations and made aware of tools and resources available to help them monitor and reduce their electricity usage.

(b)

The favorable variance in 2017 in the non-management group was largely as a result of full-time employee absences due to maternity leaves, paternity leaves, sick leaves and delays in finding resources to hire for retirements and employee resignations. Actual FTE's listed in OEB Appendix 2-K tally up hours which is providing lower results due to these temporary vacancies. By the end of fiscal 2017 however, most of these positions were filled leaving 5 open positions at December 31st. A majority of these vacancies were anticipated to be deployed to capital and billable activities. Therefore, the impact of these vacancies has little bearing on net OM&A expenditures.

4-Staff-68
Ref 1: Exhibit 4, p. 18-19
Ref 2: London Hydro's 2017 Cost of Service Application EB-2016-0091, Settlement Proposal, p. 11, 13
Ref 3: Exhibit 4, p. 372

In Reference 1, London Hydro states that:

> London Hydro submitted its Cost of Service Application (EB-2016-0091) on August 26, 2016 for rates effective May 1, 2017. At the time of London Hydro's application, the decision regarding the proper treatment of Pension and Other-Post-Employment Benefit ("OPEBs") (cash versus accrual) was pending with the OEB. As part of London Hydro's settlement, London Hydro agreed to include in its distribution rates only the cash portion of OPEB costs.

Page 13 of London Hydro's 2017 settlement proposal stated that:

> The Parties have also agreed that LH will move to recording OPEB costs on a cash basis rather than its current practice to record them on an accrual basis pending the OEB's decision in EB-2015-0040, the impact of this is a reduction of $216,300 in the OM&A Test Year.

Regarding capital expenditures, Page 11 of London Hydro's 2017 settlement proposal included the following adjustment:

> An adjustment of $92,700 to account for the removal of capitalized amounts related to the change in accounting for OPEBs costs from an accrual basis to a cash basis pending the Board resolution in EB-2015-0040.

In Reference 4, London Hydro provides the following table for OPEB costs:

OPEB and pension amounts

OPEB (non deductible company pension plans	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge Year	2022 Test Year
OPEB liability, beginning of year	(14,481,000)	(15,213,100)	(13,894,700)	(15,534,600)	(16,100,100)	(16,232,600)
OPEB liability, end of year	15,213,100	13,894,700	15,534,600	16,100,100	16,232,600	16,410,900
	732,100	(1,318,400)	1,639,900	565,500	132,500	178,300
Actuarial gain / loss through OCI	(584,000)	1,549,600	(1,581,300)	(244,400)	-	
	148,100	231,200	58,600	321,100	132,500	178,300
Non deductible pensions per Schedule 1	148,100	231,200	58,600	321,100	132,500	178,300
	-	-	-	-	-	-

OEB staff notes that the actual OPEB costs of $321,100 in 2020 matches the actuarial valuation report as of December 31, 2020.

a) Please provide the forecast cash amount for OPEBs that was embedded in London Hydro's 2017 rates.

b) Please confirm that the originally forecast accrual cost of OPEBs in London Hydro's 2017 application was $309,000 ($216,300 included in OM&A and $92,700 included in capital).

c) Please confirm that the actual accrual cost of OPEBs in 2017 was $148,100.

    i) If confirmed, please explain the difference between the 2017 forecasted accrual of $309,000 compared to the 2017 actual accrual of $148,100 for OPEB costs.

    ii) If not confirmed, please provide the actual accrual cost of OPEBs with a breakdown of the expensed and capitalized portions.

d) Please explain if London Hydro conducts the actuarial valuation of its OPEBs liability on an annual basis.

    i) If so, please confirm that the OPEB accrued costs from 2017 to 2019 match to the costs on the annual actuarial valuation report.

    ii) If not, please explain how London Hydro estimated the OPEB costs from 2017 to 2019.

e) Please explain how London Hydro estimated the OPEBs cost of $132,500 in the 2021 bridge year and the OPEBs cost of $178,300 in the 2022 test year.

f) Please provide a breakdown of the annual OPEB costs into the capitalized and expensed portions from 2017 to 2022.

LH Response:

(a)

The forecasted cash amount for OPEBs that was embedded in London Hydro's 2017 rates was $822,900.

(b)

London Hydro confirms that the statement above is accurate.

(c)

London Hydro confirms that the statement above is accurate. The favorable variance of $160,900 ($309,000 - $148,100) is largely as a result on the recognition of an increase in London Hydro's 'other benefits' liability due to employees which relates to a new requirement under IFRS of $100,800 as illustrated below.

	2017 Variance
Current service cost	(43,400)
Interest cost	5,900
Benefits paid	97,600
	60,100
Other benefits	100,800
	160,900

(d)

London Hydro confirms that the statements above are accurate.

(e)

The amount budgeted for the 2021 Test Year in the amount of $132,500 represents Mercer's projection included in their 2020 actuarial valuation report filed with Exhibit 4 as Appendix 4-4 in Appendix B on page 21 of 74.

The 5-year average for non-cash OPEB's from 2017 to 2021 is $178,300. London Hydro's budget for the 2022 Test Year is $99,400. This amount was budgeted in the spring of 2020 based on results available up to the end of 2019. The non-cash OPEB expense for 2019 was abnormally low at $58,600 resulting in a lower budget.

(f)

Benefits costs are allocated to activities (capital, billable, OM&A) through burden rates. The estimated non-cash OPEB that has been allocated to capital is based on the non-overtime portion of gross labour charges allocated to capital as follows:

	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Bridge	2022 Test
Non-cash OPEBs	148,100	231,200	58,600	321,100	132,500	99,400
Estimated percentage of non-overtime labour allocated to capital	25%	24%	24%	27%	30%	29%
Capitalized non-cash OPEBs	**37,025**	**55,488**	**14,064**	**86,697**	**39,750**	**28,826**
Expensed non-cash OPEBs	**111,075**	**175,712**	**44,536**	**234,403**	**92,750**	**70,574**

4-Staff-69

Ref 1: PILs model
Ref 2: the OEB's Letter "Accounting Direction Regarding Bill C-97", July 25, 2019

London Hydro has applied accelerated capital cost allowance (CCA) in the PILs model, in accordance with the Accelerated Investment Incentive Program (AIIP). In the OEB's July 25, 2019 letter titled Accounting Direction Regarding Bill C-97 and Other Changes in Regulatory or Legislated Tax Rules for Capital Cost Allowance, it stated that:

> The OEB recognizes that there may be timing differences that could lead to volatility in tax deductions over the rate-setting term. The OEB may consider a smoothing mechanism to address this.

a) Please confirm that all of London Hydro's capital additions in the 2022 test year are forecasted to be eligible for the AIIP.
b) Please discuss whether London Hydro has considered smoothing accelerated CCA for its capital additions and, if so, what its position is on that matter.
c) Please provide a calculation showing how London Hydro would smooth CCA over the IRM period, and what the impact to PILs would be under a smoothed scenario.
d) Assuming the current proposed capital additions are approved in this rate application, please provide the balance in Account 1592 Sub-account CCA Changes as at end of the IRM term, i.e. 2027, including the full revenue requirement impacts of the phasing out of the AIIP starting in 2024.

LH Response:

(a)

London Hydro confirms that this statement is accurate.

(b)

London Hydro did consider smoothing of the AIIP but decided against it, as this would increase revenue requirement for the 2022 Test Year.

(c)

Smoothing the impact of the changes in CCA rules commencing January 1, 2024 based on proposed capital additions for the 2022 Test Year would have the impact of increasing

revenue requirement for grossed-up PILs in the estimated amount of $362,462 as illustrated below:

CCA CHANGES DUE FROM CUSTOMERS					
Taxation period	CCA including Accelerated CCA Incentive	CCA excluding Accelerated CCA Incentive	Accelerated CCA Incentive Savings	Income Tax @ 26.5%	Grossed Up / 73.5%
	$	$	$	$	$
Jan 1 to Dec 31, 2023	29,622,211	29,622,211	-	-	-
Jan 1 to Dec 31, 2024	30,509,713	28,513,005	1,996,708	529,128	719,902
Jan 1 to Dec 31, 2025	31,304,900	29,666,820	1,638,080	434,091	590,600
Jan 1 to Dec 31, 2026	32,019,321	30,627,513	1,391,808	368,829	501,808
	123,456,145	118,429,549	5,026,596	1,332,048	**1,812,310**
Amortized over 5 years					**362,462**

This would increase PILs included in revenue requirement from $403,436 to $765,898 as follows:

PILs - Impact of Smoothing

	PILs Change	Over 5 Years	PILs Before Smoothing	PILs After Smoothing
PILs before gross up	1,332,048	266,410	296,526	562,936
PILs grossed up	1,812,310	362,462	403,436	765,898

(d)

Based on proposed capital additions for the 2022 Test Year, CCA changes commencing January 1, 2024 would have the estimated impact of decreasing the 1592 CCA Changes liability due to customers by $1,812,310 between 2024 and 2026. Before considering any other revisions such as repayments to customers during these IRM rate riders this would leave a balance due to customers of $1,918,525 as follows:

1592 CCA Changes due to (from) Customers

	Annual Change	Balance
Projected balance December 31, 2021		3,730,835
December 31, 2022	-	3,730,835
December 31, 2023	-	3,730,835
December 31, 2024	(719,902)	3,010,933
December 31, 2025	(590,600)	2,420,333
December 31, 2026	(501,808)	1,918,525
	(1,812,310)	

4-Staff-70
Ref 1: Exhibit 4, p. 366
Ref 2: PILs Model

In Table 4-57: Reconciliation of Regulatory Taxable Income 2017 to 2020 of Reference 1, OEB staff notes that London Hydro had a regulatory taxable loss in 2019 of ($1,369,384).

OEB staff notes that London Hydro did not fill out "schedule 4 loss carryforward – historical" sheet in the PILs model.

In addition, OEB staff notes that the loss carry forward of ($3,000,320), generated in the 2021 bridge year, is not carried forward to the 2022 test year's loss carry forward tab.

a) Please explain why the 2019 loss of ($1,369,384) is not carried into the 2020 year.
b) Please explain why the bridge year's loss of ($3,000,320) is not carried forward into the 2022 test year.

LH Response:

(a)

The 2019 loss was not carried forward to 2020 since it was carried back to the 2016 to recover taxes from that year.

(b)

The projected income tax loss for the 2021 Bridge Year was not carried forward to 2022 since it would be carried back to 2018 to recover taxes from that year.

4-Staff-71
Ref 1: Exhibit 4, p. 369
Ref 2: London Hydro's 2017 Cost of Service Application EB-2016-0091, Settlement Proposal, PILs workform

In Reference 1, London Hydro provides the 2017 to 2020 (Scientific Research and Experimental Development) SR&ED tax credit totals in the table below (notably, $523,206 in 2017):

SR&ED Income Tax Credits	
Year	Credit
2017	523,206
2018	507,273
2019	569,477
2020	683,801
Average	570,939

In Reference 2, OEB staff notes that the forecast 2017 SR&ED tax credit in 2017 rebasing application is $335,000.

a) Please explain the variance between the forecast and actual SR&ED tax credit in 2017.
b) Please confirm that the SR&ED tax credits from 2017 to 2020 were actual credits received by London Hydro.
    i) If not, please explain.
c) Please provide the actual SR&ED claim amounts that have been deducted in London Hydro's tax returns from 2017 to 2020.

LH Response:

(a)

The forecast for the 2017 Test Year was based on adjusted average SR&ED tax credits over the 4-year period from 2012 to 2015 as illustrated in the table below:

SR&ED Income Tax Credits		
	Actual SRED Credit	Adjusted to new Legislation
2012	235,324	175,539
2013	421,357	336,103
2014	339,690	339,690
2015	487,725	487,725
Average	**371,000**	**335,000**

The SR&ED tax credit for the 2017 of $523,206 was higher than anticipated because of an increase in projects eligible for the tax credit.

(b)

London Hydro confirms that the statement above is accurate.

(c)

The actual SR&ED tax credits received and thus deducted in the 2017 to 2020 taxation years are provided below:

Year Deducted	Amount	Year Received	Tax Credit For
2017	487,260	2017	2016
2018	523,206	2018	2017
2019	507,273	2019	2018
2020	569,477	2020	2019

4-Staff-72
Ref 1: Exhibit 4, p. 370
Ref 2: Exhibit 4, p. 374
Ref 3: PILs Model

In Reference 1, London Hydro states that:

> Expenditures such as labour and contractor services used in the calculation of the SR&ED claim are removed from Capital Cost Allowance ("CCA") additions and deducted as an expense for the current year, for income tax purposes only. This adjustment has been forecasted at $2,400,000 for both the 2021 Bridge Year and 2022 proposed Test Year based on actual amounts deducted for the four years from 2017 to 2020.

In Reference 2, London Hydro states that:

> We have followed the OEB's standard procedure in formulating our revenue requirement in our application; however, we kindly request that consideration be given to reverse the offset in our revenue requirement equivalent to our annual SRED benefit of $500k. Such an action by the OEB, would provide us with continued encouragement for more innovation as well as be a symbol of the OEB's endorsement of their encouragement to seek increasing innovation from the utility.

OEB staff notes from the PILs model that $2.4M SR&ED cost capitalized for accounting purposes was deducted from 2021 and 2022 taxable income, respectively, which reduces the taxable incomes for both years.

a) Please explain why the SR&ED claims are removed from CCA additions and deducted as an expense for the current year, given that the tax impacts of CCA additions and expenses are different.
b) Please clarify if London Hydro would reverse the CCA adjustment of $2.4 M in the bridge year and test year, if the OEB ultimately approves the reversal of the SR&ED tax credit from revenue offsets in the test year.
    i) If so, what would be the impact to the revenue requirement?
    ii) If not, why not?
c) Please provide any precedent to support London Hydro's request for the reversal of the SR&ED tax credit from revenue offsets.

LH Response:

(a)

Although capitalized for accounting purposes, expenditures for labour costs, contractor services and any materials allowable as SR&ED expenditures are considered current in nature and are therefore removed from the CCA pool and realized as a current year income tax deduction.

(b)

London Hydro's request is to remove the SR&ED tax credit from revenue offsets only, to assist with funding continued innovation. The Company does not intend to reverse the $2.4M CCA adjustment, since this same adjustment is deducted in the current period from earnings for tax purposes. Leaving this adjustment in the calculation of taxes for ratemaking ensures that ratepayers benefit from the tax savings related to this spending.

(c)

London Hydro is unable to provide any precedent to support its request.

4-Staff-73
Ref 1: Exhibit 4, p. 373

a) For the projects/investments that London Hydro received (or is currently receiving) SR&ED tax credits on, please confirm whether these projects were (or currently are) funded through revenues collected through London Hydro's customers.

b) With respect to employee incentives, has London Hydro budgeted for incentives to provide to its employees within the proposed OM&A budget in this application?

c) Please explain what financial or business risks fall to London Hydro's shareholders when London Hydro, the company, invests in these projects that are eligible for SR&ED tax credits.

LH Response:

(a)

Yes, projects eligible for SR&ED tax credits are funded through revenues collected through London Hydro's customer.

(b)

Yes, incentives are budgeted each year by London Hydro. To clarify, 'incentive' in this context relates to motivation rather than payment.

(c)

There is no additional financial or business risks for London Hydro's shareholder related to investments in projects that are eligible for SR&ED tax credits, since these assets are included in rate base as a future benefit for customers. Ratepayers benefit from these projects because of new knowledge gained to help achieve objectives and resolve problems. For example, building a smarter grid, a more flexible smart metering system, scalable real-time architecture and meter and energy consumption analytics.

Exhibit 5

5-Staff-74
Ref 1: Exhibit 5, p. 6, 9

On page 6 of exhibit 5, London Hydro states that it has entered into a future swap agreement in the amount of $125 million to take effect in June 2022 with an effective all-in rate of 2.13% to replace the existing swap agreements with RBC.

On page 9, in the table for the 2022 year, the line item that appears to correspond to the new swap agreement at 2.13% has a principal of only $62.5 million, which is half of $125 million, and has a start date of Dec. 4, 2020. The other half appears to remain as RBC swap agreements.

a) Please reconcile the table with the statement on page 6.

LH Response:

The reason that the table indicates that the future contract is simply $62.5M is to accurately calculate the effective interest rate for the test year of 2022 as the table does not allow a way to indicate that the $125M loan(s) are split over the course of the year. The company has an existing loan with RBC for $125M (two loans totalling that amount) which exist for the first six months of the year. Both of those loans mature on June 30, 2022 at which time the future contract with TD will commence. As a result, London Hydro will have outstanding debt for the entire year of $125M (although six months will be with RBC and six months will be with TD).
The reference of December 4, 2020 is the date that the futures contract was entered, which will be converted into a fixed interest swap agreement on June 30, 2022.

Exhibit 7

7-Staff-75
Ref 1: Exhibit 7, p. 11
Ref 2: Load forecast Model, sheets Monthly Data, Forecasting Data

London Hydro states that the data used for updated load profiles consists of hourly consumption during 2020 for the Residential, GS < 50 kW, GS > 50 kW, Large User, Co-Gen, Backup, and Standby customers. It also indicates that a small number of GS > 50 kW customers remained to be converted to interval metering in 2020.
London Hydro acknowledges that 2020 was an anomalous year due to COVID-19.

The 2020 total HDD was 3,576.9, 5.8% less than the 10-year average of 3,796.9. The 2020 total CDD was 355.7, 13.4% more than the 10-year average of 313.8.

a) Please confirm that the remaining GS>50 kW customers were converted in 2020.

LH Response:
London Hydro confirms that all remaining GS>50 kW customers were converted in 2020.

b) Please comment on when London Hydro expects to update its load profiles using 2021 data.

LH Response:
London Hydro 2021 profiles will be completed mid February 2022.

c) What proportion of total metered energy and demand in the GS > 50 kW class were measured by interval meters in each of 2019 and 2020?

LH Response:
At the end of December 2018, 267 of 1624 GS>50 customers were not metered by interval meters. At the end of June 2019, 139 of 1571 GS>50 customers were not metered by interval meters. At the end of June 2020, 5 of 1538 GS>50 customers were not metered by interval meters. All customers were fully converted end of August 2020.

London Hydro cannot reasonably provide the proportion of total metered energy and demand in the GS > 50 kW class that were measured by interval meters in each of 2019 and 2020.

The majority of 2019 readings were interval metered.

d) As a scenario, please provide the load profiles that would result if 2019 were used, using the same methodology to address gaps in GS > 50 kW data that was used for 2020.

LH Response:

Please reference London Hydro 7-Staff-75d.xlsx.

e) Please explain why London Hydro didn't attempt to weather normalize with one year of historic load data.

LH Response:

Please reference London Hydro 7-Staff-75ei.xlsx for 2020.

Please reference London Hydro 7-Staff-75eii.xlsx for 2019.

f) Please perform a linear regression for each of the Residential, GS < 50 kW, and GS > 50 kW rate classes (three linear regressions). Please use the rate class load as the dependent variable. For the explanatory variables, please include variables for HDD and CDD.

LH Response:

Please reference London Hydro 7-Staff-75fi.xlsx for Residential.

Please reference London Hydro 7-Staff-75fii.xlsx for GSLT50.

Please reference London Hydro 7-Staff-75fiii.xlsx for GSGT50.

7-Staff-76
Ref 1: Cost Allocation Model, sheet I6.2 Customer Data, I8 Demand Data

In the Customer Data worksheet, it is indicated that no Co-Gen customers use Line Transformation or Secondary Distribution. However, the Demand Data worksheet includes demand served using London Hydro provided transformation, and load connected to the secondary distribution system.

The Demand Data worksheet indicates that most, but not all, Standby load is served using London Hydro provided transformation, and that a relatively small portion of Standby load connected to the secondary distribution system.

a) Please reconcile the apparent discrepancy in the Co-Gen rate class and correct the worksheets as required.

LH Response:

Included in error. This will be corrected.

b) How many Standby customers rely on London Hydro to provide each of Primary Distribution, Line Transformation, and Secondary Distribution?

LH Response:

There are four customers that have reserve capacity and London Hydro provides primary distribution and line transformation.

c) Please confirm that all the Standby customers are customers of both Standby, and another rate class, and their connection is counted in the other rate class.

LH Response:

London Hydro would confirm that all the Standby customers are customers of both Standby, and another rate class, and their connection is counted in the other rate class.

7-Staff-77

Ref 1: Exhibit 7, p. 14

London Hydro indicates that two rate classes, Co-Gen and Sentinel have status quo revenue-to-cost ratios that are outside the OEB's policy range. It states that it intends to "maintain the rate classes that have the status quo allocation within the OEB target range to remain in place." However, the proposed revenue to cost ratios reflect an adjustment for every rate class. In most cases, the adjustments bring revenue to cost ratios closer to unity, but in the case of GS > 50 kW, the adjustment is away from unity, and in the case of Large Use, the proposal is to decrease from 101% to 91.6%. This reflects a movement across, and meaningfully away from unity.

a) Is London Hydro proposing to maintain revenue-to-cost ratios, or make the movements indicated in Table 7-8?

LH Response:

London Hydro recognizes that this process will experience some changes prior to completion of final agreement. It will correct all movements to fall in line with OEB direction at that time.

b) If movements away from unity are being proposed, please explain why.

LH Response:

See response above

c) If movements not related to moving Co-Gen and Sentinel within the range are being proposed, please explain why.

LH Response:

See response above

Exhibit 8

8-Staff-78
Ref 1: Exhibit 8, p. 27

London Hydro has forecasted $717,510 for transformer ownership allowance for 2022.

a) Please provide the calculations behind this forecast.

LH Response:

London Hydro					
EB-2021-0041					
2022 Load Forecast					
Forecast Transformer Allowance by Rate Class (kW)					
Year	Adjusted General Service > 50 kW	Co-Gen Stand-by	Co-Gen Non Stand-by	Co-Gen Total	Total
Demand (kW)					
2017	3,725,836	156,400	72,028	228,428	3,954,263
2018	3,758,358	172,800	92,245	265,045	4,023,403
2019	3,668,057	172,800	55,791	228,591	3,896,648
2020	3,432,957	172,800	69,257	242,057	3,675,014
Average (2017 to 2020)	**3,646,302**	**168,700**	**72,330**	**241,030**	**3,887,332**
Transformer Allowance (kW)					
2017	1,038,457.02	156,400	72,028	228,428	1,266,885
2018	1,093,951.00	172,800	92,245	265,045	1,358,996
2019	1,019,520.57	172,800	56,069	228,869	1,248,389
2020	986,003.33	172,800	49,287	222,087	1,208,091
Average (2017 to 2020)	**1,034,483**	**168,700**	**67,407**	**236,107**	**1,270,590**
Percentage Transformer Allowance To Demand (kW)					
2017	28%	100%	100%	100%	
2018	29%	100%	100%	100%	
2019	28%	100%	100%	100%	
2020	29%	100%	71%	92%	
Average (2017 to 2020)	**28%**	**100%**	**93%**	**98%**	
Total Demand Forecast (kW)					
2021	3,412,391	172,800	72,330	245,130	3,657,521
2022	3,363,562	172,800	72,330	245,130	3,608,692
Transformer Allowance Forecast (kW)					
2021	968,225	172,800	67,206	240,149	1,208,231
2022	955,844	172,800	67,206	240,149	1,195,850
Transfer Large Use Customer					
2021	-	-	-	-	-
2022	-	-	-	-	-
Final Transformer Allowance Forecast (kW)					
2021	968,225	172,800	67,206	240,149	1,208,231
2022	955,844	172,800	67,206	240,149	1,195,850

Rate Class	Transformer Allowance In Rate	Transformer Allowance A	Transformer Allowance kW's C	Transformer Allowance Rate E
Residential	No			
General Service Less Than 50 kW	No			
General Service 50 to 4,999 kW	Yes	573,507	955,844	0.6000
General Service 50 to 4,999 kW (Wholesale Market Participant)	Yes	0		0.6000
General Service 1,000 To 4,999 kW (co-generation)	Yes	40,324	67,206	0.6000
Standby Power	Yes	103,680	172,800	0.6000
Large Use	No			
Street Lighting	No			
Sentinel Lighting	No			
Unmetered Scattered Load	No			
microFIT	No			
		717,510	1,195,850	
		B	D	

8-Staff-79
Ref 1: Exhibit 8, p. 9

London Hydro is proposing to maintain the fixed-to-variable proportion for its rate design for all rate classes. This proposal results in fixed charges for the GS < 50 kW, GS > 50 kW and Large Use rate classes being increased even though the existing fixed charges are above the ceiling.

a) Please provide the variable charge that would result form maintaining the fixed charge at the current level for these rate classes.

LH Response:

Per Application					
Customer Class	Fixed	Variable	Monthly Service Charge	Volumetric Rate	
Residential	100.00%	0.00%	$ 29.05	$ -	/kWh
General Service Less Than 50 kW	56.27%	43.73%	$ 37.63	$ 0.0125	/kWh
General Service 50 to 4,999 kW	23.90%	76.10%	$ 177.11	$ 3.2106	/kW
General Service 1,000 To 4,999 kW (co-generation)	46.08%	53.92%	$ 1,268.87	$ 2.7740	/kW
Standby Power	0.00%	100.00%	$ -	$ 3.6809	/kW
Large Use	38.41%	61.59%	$ 21,517.55	$ 2.4012	/kW
Street Lighting	69.15%	30.85%	$ 1.87	$ 9.2941	/kW
Sentinel Lighting	58.18%	41.82%	$ 7.07	$ 23.2436	/kW
Unmetered Scattered Load	28.81%	71.19%	$ 2.98	$ 0.0256	/kWh
8-Staff-79					
Customer Class	Fixed	Variable	Monthly Service Charge	Volumetric Rate	
Residential	100.00%	0.00%	$ 29.05	$ -	/kWh
General Service Less Than 50 kW	51.12%	48.88%	$ 34.18	$ 0.0140	/kWh
General Service 50 to 4,999 kW	22.53%	77.47%	$ 166.96	$ 3.2653	/kW
General Service 1,000 To 4,999 kW (co-generation)	46.08%	53.92%	$ 1,268.87	$ 2.7740	/kW
Standby Power	0.00%	100.00%	$ -	$ 3.6809	/kW
Large Use	38.38%	61.62%	$ 21,499.20	$ 2.4025	/kW
Street Lighting	69.15%	30.85%	$ 1.87	$ 9.2941	/kW
Sentinel Lighting	58.18%	41.82%	$ 7.07	$ 23.2436	/kW
Unmetered Scattered Load	28.81%	71.19%	$ 2.98	$ 0.0256	/kWh

8-Staff-80
Ref 1: Exhibit 8, p. 15

London Hydro proposes to maintain Retail Service charges at current levels at this time. It indicates that the OEB will adjust rates effective January 1, 2022.

a) If rates are updated by the OEB, will London Hydro update its application, at that time, including for the related revenue?

LH Response:

If Retail Service charge rates are updated by the OEB, London Hydro would not propose to update its application, at that time, including for the related revenue as the resulting increase is not believed to be materially significant. For instance, a 3% increase on the projected $75,000 in Retailer revenue would net an additional $2,250.

8-Staff-81
Ref 1: Exhibit 8, p. 24
Ref 2: Chapter 2 Appendices, Appendix 2-R

The RRR supply volumes (wholesale plus embedded generation) do not match the line loss calculation.

	Appendix 2-R A(1)	Appendix 2-R A(2)	RRR
2016	3,282,508,272	3,270,156,925	3,298,886,924
2017	3,177,607,929	3,165,986,997	3,195,491,862
2018	3,311,288,330	3,298,999,125	3,326,260,132
2019	3,211,599,473	3,200,665,345	3,226,177,665
2020	3,162,685,497	3,141,771,533	3,177,782,024

London Hydro observed that its losses were higher in 2016 and 2017 due to billing estimates.

London Hydro is proposing to keep the current loss factors as the current total loss factor of 1.0315 is not materially different from the calculated loss factor of 1.0313.

a) Please reconcile the difference between the historic losses RRRs.

LH Response:

"Wholesale" kWh delivered to distributor (higher value)	2016	2017	2018	2019	2020
2.1.5 A Supply IESO & HONI	3,251,041,122	3,145,326,878	3,253,654,556	3,175,996,023	3,134,693,559
Embedded Generation	47,845,802	50,164,984	72,605,576	50,181,642	43,088,465
	3,298,886,924	3,195,491,862	3,326,260,132	3,226,177,665	3,177,782,024
Less WMP kWh	(15,955,558)	(17,665,653)	(14,971,802)	(14,578,192)	(15,096,528)
Less HONI Load Transfer	(423,094)	(218,280)	-	-	
	3,282,508,272	3,177,607,929	3,311,288,330	3,211,599,473	3,162,685,497
Wholesale kWh delivered to distributor (lower value)	2016	2017	2018	2019	2020
MV 90	3,238,689,775	3,133,705,946	3,241,365,351	3,165,051,895	3,113,779,596
Embedded Generation	47,845,802	50,164,984	72,605,576	50,181,642	43,088,465
	3,286,535,577	3,183,870,930	3,313,970,927	3,215,233,537	3,156,868,061
Less WMP kWh	(15,955,558)	(17,665,653)	(14,971,802)	(14,578,192)	(15,096,528)
Less HONI Load Transfer	(423,094)	(218,280)	-	-	-
	3,270,156,925	3,165,986,997	3,298,999,125	3,200,655,345	3,141,771,533

b) Would the billing estimates responsible for increasing loss estimates have the effect of making corresponding reductions in loss estimates for 2017 and 2018 respectively?

LH Response:

London Hydro, in compliance with the OEB accounting directive for RPP settlement, changed its calculation process to use smart meter and interval data to more accurately calculate billed and unbilled values. 2017 was the starting year for this process. 2016 was based solely on older practice and the opening 2017 balance was affected by the closing 2016 values.

c) Does London Hydro view the 2018-2020 period as more representative of losses going forward into the 2022-2026 period?

LH Response:

London Hydro would be of the view that the 2018-2020 period is more representative of losses going forward into the 2022-2026 period.

Appendix 2-R
Loss Factors

		Historical Years					5-Year Average
		2016	2017	2018	2019	2020	
	Losses Within Distributor's System						
A(1)	"Wholesale" kWh delivered to distributor (higher value)	3,282,508,272	3,177,607,929	3,311,288,330	3,211,599,473	3,162,685,497	3,229,137,900
A(2)	"Wholesale" kWh delivered to distributor (lower value)	3,270,156,925	3,165,986,997	3,298,999,125	3,200,655,345	3,141,771,533	3,215,513,985
B	Portion of "Wholesale" kWh delivered to distributor for its Large Use Customer(s)	134,172,715	118,175,485	117,958,985	111,909,192	104,039,503	117,251,176
C	Net "Wholesale" kWh delivered to distributor = **A(2) - B**	3,135,984,210	3,047,811,512	3,181,040,140	3,088,746,153	3,037,732,031	3,098,262,809
D	"Retail" kWh delivered by distributor	3,176,444,270	3,070,375,148	3,215,830,065	3,120,062,340	3,082,955,257	3,133,133,416
E	Portion of "Retail" kWh delivered by distributor to its Large Use Customer(s)	132,844,272	117,005,431	116,791,074	110,801,181	103,009,408	116,090,273
F	Net "Retail" kWh delivered by distributor = **D - E**	3,043,599,998	2,953,369,717	3,099,038,991	3,009,261,159	2,979,945,849	3,017,043,143
G	Loss Factor in Distributor's system = **C / F**	1.0304	1.0320	1.0265	1.0264	1.0194	1.0269
	Losses Upstream of Distributor's System						
H	Supply Facilities Loss Factor	1.0038	1.0037	1.0037	1.0034	1.0067	1.0042
	Total Losses						
I	Total Loss Factor = **G x H**	1.0342	1.0358	1.0303	1.0299	1.0262	1.0313

d) At what difference between the calculated loss factor and current approved loss factor would London Hydro consider it appropriate to perform an update?

LH Response:

Loss factor is at the best of times only a best guess estimates of multiple factors. Metrology is improving and London Hydro continually strives to reduce engineering losses. Other more uncontrollable gains or losses resulting from the likes of billing error, unmetered usage error or oversight to theft of power all can be factors. In the current regime of zero sum gain on commodity loss factor error creates generational inequity. London Hydro would propose that changes in the range of 25 basis points would be appropriate for correction. To that with the availability of time measured metering annual or bi-annual adjustments could be injected into the IRM process. Five year reviews may now be considered antiquated.

8-Staff-82

Ref 1: Exhibit 8, p. 12

London Hydro proposes to introduce RTSR charges on a kWh basis for GS>50kW, Co-Gen and Large User net-metering/community net metering customers. London Hydro notes that: "… a net metered customer should not incur RTSR on the basis that they do not in essence use transmission-based electricity in the same way as all other consuming customers."

a) Please confirm if the intent of London Hydro's proposal is to allow net-metered/community net-metered customers avoid paying RTSR charges altogether.

LH Response:

It is not London Hydro's intent to allow net-metered/community net-metered customers to avoid paying RTSR charges altogether. Residential and GS<50 kW customers both get relief from RTSR charges as they are based on kWh. By generating electricity into the grid at source they are not consuming energy that is imported with the help of high voltage transmission. The intent is to only level the net metering playing field.

b) Please explain why RTSR charges are unique and require this special treatment given that GS<50kW customers receive generation credits on a consumption basis for their monthly service charges as well, but not GS>50kW, Co-Gen and Large User demand billed customers.

LH Response:

The GS<50 kW customer enjoys an unfair benefit of having their distribution charges reduced on the basis that O Reg 541/05 allows all kWh charges to be applied to generation credit. This is unfair to both the residential customer on 100% fixed and larger commercial customers who have kW volumetric charges. Further it is unfair to the utility in that it creates a cross subsidy shortfall of revenue that has to be recovered from other customers. London Hydro notes that the O Reg 169/21 Community net metering regulation deals with this issue in a small way.

London Hydro is of the opinion that without amending the methodology for application of RTSR for large commercial customers that these customers are being treated unfairly. They are being charged for transmission on a consumption demand basis but not getting the credit for the electricity that is not imported from the provincial grid.

c) How has London Hydro ensured that its UTR costs are appropriately cost allocated to net-metering customers and non-net metering customers?

LH Response:

London Hydro would suggest that this is an oversight of O Reg's 541/05 and 169/21, which is beyond London Hydro's jurisdiction.

d) Please explain how the way net-metering customers uses transmission-based electricity is different than all other consuming customers. Specifically, please consider the scenario where a net-metered customer's generation does not reduce its peak demand (e.g. the generation occurs at a different time than when the load consumes electricity), but does, on a net-basis, convey more kWh to London Hydro's distribution system than it consumes. Under this scenario, if there is no reduction on London Hydro's peak demand from the transmission grid, wouldn't London Hydro incur the same UTR costs regardless of whether this particular customer had generation behind the meter?

LH Response:

Please refer to c) above.

8-Staff-83

For demand billed customers, any generation behind the meter should have the effect of reducing the demand on London Hydro's distribution system at the time of generation. Since current RTSR charges for demand billed customers are on a kW basis, the reduction in demand should correspondingly reduce the amount of RTSR charges billed, if it occurs at a time of the customer's peak demand.

a) Does London Hydro agree with the above statement? If so, please explain why demand billed net metering customers require additional relief from RTSR charges, and how this is fair from a cost allocation perspective.

LH Response:

Please reference London Hydro Response in 8-Staff-82c).

8-Staff-84

London Hydro's RTSR proposal would result in two separate RTSR charges for the GS>50kW, Co-Gen and Large User classes.

a) Please explain how London Hydro would ensure a fair cost allocation, particularly when customers could theoretically self-select their RTSR charge of choice to minimize their amounts billed (e.g. by introducing a nominally sized generator just to be billed on a kWh basis as a net-metering customer).

LH Response:

Please reference response in 8-Staff-82c)

8-Staff-85
Ref 1: Exhibit 8, p. 12

a) If London Hydro's proposal for kWh RTSRs for net-metering customers is approved, please confirm if London Hydro's Conditions of Service will be updated to reflect this change.

LH Response:

If London Hydro's proposal for kWh RTSRs for net-metering customers is approved, London Hydro confirms London Hydro's Conditions of Service will be updated to reflect this change.

Exhibit 9

9-Staff-86
Ref 1: Exhibit 9, p. 7
Ref 2: DVA continuity schedule

Regarding Account 1508 sub-account Pole Attachment Revenue Variance, London Hydro states that:

> The forecasted revenue variance for the period of January 1, 2021 to April 30, 2022 is added to the December 31, 2020 balance as principal adjustment in the model in order to dispose the full amount and close the account upon disposition.

Based on Table 9-4 in Reference 1, London Hydro forecasts a $(411,536) revenue variance in 2011 and $(137,179) revenue variance for four months of 2022.

a) Please confirm whether any of the carrying costs in the DVA continuity schedule were calculated on the forecast revenue variance from January 1, 2021, to April 30, 2022. If so, please update the DVA continuity schedule by removing the carrying costs associated with the 2021 and 2022 forecasted balances.
b) Please explain how London Hydro has estimated the forecast revenue variance in 2021 and four months in 2022.

LH Response:

a)

Table 9-4 in Reference 1 provides the reconciliation of the December 31, 2020 audited balances filed in 2.1.7 Trial Balance and the account balances reflected in the Continuity Schedule as of December 31, 2020.

London Hydro confirms the 2020 closing interest balance does not include carrying charges for Years 2021 and 2022 in the Continuity Schedule (Column BL). Only the principal adjustments are included in the 2020 closing principal balance in order to include them in the disposition (Column BG).

Carrying charges associated with the 2021 and 2022 principal adjustments were calculated outside of the Continuity Schedule and were manually added to the projected interest calculation for disposition (Columns BQ and BR) in the Continuity Schedule.

Detailed calculation of carrying charges on Pole Attachment Revenue Variance principal for the period of January 1, 2021 to April 30, 2022:

Date	Opening Revenue Variance Balance	Monthly Revenue Variance	Closing Revenue Variance Balance	Days	Interest Rate	Carrying Charges	Cumulative Carrying Charges	Account Closing Balance
Dec-20	(807,072)	(34,315)	(841,387)	31	0.57%	$ (391)	$ (12,516)	$ (853,902)
Jan-21	(841,387)	(34,295)	(875,681)	31	0.57%	$ (407)	$ (12,923)	$ (888,604)
Feb-21	(875,681)	(34,295)	(909,976)	28	0.57%	$ (383)	$ (13,306)	$ (923,282)
Mar-21	(909,976)	(34,295)	(944,271)	31	0.57%	$ (441)	$ (13,746)	$ (958,017)
Apr-21	(944,271)	(34,295)	(978,565)	30	0.57%	$ (442)	$ (14,189)	$ (992,754)
May-21	(978,565)	(34,295)	(1,012,860)	31	0.57%	$ (474)	$ (14,662)	$ (1,027,522)
Jun-21	(1,012,860)	(34,295)	(1,047,154)	30	0.57%	$ (475)	$ (15,137)	$ (1,062,291)
Jul-21	(1,047,154)	(34,295)	(1,081,449)	31	0.57%	$ (507)	$ (15,644)	$ (1,097,093)
Aug-21	(1,081,449)	(34,295)	(1,115,744)	31	0.57%	$ (524)	$ (16,167)	$ (1,131,911)
Sep-21	(1,115,744)	(34,295)	(1,150,038)	30	0.57%	$ (523)	$ (16,690)	$ (1,166,729)
Oct-21	(1,150,038)	(34,295)	(1,184,333)	31	0.57%	$ (557)	$ (17,247)	$ (1,201,580)
Nov-21	(1,184,333)	(34,295)	(1,218,628)	30	0.57%	$ (555)	$ (17,802)	$ (1,236,429)
Dec-21	(1,218,628)	(34,295)	(1,252,922)	31	0.57%	$ (590)	$ (18,392)	$ (1,271,314)
Jan-22	(1,252,922)	(34,295)	(1,287,217)	31	0.57%	$ (607)	$ (18,998)	$ (1,306,215)
Feb-22	(1,287,217)	(34,295)	(1,321,512)	28	0.57%	$ (563)	$ (19,561)	$ (1,341,073)
Mar-22	(1,321,512)	(34,295)	(1,355,806)	31	0.57%	$ (640)	$ (20,201)	$ (1,376,007)
Apr-22	(1,355,806)	(34,295)	**(1,390,101)**	30	0.57%	$ (635)	**$ (20,836)**	**$ (1,410,937)**

The closing interest as of December 31, 2020 is ($12,516) as filed in the RRR 2.1.7 Trial Balance. The projected interest for the periods of January 1, 2021 to December 31, 2021 and January 1, 2022 to April 30, 2022 in the amount of ($5,876) and ($2,444), respectively, included in the total interest refund proposed for disposition ($20,836) in the Continuity Schedule (Column BS), as well as in Table 9-13 Pole Attachment Revenue Variance Balance Proposed for Disposition of Exhibit 9, Page 24, Line 18.

b)

LH expects the same quantity of pole rentals in 2022 as in 2021. The amount going into the variance account in the 2022 calculations has been pro-rated for 4 months only,

since LH's new rates become effective on May 1, 2022. This is therefore contributing to the approximately 60% increase in pole rental revenue in 2022 compared to 2021.

On March 22, 2018, the OEB issued the "Report on Wireline Pole Attachment Charges", updating the OEB's approach to wireline pole attachments, which resulted in an increase in the pole attachment rate to be charged, effective September 1, 2018.

Because the increase in the pole attachment charge resulted in LH earning revenue above what is reflected in our current distribution rates (EB-2016-0091), the excess incremental revenue has been recorded in a variance account (Account 1508 Sub Account – Pole Attachment Revenue Variance), with the accumulated balance ultimately being refunded to ratepayers via this current cost-based rate application.

Calculations for 2021 and 2022 pole rental revenue are outlined below.

Explanations of Calculations:

Billing Rate: Rate used to invoice customer

Total Billing: Billing Rate x Quantity

Permitted Rate: As per LH'S current distribution rates (EB-2016-0091)

Permitted Amount: Permitted Rate x Quantity

Variance Amount: Total Billing less Permitted Amount (incremental revenue recorded in Account 1508, Sub Account – Pole Attachment Revenue Variance)

2021 Pole Rental Calculation

Rate Type	Description	Qty	Billing Rate	Total Billing	Permitted Rate	Permitted Amount	Variance Amount
Province-wide pole attachment charge (included in 2017 Rate Application)*	Used when no distributor-specific charge is in place	18,380	$ 45.39	$ 834,268	$ 22.35	$ 410,793	$ 423,475
Province-wide pole attachment charge (new since 2017 Rate Application)	Used when no distributor-specific charge is in place	1,688	$ 45.39	$ 76,618	$ 45.39	$ 76,618	$ -
Single customer - Attachments overlashed	Per individual Joint Use Agreement (25% of full fee)	356	$ 11.35	$ 4,040	$ 5.59	$ 1,989	$ 2,051
Single customer - Pole attachment charge	Per individual Joint Use Agreement	54	$ 86.96	$ 4,696	$ 47.82	$ 2,582	$ 2,113
Single customer - Power supplies (attachments outside the communications space)	Per individual Joint Use Agreement ($3.75 in 2019, adjusted based on IPI)	846	$ 3.91	$ 3,305	$ 3.91	$ 3,305	$ -
TOTALS		**21,324**		**$ 922,927**		**$ 495,288**	**$ 427,639**

**per LH Rate Application EB-2016-0091*

2021 Revenue $ 495,000

2022 Pole Rental Calculation

					Jan. 1 - April 30 only			*May 1 - Dec. 31 (new rates)*		
Rate Type	Description	Qty	Billing Rate	Total Billing	Permitted Rate	Permitted Amount	Variance Amount	Permitted Rate	Permitted Amount	Variance Amount
Province-wide pole attachment charge (included in 2017 Rate Application)*	Used when no distributor-specific charge is in place	18,380	$ 46.30	$ 850,954	$ 22.35	$ 136,931	$ 146,720	$ 46.30	$ 567,302	$ -
Province-wide pole attachment charge (new since 2017 Rate Application)	Used when no distributor-specific charge is in place	1,688	$ 46.30	$ 78,151	$ 46.30	$ 26,050	$ -	$ 46.30	$ 52,100	$ -
Single customer - Attachments overlashed	Per individual Joint Use Agreement (25% of full fee)	356	$ 11.57	$ 4,121	$ 5.59	$ 663	$ 710	$ 11.57	$ 2,747	$ -
Single customer - Pole attachment charge	Per individual Joint Use Agreement	54	$ 86.96	$ 4,696	$ 47.82	$ 861	$ 704	$ 86.96	$ 3,130	$ -
Single customer - Power supplies (attachments outside the communications space)	Per individual Joint Use Agreement ($3.75 in 2019, adjusted based on IPI)	846	$ 3.98	$ 3,371	$ 3.98	$ 1,124	$ -	$ 3.98	$ 2,247	$ -
TOTALS		**21,324**		**$ 941,291**		**$ 165,629**	**$ 148,135**		**$ 627,528**	**$ -**

**per LH Rate Application EB-2016-0091*

2022 Revenue $ 793,000

9-Staff-87
Ref 1: London Hydro's 2017 Cost of Service Application EB-2016-091, Accounting Order - OPEB Forecast Cash versus Forecast Accrual Differential Deferral Account
Ref 2: Exhibit 9, p. 27

The accounting order included in London Hydro's 2017 decision and order stated that:

> London Hydro shall establish the "OPEB Forecast Cash versus Forecast Accrual Differential Deferral Account" for the purpose of recording the difference in revenue requirement each year between both the capitalized and OM&A components of OPEBs accounted for using a forecasted cash basis (as to be reflected in rates if this settlement is accepted by the Ontario Energy Board) and the capitalized and OM&A components of OPEBs accounted for using a forecasted accrual basis.

London Hydro proposes the disposition of $891,000 in OPEB forecast cash versus accrual differential deferral account in this application.

In Reference 2, London Hydro states that:

> London Hydro intends to discontinue the account upon disposition and therefore, forecasted the 2021 differential in the amount of $132,000 and included in the disposition request. London Hydro notes that this estimate will likely be updated when the actuarial valuation report is received from Mercer in mid-January 2022.

a) Please confirm that London Hydro will update the 2021 estimated OPEB costs based on the 2021 actuarial valuation report. If not, please explain how London Hydro will address the variance between the estimated 2021 OPEB costs and the updated 2021 OPEB costs based on the actuarial report.

LH Response:

London Hydro confirms it will update the 2021 OPEB costs based on the actuarial valuation report when received in mid-January 2022 if a final agreement on rates has not been reached.

9-Staff-88

Ref 1: Exhibit 9, p. 9-10
Ref 2: OEB's Report for Impacts Arising from the COVID-19 Emergency, June 17, 2021 (COVID Report)
Ref 3: Exhibit 9, p. 28-33
Ref 4: OEB's letter re "Enhanced Funding for LEAP Emergency Financial Assistance for 2020", June 17, 2020

London Hydro provides a reconciliation table between the requested balance in Account 1509 COVID-19 Impacts accounts and the reported balance in RRR 2.1.7 as below:

Account Description	Account Number	Principal Net Accruals / Variances Dec. 31, 2020	Carrying Charges to Dec. 31, 2020	Audited Ending Balances at Dec. 31, 2020	As filed in RRR 2.1.7 as of Dec. 31, 2020	Variance RRR vs. 2020 Balance (Principal + Interest)
Impacts Arising from the COVID-19 Emergency						
COVID-19 Impacts - Postponing Rate Implementation	1509	$ 507,421	$ 1,396	508,817	$ 508,817	$ -
Adjustment to record recoveries in 2021	1509	$ (496,157)		(496,157)		$ 496,157
COVID-19 Impacts - Government/OEB Initiated Customer Relief Impacts	1509	$ 1,645,397	$ 5,199	1,650,595	$ 1,650,595	$ -
COVID-19 Impacts - Bad Debts	1509	$ 422,553	$ 1,705	424,258	$ 424,258	$ -
COVID-19 Impacts - Other Costs	1509	$ 502,919	$ 1,703	504,621	$ 504,621	$ -
Adjustments based on OEB Report: Regulatory Treatment of Impacts Arising from the COVID-19 Emergency - EB-2020-0133	1509	$ (1,264,919)	$ (4,246)	(1,269,165)		$ 1,269,165
TOTAL Account	**1509**	**$ 1,317,214**	**$ 5,756**	**$ 1,322,970**	**$ 3,088,292**	**$ 1,765,322**

London Hydro states that:

> Balances in Sub-accounts Government/OEB initiated Customer Relief Impacts, Bad Debts and Other Costs were adjusted based on OEB Report of Regulatory Treatment of Impacts Arising from the COVID-19 Emergency - EB-2020-0133.

Page 38 of OEB's Report of Regulatory Treatment of Impacts Arising from the COVID-19 Emergency (the Report), dated June 17, 2021, states that:

> The OEB will maintain the effective date of March 24, 2020 indicated in the accounting orders establishing this Account. The OEB does not expect utilities to have incurred material, if any, incremental costs from the pandemic prior to this date. The OEB confirms that the Account will remain in effect until the utility's subsequent rebasing application, when it is reasonable to presume that rates may be reset reflecting the revised operating conditions facing the utility.

In Reference 3, London Hydro states that as of July 31, 2021, there was an uncollected balance in the sub-account Postponing Rate Implementation of $13,455 and London Hydro is requesting disposition of this amount.

London Hydro is requesting the disposition of additional three sub-account balances as below:

COVID-19 EMERGENCY DEFERRAL ACCOUNT				
Description	Gov./OEB Initiated Customer Relief Impacts	Bad Debts	Other Costs	Total Amounts to Dec. 31, 2020
Waived late payments charges	683,397			683,397
Bad debts		422,553		422,553
LEAP funding			200,000	200,000
Carrying charges (to April 30, 2022)	7,417	4,906	1,929	14,251
	690,814	**427,459**	**201,929**	**1,320,201**

Regarding the Leap funding, London Hydro states that “London Hydro provided an additional contribution of $200,000, double the Company’s usual payment.

In Reference 4, the OEB states that:

> Distributors may make a one-time increase to LEAP EFA funding by a maximum of 50% of their 2020 fiscal year funding amount. The additional funding is to be made available to agencies for use in the LEAP EFA for 2020.
>
> Distributors that choose to increase funding that will be tracked in the Impacts Arising from the COVID-19 Emergency Account are required to advise the OEB that they are doing so, including the additional funding amount. Distributors are also reminded that they may continue, at their choice, to provide additional (non-recoverable) donations to supplement their LEAP EFA funds.

a) For Account 1509 sub-account Postponing rate impacts, please explain the adjustment of $496,157, citing any relevant section of the OEB’s Report.

b) Please provide a break down for the adjustment of ($1,264,919) to the adjustments in each sub-account and explain each adjustment by linking to the relevant criteria in the OEB’s Report.

i) Please discuss London Hydro's eligibility to claim amounts for the remaining balances in these three sub-accounts, in particular the means test and the applicable recovery rates for these accounts.

c) Please confirm that all costs recorded in the four sub-accounts under Account 1509 were incurred after March 24, 2020. If not confirmed, please list the costs in each sub-account that were incurred prior to March 24, 2020.

d) For the leap funding of $200,000 requested in the sub-account, please discuss:

i) Whether London Hydro has advised the OEB of the increased funding. If not, why not?

ii) Whether the additional funding made by London Hydro meets the requirements by the OEB in its letter dated July 17, 2020. If not, please update the requested balance in accordance with the OEB's letter.

LH Response:

a) The $496,157 adjustment represents the revenues collected during Year 2021 from the approved Rate Riders for Recovery of COVID-19 Forgone Revenue from Postponing Rate Implementation, which were in effect from November 1, 2020 until April 30, 2021. The revenues were recorded according to Section 3 of the Foregone Revenue Guidance issued by the OEB on August 6, 2020. The residual balances after the expiry of the rate riders should be requested for final disposition in a future rate application once the balance has been audited in accordance with normal deferral and variance account disposition practices. The residual balance of Account 1509 Impacts Arising from the COVID-19 Emergency, Sub-account Postponing Rate Implementation has not been audited yet, therefore, London Hydro withdraws the claim for the $13,455.17, and will submit it for disposition once the residual balance has been audited. The updated 2022 Continuity Schedule reflects this change.

b) The adjustment in Account 1509 includes:

Principal Adjustment for	Amount	
Impact of loss of load	$ (962,000)	Section 4.3.4
Other incremental OM&A expenses associated with complying with various government-mandated rules and protocols including physical distancing and enhanced health protocols	$ (302,919)	Sections 4.2, 4.3.2
	$ (1,264,919)	

Lost revenue associated with loss of load in the amount of $962,000 was reversed which was previously recorded in Sub-account Lost Revenues, according the Section 4.3.4 of the OEB's report.

In Section 4.3.4 of the OEB's Report of Regulatory Treatment of Impacts Arising from the COVID-19 Emergency (the Report), the OEB states that it will not permit the impacts of differences in load to be recorded in Account 1509.

Section 4.2 of the Report determines the type of costs eligible and the recovery of such eligible costs. London Hydro had occurred additional incremental costs in the amount of $302,919 associated with complying with various government-mandated rules and protocols, including physical distancing and enhanced health protocols, that it recorded in Sub-account Other Costs. These costs are not included in the Exceptional Pool of costs under Section 4.2.2. They are also have not reached the materiality level established for London Hydro which is a requirement under section 4.3.2. Therefore, London Hydro removed these incremental costs from Sub-account Other Costs and Savings and does not propose for recovery in this application.

i) The OEB, in its Report, determined that recovery of balances recorded in Account 1509 should be subject to evidence that the costs are reasonable and necessary for the utility to maintain its opportunity to earn a fair return over the long run. The OEB considers the mean test as an appropriate mechanism to gauge whether utilities have been able to maintain their

opportunity to earn a fair return over the long run despite the impact of the pandemic.

In Section 4.1, the OEB determined that utilities should be required to demonstrate that they require the use of Account 1509 by way of the means test, and that a standardized means test is appropriate. The OEB will apply a means test to recoveries in Account 1509 based on the achieved ROE compared to the utility's OEB-approved ROE less 300 bps. This test applies to all costs recorded in Account 1509, other than costs recorded in the Exceptional Pool.

London Hydro confirms the costs it proposes for disposition are included in the Exceptional Pool of Eligible Amounts. The expenses are: lost revenues from waived late payment charges, incremental bad debt expense, and increased LEAP funding. The OEB also states in its Report that the Exceptional Pool of costs are eligible for recoveries up to 100% provided they are material and prudently incurred, as well they are subject to an ROE plus 300 bps limitation. The costs are clearly not recovered in the current base rates, directly attributable to the pandemic, and the amount exceeds London Hydro's materiality threshold.

Under section 5.2 Cost Allocation and Rate Design, the OEB also determined that the allocation of the amounts be based on the distribution revenue by rate class approved by the OEB in the utility's last cost-based rate case, and the utility should recover the amounts based on a monthly fixed charge using recent actual customer numbers. London Hydro allocated costs in Account 1509 based on the distribution revenue by rate class and proposed recovery based on a monthly fixed charge in its updated 2022 DVA Continuity Schedule.

c) London Hydro confirms that all costs recorded in the four sub-accounts under Account 1509 were incurred after March 24, 2020.

d) LEAP funding:

i) London Hydro did not advise the OEB of additional LEAP funding. London Hydro reported the additional $200,000 LEAP funding in RRR E 2.1.16 LEAP Emergency Financial Assistance under section Enhanced LEAP Funding Available to Social Agencies.

The reason that London Hydro didn't advise the OEB as to the additional payment outside of the RRR filing is that there was never a request to do so that London Hydro staff remember from any of the correspondence or phone calls in which London Hydro participated. LEAP funding was discussed during at least one of the calls with OEB staff and LDC participants and the instruction given from OEB staff (although we can not cite the specific staff member or the date of the call from memory) was that any additional LEAP contributions may be eligible for recovery and should be tracked within the deferral account. There was no direction or request to advise the OEB if, or when, and the amount of any additional LEAP contributions.

ii) The OEB's letter re Enhanced Funding for LEAP Emergency Financial Assistance for 2020, issued on June 17, 2020, states that the OEB is approving an increase in the amount a distributor may recover for the purpose of contributing to LEAP EFA funding for 2020. It also states that the distributors may make a one-time increase to LEAP funding by a maximum of 50% of their 2020 fiscal year funding.

London Hydro's annual Board approved LEAP contribution is $200,000 which was provided to its social agency for LEAP emergency financial

assistance. *Ref. London Hydro's 2017 Cost of Service Application (EB-2016-0091), Exhibit 4, Tab 1, Schedule 5, on Pages 442-443 Low Income Energy Assistance Programs ("LEAP") section*.

London Hydro received approval from it's Board of Director's to provide an additional $200,000 LEAP funding to its social agency in 2020 recognizing the greater need to help its customers to manage the impact of the pandemic. This decision was reached prior to the June 17, 2020 letter which specified the acceptable criteria for reimbursement. Due to the exceptional circumstances created by the COVID-19 emergency, that resulted in the increase in the number of customers who required additional financial assistance, London Hydro respectfully requests the consideration of the additional LEAP funds in its proposal for recovery.

London Hydro has historically taken the approach to request an increased LEAP funding over the prescribed minimum calculation as it provides a mechanism for low-income customers to access funds which allows their accounts to be paid when otherwise they would be disconnected. Either London Hydro reduces the LEAP funding amounts, and more customers are disconnected for non-payment (when outside of the disconnection moratorium) which increases bad debt expenses, or customers utilize the increased LEAP funding available and do not have to suffer when their power is disconnected.

If London Hydro had only increased LEAP funding to 50% of their annual contributions ($100,000) which was guidance provided 4 months after the decision and communication had been provided to the LEAP agency, rather than the $200,000; it is estimated that the bad debt expenses would have been $100,000 higher than what is submitted in the proposal. On a "global" perspective, London Hydro estimates that the total amount requested in the COVID deferral account would have been identical.

9-Staff-89

Ref 1: Exhibit 9, p. 11-12

London Hydro states that:

> The principal balance of Account 1592 PILs and Tax Variance for 2006 and Subsequent Years – Sub-account CCA Changes was adjusted with the difference resulted from the change in the method of calculation of the amounts due to customers. The difference was entered as principal adjustment in Year 2020.

OEB staff notes that the adjustment entered is ($114,178).

a) Please elaborate on the adjustment of ($114,178) for the change in the method of calculation of the amounts due to customers.

LH Response:

a) London Hydro updated the calculation of amounts due to customers from utilizing the 2017 approved budget as base, to using the actual differences during the interim years. The update resulted in a ($114,178) adjustment to the balance of Account 1592 PILs and Tax Variance – Sub-account CCA Changes.

9-Staff-90

Ref 1: GA Analysis Workform
Ref 2: OEB's Letter of Accounting Guidance for IESO Charge Type 2148

London Hydro's GA Analysis workform contains three reconciling items as follows:

#	Reconciling Item	$	Explanation
4	CT 2148 for prior period corrections	$(103,276)	IESO Inv
5	Impacts of GA deferral	$(254,144)	Line loss volume variance for April - June 2020
8	Differences in GA IESO posted rate and rate charged on IESO invoice	$(377,075)	Difference between paid GA rate and published Final GA Rate

In Reference 2, the OEB states that:

> All prior period adjustments to global adjustment, which are charged to Wholesale Market Participants for Class B load quantities, are captured in charge type 148 and are expected to be reflected in the actual global adjustment price posted by the IESO. The invoiced global adjustment price (charge type 148 only) will generally equal the posted global adjustment price. An exception to this would be when there are consumption changes between preliminary and final settlement statements due to meter data updates and/or IESO system issues. These changes are not expected to be significant, but if they are significant, the IESO will provide a reconciliation between the posted and invoiced global adjustment price.

The OEB's letter in Reference 2 further states that "Distributors are expected to incorporate the portion of RPP global adjustment from charge type 2148 in their RPP settlement claims".

a) Please provide the supporting calculation (including the rates and consumption totals) for the impact of GA deferral of $(254,144) by month from April to June 2020.

b) Please confirm that London Hydro has reflected the RPP potion of the CT2148 in the RPP settlement claims.

c) The OEB's letter indicated that the CT 2148 is to deal with the differences between the IESO posted GA rates and the actual charged rates to distributors. Please explain how the reconciling item of $(377,075) is different than the reconciling item for the CT 2148.

d) Please provide a calculation showing how the reconciling item of ($377,075) is derived.

LH Response:

a) The impact of GA Deferral representing line loss volume variance was calculated using the methodology described in the instructions for Note 4 of the GA Analysis Work Form. London Hydro prepared the calculation of the weighted average of GA paid price ($/kWh) for the months of April to June 2020 as "Non-RPP portion of CT 148 divided by the Non-RPP Class B wholesale kWh.

Calendar Month	Non-RPP Class B Wholesale kWh Purchased*	Non-RPP Class B Incl. Loss Adjusted Cons., Adjusted for Unbilled (kWh)	Differences in actual system losses and billed TLFs	Non-RPP portion of CT 148**	WA GA Paid Price	Note 5. Impact
	A	B	C=A-B	D	E=D/A	F=C*E
April	64,058,145	63,872,164	185,981	$ 9,687,944		
May	70,293,460	70,173,327	120,133	$ 10,364,909		
June	78,538,889	77,070,181	1,468,708	$ 10,431,787		
Total	**212,890,495**	**211,115,672**	**1,774,822**	**$ 30,484,640**	**$ 0.14319**	**$ 254,144**

*Equal to (AQEW - Class /a + Embedded generation kWh) * (Non-RPP Class B retail kWh / Total retail Class B kWh) for the period of April to June 2020
**Equal to Non-RPP Class B $ GA paid for the period of April to June 2020 (i.e. Non-RPP portion of CT 148 on the IESO invoice)

During the months of April to June 2020, the GA paid price to the IESO for Non-RPP consumption is reduced by the GA deferral credits, and therefore, the calculation of the weighted average of GA paid price should have included those credits for the reconciliation of impact of GA deferral in Note 5.

The revised calculation of the Impacts of GA deferral for the months of April to June 2020, including line loss volume variance, where the GA deferral amount included in CT 148 for the weighted average GA paid price calculation resulted in $203,003. Note 5 in the GA Work Form is updated accordingly.

Calendar Month	Non-RPP Class B Wholesale kWh Purchased*	Non-RPP Class B Incl. Loss Adjusted Cons., Adjusted for Unbilled (kWh)	Differences in actual system losses and billed TLFs	Non-RPP portion of CT 148	GA Deferral Amount for Non-RPP Credit to CT148	Non-RPP portion of GA Cost (CT 148 adjusted with deferral)**	WA GA Paid Price	Note 5. Impact
	A	B	C=A-B	D	E	F=D+E	E=D/A	F=C*E
April	64,058,145	63,872,164	185,981	$ 9,687,944	$ (2,231,685)	$ 7,456,259		
May	70,293,460	70,173,327	120,133	$ 10,364,909	$ (2,496,520)	$ 7,868,389		
June	78,538,889	77,070,181	1,468,708	$ 10,431,787	$ (1,406,200)	$ 9,025,587		
Total	**212,890,495**	**211,115,672**	**1,774,822**	**$ 30,484,640**	**$ (6,134,405)**	**$ 24,350,236**	**$ 0.11438**	**$ 203,003**

*Equal to (AQEW - Class /a + Embedded generation kWh) * (Non-RPP Class B retail kWh / Total retail Class B kWh) for the period of April to June 2020
**Equal to Non-RPP Class B $ GA paid for the period of April to June 2020 (i.e. Non-RPP portion of CT 148 on the IESO invoice)

b) London Hydro was charged $103,276 under CT 2148 by the IESO in July 2020. This prior period adjustment was identified relating to a Class B Non-RPP customer, and therefore, no proportion was allocated to RPP variances or settlement claims. The July 2020 settlement calculation of GA Paid Rate included CT 148 only in that submission.

London Hydro confirms it will reflect the RPP portion of the $103,276 charged under CT 2148 in the RPP settlement claim and will submit it to the IESO on the fourth working day in December 2021, according to the *Accounting Guidance for IESO Charge Type 2148*.

Principal adjustment is required for the allocation of CT 2148 RPP portion in the amount of $70,031 from Account 1589 to Account 1588 for Year 2020. The adjustment is reflected in the updated GA Work Form and in the updated Continuity Schedule for both Accounts 1588 and 1589.

London Hydro confirms it updated its settlement work book to include CT 2148, in the event it occurs in the future, as well as its GA cost allocation process.

c) Reconciling Item 8 in Note 5 represents the difference in the IESO published Actual GA Rate and the GA per kWh charged to London Hydro on the IESO invoices for Year 2020. The Paid GA rate is calculated by Class B Non-RPP portion of CT 148 divided by the Class B Non-RPP wholesale kWh. The amount charged under CT 2148 was not included in this analysis. The difference between the IESO published Actual GA rate and the calculated Paid GA rate is reflected in response d) for each affected month.

Reconciling item 4 in Note 5 represents a one-time prior period adjustment, as CT 2148 on the IESO invoice in July 2020 only.

d) The calculation of Note 5 Reconciling Item 8:

Calendar Month	Non-RPP Class B Wholesale kWh Purchased*	Non-RPP portion of CT 148	GA Actual Rate Paid: CT 148 / Non-RPP Class B wholesale kWh	GA Actual Price Published by the IESO	Difference between Published GA and Paid GA	Note 8. Difference in GA IESO posted rate and rate charged
	A	B	C=B/A	D	E=C-D	F=C*E
January	88,859,537	$ 9,076,113	$ 0.10214	$ 0.10232	$ (0.00018)	$ (15,995)
February	80,617,773	$ 9,184,783	$ 0.11393	$ 0.11331	$ 0.00062	$ 49,983
March	76,311,982	$ 9,189,489	$ 0.12042	$ 0.11942	$ 0.00100	$ 76,312
April	64,058,145	$ 7,456,065	$ 0.11640	$ 0.11500	$ 0.00140	$ 89,378
May	70,293,460	$ 7,867,665	$ 0.11193	$ 0.11500	$ (0.00307)	$ (216,082)
June	78,538,889	$ 9,025,896	$ 0.11492	$ 0.11500	$ (0.00008)	$ (6,076)
July	96,434,173	$ 9,576,878	$ 0.09931	$ 0.09902	$ 0.00029	$ 27,966
August	91,908,813	$ 9,604,471	$ 0.10450	$ 0.10348	$ 0.00102	$ 93,747
September	75,235,501	$ 9,264,500	$ 0.12314	$ 0.12176	$ 0.00138	$ 103,825
October	75,808,160	$ 9,805,786	$ 0.12935	$ 0.12806	$ 0.00129	$ 97,793
November	72,700,546	$ 8,588,843	$ 0.11814	$ 0.11705	$ 0.00109	$ 79,244
December	75,478,853	$ 7,966,038	$ 0.10554	$ 0.10558	$ (0.00004)	$ (3,019)
Total	**946,245,832**	**$ 106,606,526**				**$ 377,075**

9-Staff-91

Ref 1: DVA continuity schedule

London Hydro requests the disposition of $233,271 in Account 1508 sub-account OEB cost assessment, comprising of $216,377 for the 2016 cost assessment variance and $16,894 carrying charges.

a) Please provide the calculation for the 2016 cost assessment variance of $216,377.

LH Response:

a)

For London Hydro, the amount of OEB cost assessment fees included in 2016 rates is $402,200, based on the 2013 COS Decision and Rate Order (EB-2012-0146). The monthly approved amount in the 2016 rates is calculated as 1/12th of the annual approved OEB cost assessment amount.

OEB Cost Assessments	**$**	**402,200**
Other Regulatory Items	$	15,000
2013 COS regulatory expenses as approved	$	417,200
Monthly approved amount in rates	**$**	**33,517**

The quarterly OEB assessment costs invoiced to London Hydro totalled to $518,030 for the period of April 1, 2016 to December 31, 2016. The monthly amount is calculated as 1/3rd of the quarterly invoice.

OEB Invoice Number	Assessment under Ontario Regulation 16/08 for the period of	Cost Assessment Amount	
16171051	April 1 to June 30, 2016	$	172,682
16172051	July 1 to September 30, 2016	$	172,682
16173051	October 1 to December 31, 2016	$	172,666
TOTAL		**$**	**518,030**

London Hydro calculated the variance between the amount included in its 2016 rates and the OEB cost assessments for the period of April 1, 2016 to December 31, 2016.

Date	Opening Principal Balance	OEB Invoice Number	OEB Monthly Cost Assessment under Ontario Reg. 16/08	OEB Fees included in approved rates	Monthly Variance	Closing Principal Balance
Jan-16						$ -
Feb-16	$ -					$ -
Mar-16	$ -					$ -
Apr-16	$ -	16171051	$ 57,561	$ 33,517	$ 24,044	$ 24,044
May-16	$ 24,044	16171051	$ 57,561	$ 33,517	$ 24,044	$ 48,088
Jun-16	$ 48,088	16171051	$ 57,560	$ 33,517	$ 24,043	$ 72,131
Jul-16	$ 72,131	16172051	$ 57,561	$ 33,517	$ 24,044	$ 96,175
Aug-16	$ 96,175	16172051	$ 57,561	$ 33,517	$ 24,044	$ 120,219
Sep-16	$ 120,219	16172051	$ 57,560	$ 33,517	$ 24,043	$ 144,262
Oct-16	$ 144,262	16173051	$ 57,555	$ 33,517	$ 24,038	$ 168,300
Nov-16	$ 168,300	16173051	$ 57,555	$ 33,517	$ 24,038	$ 192,338
Dec-16	$ 192,338	16173051	$ 57,556	$ 33,517	$ 24,039	**$ 216,377**

9-Staff-92
Ref 1: Exhibit 9, p. 49
Ref 2: Exhibit 2, p. 82
Ref 3: EB-2017-0059

London Hydro's actual JD Edwards project cost is $2.6M, which is contributing a positive (debit) variance to its ACM revenue requirement variance because it is higher than the original forecast cost of $2.0M.

In Exhibit 2, London Hydro notes that the JD Edwards project was over budget because it chose to implement additional functionality that was not included in the scope of what was originally presented to the OEB. In its 2017 rebasing application, the OEB approved the ACM projects including the JD Edward upgrade which has an estimated cost of $2.0M. In its 2018 IRM application, London Hydro presented a project cost of $2.0M to calculate the ACM rate riders.

a) Please confirm that the additional functionality of the JD Edwards system was not included in London Hydro's 2017 rebasing application nor approved by the OEB in that proceeding.
b) Please confirm that the additional functionality was not presented, nor the scope of the project revised, in London Hydro's 2018 IRM application.
c) If a) and b) are confirmed, please confirm that the spending on the additional functionality is not in the scope of the ACM. Please estimate the cost of the JD Edwards project by excluding the additional functionality and recalculate the ACM true-up variance in Account 1508.
d) If no to any of the questions above, please provide more information.

LH Response:

a) The original $2.0M budget was based on an E&Y study and was a like-for-like upgrade, which did not include any additional functionality or enhancements. During the project implementation, enhancements were made to augment system capabilities. These were done within the overall JDE Upgrade project timeline and implementation. They were not regarded as a separate project, but rather additional functionalities that were initiated alongside the regular like-for-like upgrade requirements. Including these additional features in the JDE Upgrade project Statement of Work also achieved savings for LH customers,

compared to implementing these as a separate stand-alone project (which would require a separate RFP, Statement of Work, potentially a different vendor, etc.).

b) London Hydro confirms that in its 2018 IRM application (EB-2017-0059), no additional amounts were presented, nor was the scope of the project revised, as compared to the approved amounts from the 2017 Cost of Service approved Settlement Proposal (EB-2016-0091).

c) The additional functionality was considered part of the overall project upgrade and implementation, and therefore was not out of scope of the ACM. Please refer to 2-SEC-15 for cost estimates surrounding the additional functionality.

d) Explained in part (a) above.

9-Staff-93
Ref 1: Exhibit 9, p. 49
Ref 2: Exhibit 2, p. 81
Ref 3: EB-2017-0059

London Hydro was approved to recover $7.17M through an ACM for the Nelson TS project. There was originally forecasted to be an additional $1.45M to be paid to Hydro One in 2021 as a final reconciliation amount after Hydro One finished related decommissioning work at Nelson TS. However, it was determined in 2021 that Hydro One would be instead returning $1.75M to London Hydro for this project because actual costs were much lower than originally forecast.

For the purpose of calculating the ACM true-up, London Hydro has calculated the revenue requirement on this project based on an initial capital addition of $7.3M in 2018 for the years 2018-2020. For 2021, London Hydro included a capital offset of $1.75M to reflect the refund from Hydro One.

a) Please explain whether the reduction in project costs is attributable to the rebuild of Nelson TS (i.e. the $7.17M amount) or the decommissioning work at Nelson TS (i.e. the $1.45M amount).
b) Please explain when Hydro One communicated to London Hydro that it would be refunding London Hydro $1.75M and provide a copy of the document(s) for these communications.
c) Please explain why London Hydro chose to not calculate the actual revenue requirement of this project by including the $1.75M refund as an offset in 2018, rather than 2021, since the actual cost of the project, which went in-service in 2018, is now lower.
d) Please discuss London Hydro's view on the appropriateness of recovering a higher return on equity, as part of the revenue requirement, from customers on the $1.75M additional amount from 2018-2021 because the $1.75M refund was recorded as an offset to the asset in 2021 instead of being accrued as an offset to the asset in 2018.

LH Response:

a) The reduction in project costs is attributable to the rebuild of Nelson TS (i.e. the $7.17M amount).

b) Hydro One informed London Hydro via email on March 3, 2021 indicating that London Hydro would be receiving a refund.

The related correspondence is enclosed in 9-Staff-93 Attachment 1 -Project Status Update, and 9-Staff-93 Attachment 2 -Project Status Report - 2020 Q4 - London Hydro Inc - Nelson TS Refurbish.

c) London Hydro had no knowledge of a potential refund prior to March 3, 2021, and calculated the actual revenue requirement of the project based on the actual expenditures in each year. London Hydro received the refund in October 2021.

d) London Hydro recalculated the actual revenue requirement recording the $1.75M refund in March 2021, when it was first informed of the potential refund. The refund to customers is $455,608.

ACM Net Revenue Requirement True-Up	**Nelson TS Capital Contribution**
Actual Revenue Requirement	$ 1,709,215
Rate Rider Revenues incl. interest (actual and forecast)	$ (2,164,823)
Over/Under recovery	$ (455,608)

9-Staff-94
Ref 1: Exhibit 9, p. 37-38
Ref 2: Exhibit 2, p. 81-82

London Hydro is requesting disposition of last audited balances as of December 31, 2020 in Account 1592 sub-account CCA changes. London Hydro is also requesting that this account remain open to capture upcoming savings for the year ending December 31, 2021 as well as incremental income tax costs for the forthcoming years ending December 31, 2024 to December 31, 2026 as a result of the AIIP phase-out during the period 2024 to 2027.

Table 9-20: Summary of Tax Savings Due to Customers

CCA CHANGES TAX SAVINGS DUE TO CUSTOMERS					
Taxation period	CCA including Accelerated CCA Incentive	CCA excluding Accelerated CCA Incentive	Accelerated CCA Incentive Savings	Income Tax @ 26.5%	Grossed Up / 73.5%
	$	$	$	$	$
Jan 1 to Dec 31, 2018 (effective Nov 1, 2018)	23,438,737	22,267,776	1,170,961	310,305	422,183
Jan 1 to Dec 31, 2019	28,548,208	23,983,163	4,565,045	1,209,737	1,645,901
Jan 1 to Dec 31, 2020	27,297,536	24,658,604	2,638,932	699,317	951,452
Balance December 31, 2020	79,284,481	70,909,543	8,374,938	2,219,359	3,019,536
Jan 1 to Dec 31, 2021 (projection)	27,053,237	25,080,389	1,972,848	522,805	711,299
	106,337,718	95,989,932	10,347,786	2,742,163	3,730,835

London Hydro has two approved ACM projects in its 2017 rebasing application: JD Edward software and Nelson TS project. Both projects went into service in 2018. London Hydro paid Hydro One approximately $7.2M for Nelson TS in 2018 and received $1.75M as a refund from Hydro One in 2021.

a) Please confirm that the CCA tax savings in the table above are based on London Hydro's actual capital additions in the respective period since November 2018.
    i) If so, as an example, please also provide the full revenue requirement impact of CCA changes using London Hydro's 2017 approved capital additions as the underlying basis.
b) Please confirm that the CCA including AIIP and CCA excluding AIIP in the table above are calculated using the capital additions in the period of November 21, 2018 to December 31, 2018.
c) Please provide London Hydro's position with respect to the calculation of the full revenue requirement impact for the CCA changes:
    i) using 2017 approved capital additions, and;

ii) disposing the 2021 balances in this proceeding.

d) Please explain how London Hydro has accounted for the revenue requirement impact of CCA changes on the JD Edward software based on its actual costs in the Account 1592 sub-account CCA Changes.

e) Please explain how London Hydro has accounted for the 2018 contribution to Hydro One for Nelson TS and 2021 refund from Hydro One in Account 1592 sub-account CCA Changes.

LH Response:

(a)

London Hydro confirms that this statement is accurate.

The revenue requirement using 2017 OEB Approved capital additions is $4,280,790 as depicted in the table below:

CCA CHANGES TAX SAVINGS DUE TO CUSTOMERS			
Taxation period	CCA Change	Income Tax @ 26.5%	Grossed Up / 73.5%
	$	$	$
Nov 21 to Dec 31, 2018	428,520	113,558	154,500
Jan 1 to Dec 31, 2019	3,814,872	1,010,941	1,375,430
Jan 1 to Dec 31, 2020	3,814,872	1,010,941	1,375,430
Balance December 31, 2020	8,058,264	2,135,440	2,905,360
Jan 1 to Dec 31, 2021	3,814,872	1,010,941	1,375,430
	11,873,136	3,146,381	**4,280,790**

The annual CCA change has been calculated as follows:

ACCELERATED INVESTMENT INCENTIVE ANNUAL CCA CHANGE						
CCA Class	Description	2017 OEB Approved Additions	Original CCA Rate @ 50%	Accelerated CCA Rate	CCA Rate Change	Annual CCA Change
		$	%	%	%	$
1	Buildings	300,400	3.0%	9.0%	6.0%	18,024
8	Equipment	2,363,800	10.0%	30.0%	20.0%	472,760
10	Vehicles	901,900	15.0%	45.0%	30.0%	270,570
12	Computer software	2,764,104	50.0%	100.0%	50.0%	1,382,052
38	Power-operated equipment	166,500	15.0%	45.0%	30.0%	49,950
47	Distribution system equipment	18,240,140	4.0%	12.0%	8.0%	1,459,211
50	Computer hardware	295,100	27.5%	82.5%	55.0%	162,305
		25,031,944				3,814,872

(b)

London Hydro confirms that this statement is accurate.

(c)

Using 2017 OEB Approved capital additions in the calculation of CCA changes results in a higher amount due to customers. Because the AIIP has such a large impact on opening UCC balances, using actual differences (CCA with and without AIIP) during IRM years results in lower amounts due to customers.

This same concept occurs when CCA changes cause amounts due from customers. For example, phasing out of the AIIP starting in 2024 will result in an increase in Account 1592 because of the increase in PILs. Using actual CCA differences in IRM years, would result in lower amounts due from customers; because of the impact of CCA changes in opening UCC balances.

London Hydro is requesting disposition of audited balances up to December 31, 2020, based on actual CCA savings during the IRM years. This request is made on the premise that the OEB will find the method of calculation of Account 1592 fair for both London

Hydro and customers. This method ensures that actual savings / increased costs are calculated on a basis that results in a lower amount payable to customers as well as decreased amounts receivable from customers. London Hydro is requesting clearing of the 1592 CCA Changes balances to December 31, 2020 which have been audited. The change in the 1592 account balance in connection with the 2021 Bridge Year will be updated once financial results for that fiscal year become available.

(d)

The upgraded J.D. Edwards system became available for use in 2018 and was therefore included in actual CCA additions for that year. The 1592 Account balance based on actual additions submitted in the August 2021 Cost of Service Rate Application filing includes CCA savings associate with the J.D. Edwards system.

(e)

The Nelson transformer station became available for use in 2018 and was therefore included in actual CCA additions for that year. The 1592 Account balance based on actual additions submitted in the August 2021 Cost of Service Rate Application filing includes CCA savings associate with the Nelson TS. A portion of this CCA savings was reversed in 2021 due to the refund from Hydro One, because the refund was deducted from additions in the calculation of CCA savings.

9-Staff-95
Ref 1: Exhibit 9, p. 49
Ref 2: EB-2014-0219, Report of the Board: New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, September 14, 2014, p. 26
Ref 3: Exhibit 1, p. 76
Ref 4: ACM Capital Disposal Workbook

London Hydro is proposing to recover $113k for the variances of two ACM projects.

The OEB's ACM report notes that:

> Where there is a material difference between what was collected based on the approved ACM/ICM rate riders and what should have been recovered as the revenue requirement for the approved ACM/ICM projects(s), based on actual amounts, the Board may direct that over- or under-collection be refunded or recovered from the distributor's ratepayers. [emphasis added]

In the ACM Capital Disposal workbook, London Hydro has the following table for the net book value of the projects that are to be transferred to rate base:

		Asset Cost	Accumulated Depreciation	Net Book Value
Advanced Capital Module Projects				
	Nelson TS Capital Contribution	$5,507,706	$(486,243)	$5,021,464
	JD Edwards	$2,591,309	$(1,727,540)	$863,770
	Transfer into Rate Base	**$8,099,016**	**$(2,213,782)**	**$5,885,234**

London Hydro states that:

> The JD Edwards software asset has a five-year asset life. The return on rate base and a five-year straight amortization related to the software capital asset is calculated. The TS Nelson Capital Contribution is amortized over 45 years.

In this application, London Hydro is also requesting an ACM for its plan to upgrade the Computer Information System to the SAP S/4 HANA system at a one-time cost of $18.50M.

a) Given that London Hydro's materiality threshold is $397k, please explain why the variance of $113k, which is below the threshold, should be recovered.

b) Please confirm that the net book value of $863,770 for JD Edwards software represents the remaining useful life of one year and eight months. If so, please explain why London Hydro proposes to include the net book value of $863,770 in its rate base, resulting in an annual depreciation and return on capital inclusion in revenue requirement in each of the next five years, despite the asset fully depleting shortly into the IRM term.

LH Response:

a) The $113K variance represents the net variance of the three ACM projects as presented in the original submission. It has been reduced by $39K for ACM Nelson TS Capital Contribution as described in Response 9-Staff-93.
The $74K actual revenue requirement is based on actual costs as presented in the table below, updated with the $39K reduction resulting from the change in recording the $1.75M refund in March 2021 for ACM Nelson TS Capital Contribution.

The rate rider revenues, including interest, are actual revenues collected and forecasted, up to April 30, 2022.

ACM Projects - Net Revenue Requirement True-Up	Nelson TS Capital Contribution	JD Edwards	HONI CCRA True-up's Talbot and Buchanan	TOTAL
Actual Revenue Requirement	$ 1,709,215	$ 1,834,695		$ 3,543,910
Rate Rider Revenues incl. interest (actual and forecast)	$ (2,164,823)	$ (1,153,562)	$ (151,056)	$ (3,469,442)
Over/Under recovery	$ (455,608)	$ 681,133	$ (151,056)	$ 74,469

Two of the individual ACM project variances are material. The over/under-recovery by projects:

- Nelson TS Capital Contribution - $455,608 refund to ratepayers,
- JD Edwards Software - $681,133 recovery from ratepayers,
- HONI CCRA True-up's Talbot and Buchanan - $151,056 refund to ratepayers.

b) London Hydro confirms that the net book value is $863,770 for JD Edwards software on December 31, 2021, that is to be reflected on January 1, 2022 in its new rate base, and it represents the remaining useful life of one year and eight months.

London Hydro followed the process outlined in the *Report of the Board, New Policy Options for the Funding of Capital Investments: The Advanced Capital Module,* the "ACM Report", (EB-2014-0219). London Hydro submitted its ACM amounts to be incorporated into its test year rate base as described in the ACM Report, Appendix A - The Revised Capital Module Policy, section Next Cost of Service Application. These steps include:

- Review of actual audited costs of the ACM project.
- Explanation for material variances between actual and forecasted costs.
- Based on the above, the Board may determine if any over- or under-recovery of ACM rate riders should be refunded to or recovered from ratepayers.
- ACM capital assets reflected in new rate base based on January 1 actual NBV.

London Hydro proposes to transfer the net book value of the JD Edwards software into its new rate base, accordingly.

9-Staff-96

Ref 1: Exhibit 9, p. 58
Ref 2: OEB's Report for Impacts Arising from the COVID-19 Emergency, June 17, 2021 (COVID Report)

In Reference 1, London Hydro states that:

> Transfer of Asset into Rate Base, 1509 COVID-19 Impacts and 1592 PILs and Tax Variance for 2006 and Subsequent Years – Sub-Account CCA Changes balances is based upon of the forecasted 2022 kWh energy consumption by customer class for simplicity and consistency.

Pages 48 and 49 of the OEB's Report states that:

> For electricity distributors, the OEB has determined that it is appropriate to use the general rate design used in past Z-factor proceedings. Amounts disposed will be allocated based on the distribution revenue by rate class approved by the OEB in the utility's last cost-based rate case, rather than based on which rate class contributed to these amounts. Amounts in the Account eligible for recovery will also be recovered based on a monthly fixed charge, using the most recent calendar year-end actual number of customers for each rate class as the denominator.

a) Please update the cost allocation and rate design for COVID rate riders in accordance with the policy set out in the OEB's Report.

LH Response:

a) London Hydro updated the cost allocation to be based on the distribution revenue by rate class for all four 1509 COVID-19 Impacts Accounts on Tab 5 of the 2022 DVA Continuity Schedule, in accordance with the policy set out in the OEB's Report for Impacts Arising from the COVID-19 Emergency.

London Hydro also updated the rate rider calculation for Group 2 Accounts on Tab 7 of the 2022 DVA Continuity Schedule. The rate riders for Group 2 Accounts are now based on the number of customers for all rate classes.

The updated 2022 DVA Continuity Schedule is provided with the responses.

9-Staff-97

Ref 1: Exhibit 9, p. 65-67
Ref 2: Draft Accounting Order for Account 1508 Broadband Pole Attachment Variance Account

London Hydro is proposing a new variance account under Account 1508 for Ontario's Broadband and Cellular Action Plan. London Hydro states that:

> While there are many unknowns with respect to how this venture will impact London Hydro up until its next Cost of Service Rate Application in 2027, there is a likelihood that this will result in changes in costs and/or revenues. Accordingly, London Hydro is requesting that this new mandated requirement be considered going forward. Specifically, London Hydro is proposing that the OEB make available any necessary deferral accounts for impacts including uncompensated lost revenues and new incremental expenditures such as locates and engineering services.

OEB staff notes from the draft accounting order that London Hydro proposes recording the incremental revenues/costs in accounts payable/receivable accounts.

a) Please provide evidence on how this new account meets the OEB's eligibility criteria (causation, materiality, and prudence), with particular emphasis on materiality given the uncertainties at this time.
b) Please clarify if London Hydro has forecasted the revenue/costs related to this work in the revenue requirement of this application.
    i) If so, please provide the details where the revenue/cost are included.
c) Has London Hydro incurred any costs/received any revenue regarding the broadband pole attachment in 2021? If so, please provide the details.
d) Please provide any precedent/applications where a similar account has been approved by the OEB or requested by any distributors for this initiative.

LH Response:

a) Chapter 2 Section 2.9.2 of the Filing Requirements for Electricity Distribution Rate Applications states the eligibility criteria – causation, materiality, prudence - of the establishment of a new deferral and variance account, which must be met.

Causation: the forecasted expense must be clearly outside of the base upon which rates were derived.

London Hydro confirms that the possible impacts arising from Bill 257 are clearly outside of its base rates, no actual or forecasted expenses or revenues were included in its distribution revenue requirement.

Materiality: the forecasted amounts must exceed the OEB-defined materiality threshold and have a significant influence on the operation of the distributor, otherwise they must be expensed in the normal course and addressed through organizational productivity improvements.

It is anticipated that significant impact may result from the new provincial legislation, Bill 257, Supporting Broadband and Infrastructure Expansion Act, 2021.

As described in the Proposal, the undertaking to expand broadband services expeditiously will require the cooperation of London Hydro and utilizing its distribution infrastructure. London Hydro may incur additional planning, engineering and administration costs. The new regulatory actions will require London Hydro to plan, apportion costs for making its infrastructure ready for broadband assets, facilitating broadband attachment requests in a timely manner, enable broadband pilot projects and other unforeseen outcomes. Regulatory actions may also include setting/reducing the wireline pole attachment charge to support the initiative. It is too soon to adequately assess the exact impact of possible incremental costs or revenues as more regulations are expected.

London Hydro concurs the accumulated amount of incremental costs and revenues should be subject to the approved materiality threshold in order to bring them forward for disposition in a future cost of service application.

Prudence: the nature of the costs and forecasted quantum must be based on a plan that sets out how the costs will be reasonably incurred, although the final determination of prudence will be made at the time of disposition.

London Hydro observes that the occurrence of possible impacts is due to the exceptional requirements and remedies resulting from the new legislation, and therefore such costs are reasonable.

b) London Hydro has not forecasted revenues or costs related to the expansion of broadband service activities or revenue impacts in its 2022 COS rate application.

c) London Hydro have not yet incurred costs, nor received revenues regarding broadband pole attachment in 2021.

d) The OEB has approved the creation of Account 1508 Broadband Pole Attachment Variance to track any incremental costs and revenues in its Decision and Rate Order (EB-2020-0020) to Espanola Regional Hydro Distribution Corporation.